Health and Disability

Work-related stress and well-being: The roles of direct action coping and palliative coping

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The purpose of the present study is to analyze the roles of direct action coping and palliative coping in the relationship between work stressors and psychological well-being, as well as their possible interactions, in a sample of 464 bank employees. Hierarchical regression analyses showed main effects of direct action coping on well-being. Palliative coping predicts higher levels of psychological distress. Contrary to what was expected, the interactions between work stressors and direct action coping were not significant. Palliative coping interacted with work stressors when predicting psychosomatic complaints. The interaction between the two types of coping was significant on psychosomatic complaints and psychological distress, but not on job satisfaction. The paper discusses theoretical and practical implications of these results, in order to design intervention strategies to prevent and manage job stress.

Key words: Work stress, direct action coping, palliative coping, interaction between coping strategies, well-being.

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INTRODUCTION

In the last two decades, a growing interest in work-related stress has arisen in scientific research. Nowadays, the negative relationships between work stressors and physical and psychological well-being seem to be well established (for a review, see Schabracq, Winnubst & Cooper, 2003); stress contributes to increasing psychosomatic and psychosocial distress, absenteeism, turnover and productivity losses (Sonnentag & Frese, 2003). However, situations are not inherently stressful, and psychological, physical and/or behavioral responses to stressors are the result of the interaction between individual and situation (Sutherland & Cooper, 1988). In this way, the coping strategies seem to play an important role in determining the results and/or consequences of the stressors (e.g., Day & Livingstone, 2001; Eriksen & Ursin, 1999; Greenglass, 2003). The main interest of the present study is to examine the interactive relationships between coping and work stressors, while paying special attention to the interrelationships between coping strategies.

A variety of typologies of coping strategies have been proposed in the literature. In general, they can be summarized in a bi-dimensional dichotomy: the first part (direct action, problem-focused, active, control) has been referred to as “attempts to respond to a situation of threat with the aim of removing the threat”, whereas the second part of the dichotomy (palliative, emotion-focused, passive, avoidance) has been referred to as “reducing the emotional discomfort”. Following Dewe (1989) and the first distinction by Lazarus (1975), we will refer to the dichotomy as direct action and palliative. Problem-focused and emotion-focused are their respective synonyms, and they will be referred to in this way throughout the text.

Empirical research has shown that active or problem-focused coping is linked to increases in job satisfaction (Burke, 1998; Rick & Guppy, 1994) and decreases in anxiety and psychological distress (Hobfoll, Dunahoo, Ben-Porath & Monnier, 1994; Grossi, 1999). With regard to palliative or emotion-focused coping, the studies show contradictory findings: some studies find that palliative coping reduces somatic symptoms and psychological distress (e.g. Parkes, 1990), and others report evidence of increases in psychological distress and psychosomatic symptoms (e.g., Day & Livingstone, 2001; Smäri, Arason, Hafsteinsson & Ingimarsson, 1997).

In addition, the coping literature points to a lack of clarity about coping's moderating role between stressors and their outcomes. Some studies have supported this moderating effect (e.g., Day & Livingstone, 2001; Eriksen & Ursin, 1999), whereas others have provided weak support for it (Bhagat, Allie & Ford, 1995; Greenglass, Burke & Ondrack, 1990), and a third group has found no support at all for the interactive model (Leiter, 1991; Rick & Guppy, 1994). Studies supporting the moderating role of coping have shown that direct action strategies moderate the relationship between excessive work demands and positive outcomes, like job satisfaction (Koeske, Kirk & Koeske, 1993), and negative outcomes, like somatic and affective symptoms (Eriksen & Ursin, 1999; Koeske et al., 1993; Parkes, 1990), psychological
distress (Patterson, 2003) and burnout (Bhagat et al., 1995). Palliative coping strategies only moderated the stressor relationship with negative outcomes, like feelings of depersonalization (Bhagat et al., 1995), psychological distress (Patterson, 2003) and dysfunction symptoms (Day & Livingstone, 2001). However, the direction of these moderation effects has not been clarified in the literature.

Work-related stress research needs to examine more closely and clarify the efficacy of the different coping strategies and their moderating role. Contradictory results obtained could be due to the fact that the effect of the interaction between coping strategies has not yet been studied. Several authors have suggested the importance of flexibility in coping, considering that the use of several strategies may be more adaptive than the isolated use of each of them (Cohen & Edwards, 1989; Parkes, 1990; Koeske et al., 1993). For instance, a palliative strategy such as “seeking out social support may have both good and bad overtones, and whether it is primarily good or bad may depend on what other coping processes are occurring along with it” (Carver, Scheier & Weintraub, 1989, p. 274).

Studies that have analyzed the interdependency between coping strategies are scarce. Parkes (1990, p. 406) suggested that “the use of a combination of suppression and direct coping strategies is likely to be more effective in alleviating distress in stressful working conditions than either form of coping alone”. However, Koeske et al. (1993) reported that they had not found any empirical investigation prior to theirs that controlled these intercorrelations, and the reviewed literature only shows the investigation carried out by these authors. They found that avoidance strategies seem to be beneficial only if individuals use control strategies as well. These findings suggest that the contradictory outcomes regarding the efficacy of coping strategies may be a result of the lack of studies on the effect of the interaction between different coping strategies. According to Lazarus (2000), the tendency observed in the literature to separately study the consequences of problem-focused and emotion-focused strategies has been a strategic error: “For a picture of how people cope, psychologists need to study how both functions, and perhaps the balance between them, work and affect each other and the adaptive outcome: in effect, how they operate as a single coping unit”. (Lazarus, 2000, p. 669).

The present study
The present paper aims to analyze the interactive role of direct action coping and palliative coping in the relationship between work stressors and psychological well-being. Furthermore, the interactions between both types of coping will be studied as the central focus of the present study.

Psychological well-being has been operationalized in three components: psychological distress, psychosomatic complaints and job satisfaction. We have included job satisfaction, in addition to psychological distress and psychosomatic complaints, because of its positive character. Recent perspectives emphasize positive psychology and highlight the positive results of the stress experience (Seligman & Csikszentmihalyi, 2000; Somerfield & McCrae, 2000). We expect that coping will not only buffer the psychosocial “damage” of stressors, but it will also be associated with positive experiences like job satisfaction (Burke, 1998; Koeske et al., 1993; Rick & Guppy, 1994). Given that the reviewed literature does not show this relationship for palliative coping, we presume that only direct action coping will be related to this positive outcome.

Confounding effects from some demographic characteristics (age and gender) are controlled. This is particularly important because links between age and distress (Sutherland & Cooper, 1988), and gender and coping (Greenglass, 2003; Hobfoll et al., 1994; Narayanan, Menon & Spector, 1999) have been found.

Finally, it is worth noting that the organizational setting of this study comprises Spanish banking institutions. Bank employees are white-collar workers in a service organization. Their work involves customer contact, mental work and adaptation to continuous organizational and technological change and innovation. These features constitute useful and relevant conditions for studying and understanding occupational stress. In fact, banking employees are customary participants in work stress research (Kahn, 2002), including cross-cultural studies (e.g. Schaubroeck, Lam & Xie, 2000), multi-occupational designs (e.g. Houkes, Janssen, de Jonge & Bakker, 2002) and service organizations studies (Bettencourt & Brown, 2003). In Spain, an analysis of the National Survey of Quality of Working Life (MTAS, 2005) and data from another research project (González-Romá, Gamero, Peiró & Fortes-Ferreira, 2005) show that, in the financial sector, employees present moderate levels of job satisfaction (mean scores of around 4, range 1–6) and medium levels of strain (mean scores around 3.5, 1–6 range).

Taking the previous literature review into consideration, the following hypotheses are formulated in the present study:

- **Hypothesis 1.1.** Direct action coping will predict well-being. These relationships will be positive with job satisfaction and negative with psychological distress and psychosomatic complaints.
- **Hypothesis 1.2.** Palliative coping may predict well-being in its components of psychological distress and psychosomatic complaints. This hypothesis is exploratory due to the contradictory evidence.
- **Hypothesis 2.1.** Direct action coping will moderate the relationship between work stressors and well-being.
- **Hypothesis 2.2.** Palliative coping will moderate the relationship between work stressors and the well-being components of psychological distress and psychosomatic complaints. A significant moderation of palliative coping
in the relationship between work stressors and job satisfaction is not expected.

Moreover, we will test whether coping strategies interact with each other to predict well-being.

- **Hypothesis 3.** A significant interaction between direct action coping and palliative coping on well-being is expected.

Furthermore, since the relation of coping and work stressors seems to be complex (Perrewe & Zellars, 1999), and the study of the conjunctive moderator effects is still scarce in the literature, it is interesting to explore the role played by different levels of work stressors when analyzing the interactive effect between coping strategies in the prediction of well-being.

- **Hypothesis 4.** A significant interaction between coping strategies and work stressors on psychological distress, psychosomatic complaints and job satisfaction is expected.

**METHOD**

**Procedure and sample**

We delivered 1,800 questionnaires to a randomly selected sample of employees of several banks in Spain. Questionnaires were applied once the objectives of the study and the instructions of the questionnaires were personally explained to the individuals. When possible, participants filled out the questionnaires in the presence of a front-office worker, 35% were supervisors, and 12% were managers.

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**Measures**

We applied an experimental Spanish version of the **Occupational Stress Indicator** (OSI) (Cooper, Sloan & Williams, 1988). The scale was translated by means of a direct translation followed by a back translation, with the necessary corrections, performed by native speakers of Spanish and English. The variables included in this study are the following:

- **Socio-demographic variables.** Age was measured in four intervals: less than 21 years old; 21 to 36 years old; 37 to 55 years old; more than 55 years old. Gender was coded with the values of 0 for men and 1 for women.

- **Work stressors.** The “Sources of Pressure” scale (61 items) measures six different types of stressors; however, due to the high correlations found among the six dimensions, we decided to compute a global score of stressors, by taking the 61 items as a whole (α = 0.95; examples: “Having far too much work to do”, “Threat of impending redundancy or early retirement”). Participants registered their perceptions of work stressors on a Likert scale from 1 (certainly it is not a source of pressure) to 6 (certainly it is a source of pressure).

**Coping.** The OSI factor structure is ambiguous, with few empirical studies supporting it (Lu, Shiau & Cooper, 1995; Williams, 1996). Lyne, Barret, Williams and Coaley (2000) carried out a comprehensive exploratory psychometric evaluation of the OSI. Regarding the coping scale, with six dimensions in its original form, they isolated a parsimonious two-factor solution: “task-oriented coping” and “lifestyle coping, with items about seeking social support and having interests outside of work” (Lyne et al., 2000, p. 208). Therefore, the coping measure was operationalized in two dimensions: palliative coping (11 items, α = 0.72; examples: “Accept the situation and learn to live with it”, “Expand interests and activities outside work”) and direct action coping (8 items, α = 0.79; examples: “Look for ways to make the work more interesting”, “Plan ahead”).

**Psychological distress.** This variable was measured by the OSI's mental illness-health scale, which comprises 18 items (α = 0.85; example: “Are there times at work when the things you have got to deal with simply become too much and you feel so overtaxed that you think you are ‘cracking-up?’”). To answer this scale, the participants indicated what degree the statements fit their psychological state in the past three months, on a Likert scale with 6 points of response and with higher scores always reflecting distress.

**Psychosomatic complaints.** The level of complaints was measured using the OSI's physical illness-health scale, which comprises 12 items (α = 0.84; examples: “Inability to get to sleep or stay asleep”, “Headaches and pains in the head”). On this scale, the participants indicated the frequency with which they had experienced several psychosomatic ailments over the last three months, on a Likert scale that ranges from 1 (never) to 6 (very frequently).

**Data analysis procedure**

Three hierarchical multiple regression analyses (see Cohen & Cohen, 1983) were performed in order to test the hypotheses: job satisfaction, psychological distress and psychosomatic complaints were the criterion variables. This statistical procedure was carried out with the statistical software SPSS 11. In order to solve the possible problem of multicollinearity, the scores used in the equations...
RESULTS

Correlations between the variables of the study and their corresponding means and standard deviations are shown in Table 1.

The correlation matrix shows that work-related stressors correlated positively with psychological distress and psychosomatic complaints: the higher the work stressor scores were, the higher the psychological distress and psychosomatic complaints reported. These two variables correlated positively and significantly. This means that reporting psychological distress was associated with reporting psychosomatic complaints. Direct action coping correlated negatively with these two measures of distress. In turn, job satisfaction correlated negatively with work-related stressors, psychosomatic complaints and psychological distress, and it correlated positively with direct action coping. Palliative coping did not correlate significantly with any of the consequences studied, but it did correlate positively and significantly with direct action coping and the work stressors variable. However, direct action coping did not correlate significantly with stressors: the perception of work-related stressors was associated with the use of palliative coping, but it was not related to the active type of coping.

Table 2 shows the regression carried out in order to predict job satisfaction. A significant increase in explained variance was found in step 2. Eight percent (p < 0.001) of the variance was explained by age, stressors and direct action coping. Being older and perceiving stressors predicted lower levels of job satisfaction. Direct action coping positively predicted job satisfaction, whereas palliative coping did not show any significant relationship. These results supported hypothesis 2.1 (direct action will predict higher levels of well-being) in the job satisfaction component. Furthermore, they indicated the absence of associations between palliative coping and job satisfaction, which was explored by hypothesis 1.2. No significant increase in variance was found in step 3; consequently, hypothesis 2.1 (interactive effects of

| Null |
|---|---|---|---|---|---|---|---|---|
| 1 Gender | Age (4 groups of age) | Stressors | P. complaints | Psychological distress | Job satisfaction | Direct action coping | Palliative coping | Stressors 
interaction |
<table>
<thead>
<tr>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>246</td>
<td>0.54</td>
<td>-0.318**</td>
<td>-0.013</td>
<td>0.016</td>
<td>0.620**</td>
<td>0.050</td>
<td>0.026</td>
<td>0.015</td>
</tr>
<tr>
<td>3</td>
<td>0.66</td>
<td>0.116*</td>
<td>-0.085</td>
<td>-0.210**</td>
<td>0.222**</td>
<td>0.231**</td>
<td>0.091</td>
<td>0.004</td>
</tr>
<tr>
<td>4</td>
<td>0.78</td>
<td>0.106*</td>
<td>-0.183**</td>
<td>-0.028</td>
<td>0.237***</td>
<td>-0.008</td>
<td>0.032</td>
<td>0.004</td>
</tr>
<tr>
<td>5</td>
<td>2.99</td>
<td>0.65</td>
<td>0.068</td>
<td>0.190**</td>
<td>0.231***</td>
<td>0.036</td>
<td>0.294**</td>
<td>0.72</td>
</tr>
<tr>
<td>6</td>
<td>0.68</td>
<td>-0.009</td>
<td>0.005</td>
<td>-0.183**</td>
<td>0.237***</td>
<td>0.036</td>
<td>0.294**</td>
<td>0.72</td>
</tr>
<tr>
<td>7</td>
<td>4.59</td>
<td>0.64</td>
<td>0.060</td>
<td>0.256**</td>
<td>0.620**</td>
<td>0.237***</td>
<td>0.036</td>
<td>0.294**</td>
</tr>
<tr>
<td>8</td>
<td>3.86</td>
<td>0.67</td>
<td>0.161**</td>
<td>-0.010</td>
<td>0.190**</td>
<td>-0.008</td>
<td>0.032</td>
<td>0.004</td>
</tr>
</tbody>
</table>

*p ≤ 0.05; ** p ≤ 0.01; *** p ≤ 0.001. Two-tailed.

Note: $B$ is the unstandardized regression coefficient.

# p ≤ 0.10; * p ≤ 0.05; ** p ≤ 0.01; *** p ≤ 0.001 (Two-tailed).
Table 3. Hierarchical regression analysis of work stressors, direct action coping and palliative coping on psychological distress

<table>
<thead>
<tr>
<th>Psychological distress</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>0.112</td>
<td>0.075</td>
<td>0.078</td>
<td>0.083</td>
</tr>
<tr>
<td>Age</td>
<td>0.123*</td>
<td>0.101#</td>
<td>0.107#</td>
<td>0.107*</td>
</tr>
<tr>
<td>Stressors</td>
<td>0.254***</td>
<td>0.243***</td>
<td>0.233***</td>
<td></td>
</tr>
<tr>
<td>Direct action coping</td>
<td>−0.425***</td>
<td>−0.421***</td>
<td>−0.427***</td>
<td></td>
</tr>
<tr>
<td>Palliative coping</td>
<td>0.097*</td>
<td>0.079#</td>
<td>0.083#</td>
<td></td>
</tr>
<tr>
<td>Palliative × Direct action coping</td>
<td>0.141*</td>
<td>0.138*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stressors × Palliative coping</td>
<td>0.064</td>
<td>0.041</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stressors × Direct action coping</td>
<td>−0.014</td>
<td>0.005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stressors × Direct action coping × Palliative coping</td>
<td></td>
<td>0.066</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(R^2)</td>
<td>0.233</td>
<td>0.244</td>
<td>0.245</td>
<td></td>
</tr>
<tr>
<td>(\Delta R^2)</td>
<td>0.011#</td>
<td>0.221***</td>
<td>0.011#</td>
<td></td>
</tr>
</tbody>
</table>

Note: \(B\) is the unstandardized regression coefficient.

\# \(p \leq 0.10\); * \(p \leq 0.05\); ** \(p \leq 0.01\); *** \(p \leq 0.001\) (Two-tailed).

Figure 1 shows the interaction between direct action coping and palliative coping in the prediction of psychological distress: individuals who used high direct action coping and low palliative coping reported the lowest psychological distress levels; these levels were a little higher among the individuals who combined high direct action coping with high palliative coping. Finally, subjects who used low direct action coping showed higher psychological distress levels, regardless of the amount of palliative coping used.

Table 4 shows the results of the analysis to predict psychosomatic complaints. The control variables significantly explained 1.5% of the variance in step 1: \(B\) coefficients pointed out the positive association between gender and psychosomatic complaints: being a woman predicted higher levels of reported psychosomatic complaints. Stressors and active coping increased the explained variance significantly to 12.5% \((p < 0.001)\) in step 2. Direct action coping showed a
negative relationship with psychosomatic complaints (this result supported hypothesis 1.1), whereas palliative coping was not significant. Interaction terms included in step 3 increased explained variance significantly to 14.4% ($p < 0.05$). $B$ coefficients of two of the three interaction terms were significant: the stressors × palliative coping interaction ($B = 0.137, p < 0.05$) supported hypothesis 2.2, and the palliative coping × direct action coping interaction ($B = 0.201, p < 0.01$) supported hypothesis 3 for this criterion variable. Step 4 was not significant, and hypothesis 4 was not supported by the data.

The interaction between work-related stressors and palliative coping has been plotted in Fig. 2. In situations of high perceived stressors, individuals who used high palliative coping reported higher levels of psychosomatic complaints than individuals who used low palliative coping. On the other hand, in situations of low perceived stressors, the opposite is true: individuals who showed high palliative coping reported lower levels of psychosomatic complaints than individuals who used low palliative coping. This result supported hypothesis 2.2 and indicated a reversed “buffering effect” of palliative coping.

Figure 3 shows the significant interaction between direct action coping and palliative coping on psychosomatic complaints. Individuals who showed high direct action coping and low palliative coping reported lower levels of complaints than those who presented high direct action coping and high palliative coping. On the other hand, individuals with low direct action coping showed higher levels of complaints in both cases than those who used high direct action coping; this situation was more accentuated in the case of those who reported low levels of palliative coping. This result supported hypothesis 3 in the psychosomatic complaints component.

<table>
<thead>
<tr>
<th>Psychosomatic complaints</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>$B$</td>
<td>0.226**</td>
<td>0.206*</td>
<td>0.210*</td>
</tr>
<tr>
<td>Age</td>
<td>$B$</td>
<td>0.102</td>
<td>0.087</td>
<td>0.098</td>
</tr>
<tr>
<td>Stressors</td>
<td>$B$</td>
<td>0.251***</td>
<td>0.238***</td>
<td>0.218***</td>
</tr>
<tr>
<td>Direct action coping</td>
<td>$B$</td>
<td>−0.328***</td>
<td>−0.330***</td>
<td>−0.341***</td>
</tr>
<tr>
<td>Palliative coping</td>
<td>$B$</td>
<td>0.006</td>
<td>−0.015</td>
<td>−0.009</td>
</tr>
<tr>
<td>Palliative × Direct action coping</td>
<td>$B$</td>
<td>0.201**</td>
<td>0.194*</td>
<td></td>
</tr>
<tr>
<td>Stressors × Palliative coping</td>
<td>$B$</td>
<td>0.137*</td>
<td>0.094</td>
<td></td>
</tr>
<tr>
<td>Stressors × Direct action coping</td>
<td>$B$</td>
<td>−0.021</td>
<td>−0.001</td>
<td></td>
</tr>
<tr>
<td>Stressors × Direct action coping × Palliative coping</td>
<td>$B$</td>
<td></td>
<td>0.124</td>
<td></td>
</tr>
</tbody>
</table>

$R^2$  
| 0.125 | 0.144 | 0.147 |

$ΔR^2$  
| 0.015* | 0.109*** | 0.019* | 0.003 |

Note: $B$ is the unstandardized regression coefficient.

# $p \leq 0.10$; * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$ (Two-tailed).
DISCUSSION

The literature on coping shows a lack of clarity about both the efficacy of coping strategies and their moderator role (e.g., Parkes, 1990). The contradictory results obtained in the empirical research may have been caused by the fact that studies about the interaction between different coping strategies are very scarce. The present study intended to analyze the interactive role of direct action coping and palliative coping in the relationship between work stressors and well-being, with special interest in the possible interactions between these two types of coping.

The association of direct action coping with well-being was confirmed in our study (hypothesis 1.1). Direct action coping positively predicted job satisfaction and negatively predicted psychological distress and psychosomatic complaints. These results support the literature that points out that direct action coping is positively associated with job satisfaction (Burke, 1998; Rick & Guppy, 1994) and negatively related to distress (De Rijk, Le Blanc & Schaufeli, 1998; Hobfoll et al., 1994; Leiter, 1991).

With regard to palliative coping, due to the contradictory evidence from previous studies, we stated an exploratory hypothesis 1.2 to examine whether well-being is predicted by palliative coping. This type of coping was positively associated with psychological distress. This result supports those studies that found an increase in psychological distress due to palliative coping (Day & Livingstone, 2001; Smari et al., 1997). Moreover, the fact that palliative coping did not show any relationship with job satisfaction agrees with the research that does not predict any significant relationship between palliative strategies and positive outcomes. Given that this type of coping aims only to reduce emotional discomfort (Dewe, 1986), it is logical that it would not enhance positive states. Finally, the absence of relationships between palliative coping and psychosomatic complaints in this study reflects the contradictory results in the literature and the need to study the interactive relationships in order to shed light on coping mechanisms.

First, work stressors and direct action coping interactions were not significant (hypothesis 2.1). This supports the results obtained by Leiter (1991), when he found that control coping was associated with low burnout, but no buffering effect of coping in the relationship between work stressors and burnout was found. On the contrary, other authors have found evidence of the moderating role of direct action coping (De Rijk et al., 1998; Eriksen & Ursin, 1999; Koeske et al., 1993). In the present study, we found other significant interactions; thus, the lack of interactions between stressors and active coping cannot be attributable to poor statistical power or methodological limitations. On the other hand, the banking sector is a seldom-studied sector with regard to these issues. Consequently, we claim that, in this particular setting, direct action coping is directly associated with job satisfaction, psychological distress and psychosomatic complaints, rather than being a moderator in the relationship between work stressors and well-being.

Hypothesis 2.2 expected interactions between stressors and palliative coping when predicting the negative components of well-being. Interactions on job satisfaction were not found, and this result agrees with the studies that verified the moderating role only when the outcomes were negative (e.g., Bhagat et al., 1995; Day & Livingstone, 2001; Patterson, 2003). The interaction was not significant for psychological distress, which was predicted directly and positively by palliative coping. However, psychosomatic complaints, which were not predicted directly by palliative strategies, were significantly predicted by the interaction between this type of coping and work stressors. High palliative coping predicted lower levels of psychosomatic complaints when low levels of work stressors were perceived, and higher levels of complaints when high levels of stressors were perceived. That is, strategies centered on reducing the discomfort can relieve the minor distress produced by low levels of perceived stressors; however, situations of high levels of perceived stressors, which lead to serious distress experiences, are hardly alleviated by palliative coping. This interaction indicates a reversed buffering effect of palliative coping, which certain authors have found as well (Bhagat et al., 1995; Day & Livingstone, 2001). Nevertheless, there is no agreement about the existence or direction of the moderating role of palliative strategies (e.g., Day & Livingstone, 2001; Greenglass et al., 1990; Patterson, 2003; Sonnentag & Frese, 2003). The controversy about the moderating role of coping may be due to methodological reasons: the finding of moderator effects is constrained by the higher probability of committing Type II errors, diminishing the power for detecting interactions, even if they exist. For that reason, Sonnentag and Frese (2003) encourage researchers to continue research on the interactive effects of coping and stressors.

The previous result on the moderating role of palliative coping suggests that it is not enough to relieve the discomfort; it may be necessary to remove the threat or situation that causes the distress. To shed light on this issue, it is important to test the interaction between coping strategies. The interaction between direct action and palliative coping predicted psychological distress and psychosomatic complaints (hypothesis 3). Individuals who displayed high direct action coping and low palliative coping presented the lowest levels of psychological distress. They were followed by those who displayed high direct action coping and high palliative coping. On the other hand, the subjects with low direct action coping showed higher levels of psychological distress in both cases (high and low palliative coping). The results associated with psychosomatic complaints were very similar to those obtained for psychological distress. However, in the group with low direct action coping, subjects with high levels of palliative coping showed lower levels of psychosomatic complaints than those who reported low levels of palliative coping. The theoretical implications of these results suggest
the importance of the flexibility of coping found in Koeske et al.’s study (1993) and the need to study the interdependence of coping strategies (Carver et al., 1989; Cohen & Edwards, 1989; Koeske et al., 1993; Lazarus, 2000; Parkes, 1990). Nevertheless, the empirical research on the interaction between different coping strategies is still very scarce, and, therefore, these interactions must be tested in future studies.

Lastly, higher-order interactions were not confirmed in our study (hypothesis 4). Studies on the conjunctive moderator effects are still scarce in the literature. The stress process is very complex and includes distinct variables. Because of this, we propose that future research should study more complex models of the stress process, without being limited to the study of linear and “buffering effects” (Rodriguez, Bravo, Peiró & Schaufeli, 2001).

In summary, our study showed that direct action coping predicted well-being. With regard to palliative coping, it only predicted psychological distress, and it interacted with work stressors in the prediction of psychosomatic complaints. Furthermore, the group of individuals who often used direct action strategies and combined those strategies with palliative ones reported higher levels of strain than the subjects who used direct action coping and did not combine it with palliative strategies. In fact, the present results point out that each coping strategy seems to play a different role. Direct action coping may neutralize the stressor before its effect becomes harmful, thus leading to higher levels of well-being. In the absence of direct action strategies, palliative coping helps to reduce psychosomatic symptoms. These findings suggest an important theoretical implication: coping with work stress should be studied from a comprehensive perspective that deals with the context in two ways. First, it is necessary to carry out a joint analysis of the different coping strategies that an individual uses to manage the stressful event. Second, researchers should focus on the availability of resources during the stressful situation.

The results of this study have practical implications for intervention to control work-related stress. Several authors have suggested that coping training programs may prove effective in improving the management of stressful events (e.g., Aspinwall & Taylor, 1992; Bekker, Nijssen & Hens, 2001). It is important to train workers in the skills that allow them to use direct action coping behaviors and in an appropriate use of palliative coping. In any case, one must be aware that in organizations people may often not be able to control the stress individually. As Leiter (1991) pointed out, even though coping behaviors may be important when facing work stressors, individuals only achieve their objectives if the attempt to cope is supported by the remaining organizational actors, whether they are coworkers from the team or department or the directors of the organization. Therefore, it is important to create a context that empowers the efficacy of individual coping, but this must be complemented with actions of collective coping and/or organizational coping. The collective approach in stress interventions implies that the benefits have a maximum impact because interventions are aimed at large groups, instead of individuals (Lansmi, Peiró & Kivimaki, 2000). These benefits should be presented to the companies not only in terms of “soft outcome variables” (e.g., motivation, satisfaction, health complaints and distress reports), but also taking into account “hard outcome measures” (e.g., productivity, sickness and accident rates, absenteeism data) and financial results (Kompier & Cooper, 1999). These data, along with company image and customer satisfaction measures, can be obtained by means of cooperation with other professionals like economists and ergonomics. The key aspect is to present all this information in an integrated and complete picture that not only shows the benefits of the stress interventions, but also helps to identify early warnings of potential problems (Liukkonen, Cartwright & Cooper, 1999).

Some limitations of this study may also be considered. First of all, the variance explained by the statistical analysis is relatively low (8.5% of job satisfaction, 14% of psychosomatic complaints and 24% of psychological distress). However, as Zapf, Dormann and Frese (1996) explain, the size of the stressor-strain relationships would be expected to be low for several reasons. First, many factors, some of them stochastic, influence physical and mental health: in social science it is not only impossible, but also inappropriate, to build a deterministic model that covers all the factors influencing well-being, in order to look for the maximum variance explained (for a review see Fichman, 1999). Second, moderating effects imply that stress relationships are valid only for a subgroup of individuals. Thus, interactions may explain considerable explained variance, but only in selected subsamples, whereas they weaken the size effect in the total sample. Finally, the specific time lag needed by stressors or coping to affect well-being may be the key for explaining substantial amounts of variance. Regarding this last aspect, in the present study data were gathered in a single temporal moment and analyzed in a cross-sectional procedure. For this reason, we cannot infer causal relationships between variables or expect significant size effects. It is necessary to develop longitudinal studies in future research that would make it possible to infer the direction of the interactive effects, and identify an appropriate time model to explain important amounts of variance.

Secondly, the exclusive use of self-reported data could lead to common method bias. Nevertheless, this bias may be diminished through the use of different response scales and inverted items. Furthermore, interactive relationships found in this study cannot be easily attributed to method effects (Rodriguez et al., 2001). In future research it would be advisable to use other types of measures when collecting data, and focus also on other variables that help to explain high amounts of variance. Thirdly, the low response rate (25.6%) may limit the study. However, we have confirmed the equivalence on main demographic features (sex, age, educational...
background) and occupational health variables (stress levels and job satisfaction) between the present sample and the Spanish population of financial sector workers, described in the introduction and method sections of the present study (INE, 2005; MTAS, 2005). In addition, it is remarkable that moderator effects were found under these limited methodological conditions.

The fact that this study has been carried out with employees from a specific sector in a specific context has the advantage of avoiding confounding effects of occupational differences, but the results cannot be generalized to other occupations. It is necessary to develop other studies designed to contrast these results with those of other occupations. Moreover, comparative studies with multi-occupational samples will make it possible to analyze the relationships within these phenomena. Finally, the level of analysis of this study was focused on the individual, and it has provided interesting results. However, the individual-level perspective does not allow us to discover, for example, how homogeneous the perceptions about work stressors are among the members of a team. In future studies, it will be necessary to take into account the context of the work units and analyze the role of collective coping together with individual coping. These issues are especially relevant in the work and organizational context.

The study of coping has received attention for decades, but new issues, such as the interaction of different types of coping, efficacy criteria and levels of analysis, deserve future research efforts. Consequently, nowadays coping research is still necessary and captivating.

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