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# Social Support, Job Stress, Health, and Job Satisfaction Among Nurses in the United Kingdom

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*Recruitment and retention of nurses is a major concern in healthcare provision in several countries. This study explored the relationship between perceived social support, job stress, health, and job satisfaction among nurses from 4 organizations in northwest England. A total of 350 usable questionnaires measuring stressors, perceived support, health, and job satisfaction, was obtained from a sample of 1,162 nurses drawn from 4 healthcare organizations. A follow-up study was conducted after 6 months. Results indicate that perceived organizational support is related to nurses' health and job satisfaction. Current interventions to increase support, which typically operate at individual or group level, may be limited in their effectiveness unless nurses' perceptions of organizational support are taken into account.*

**KEY WORDS:** occupational stress; perceived social support; health; job satisfaction; nurses.

## INTRODUCTION

There is international recognition that job stress is an important issue for the health and safety of workers (Kompier & Cooper, 1999). In 1999, a survey of 15 European countries found that more than half (57%) of the respondents felt that work negatively affected their health, while more than a quarter (28%) felt that work put their health and safety at risk (Geurts & Grundemann, 1999). Although considerable progress has been made in understanding psychosocial

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risk factors in the workplace (Sauter & Murphy, 1995), some significant questions remain about the relationship between stressors and job stress outcomes. One important aspect of this relationship concerns the role of social support.

Although social support in the workplace is recognized as a factor in job stress, it is not well specified in conceptual models of stress. The complexity of social support processes presents considerable challenges to empirical research in this field. Some of the issues relevant to the study of social support in the workplace are illustrated by the job demand control model of stress (Karasek & Theorell, 1990). This model predicts that high job strain results from the combination of low social support, high demand, and low control. Although it is clear that this hypothesis can be tested empirically, the operationalization of social support as a unidimensional concept limits our understanding of the role of social support in influencing occupational stress. A global definition of social support does not take account of the complexity of social support, as illustrated by the many ways of describing different types of support and the processes involved in giving or receiving social support (Beehr, 1995; House, 1981; LaRocco, House, & French, 1980).

As noted in previous research (Payne & Graham Jones, 1987), relatively little is known about what types of support are effective, for whom, and in what situations. A more in-depth understanding of the processes involved in social support, job stress, and health is required to make it possible to design empirically based support interventions.

## Social Support and Health

The study of social support and job stress builds on a large literature of research examining the relationship between social support and health in general. There is now robust evidence from large epidemiological studies that social support is causally related to health (Dean, Holst, Kreiner, Schoenborn, & Wilson, 1994). In general, this research is based on a macro approach to social support, for example using proxy variables, such as marital status or church attendance, as indicators of social integration (Barrera, 1986). This type of structural approach may be less relevant to today's workplace, which is characterized by decreased stability, as illustrated by the growth in the number of contingent workers (Aronowitz & DiFazio, 1996). The second main approach in the literature can be described as a functional or qualitative approach to understanding social support. This research includes a number of different definitions of social support, ranging from a global perspective of feeling supported to multidimensional models that specify different types of support, such as emotional support, esteem support, tangible aid, network support, and informational support (Cutrona, 1990). Overall, it is evident that social support has 'many meanings' in

the research literature (Veiel & Baumann, 1992) and has variously been used to describe attributes of the individual, of the environment, or of the interactional context. Thus, despite a large literature on social support and health, the lack of conceptual clarity makes it difficult to interpret the research.

Much of the research on social support is based on an assumption that social support has a positive influence on health (Shumaker & Brownell, 1984), although relatively little is known about the processes involved. This makes it difficult to apply the research to the design of support interventions. Explanations of the ways in which social support might influence health are derived from two main models of support: the direct model and the indirect, or buffer, model. The direct effect of social support on health can be examined at various levels, including social and physiological. Examples are that social support meets a basic human need for affiliation (Fiske, 1998) and that it may have a positive effect on the immune system (Argyle, 1992). The buffer model, which is predominant in the stress literature (Beehr & O'Hara, 1987), conceptualizes social support as a conditioning variable that influences the relationship between stressors and health. The extent to which the relationship between social support and health is best explained by a direct or indirect model has been a recurrent debate within the field. This debate has important practical implications for the design of support interventions (Gottlieb, 1981). If social support affects health only under conditions of high stress levels, then interventions that target these groups are likely to be more effective. On the other hand, if support positively influences health irrespective of stress levels, broad interventions that promote support would be appropriate.

Some researchers have argued that the evidence is consistent with both direct and indirect models and that at least some of the inconsistencies are due to methodological differences (Cohen & Wills, 1985). In a meta-analysis of 68 studies of work-related stress, Viswesvaran and colleagues concluded that there was evidence to support both the direct and buffering effect models (Viswesvaran, Sanchez, & Fisher, 1999).

## Social Support and Job Stress Among Nurses

This study focuses on perceived social support and job stress among nurses. There is considerable evidence to indicate that nurses are a high-risk group in relation to job stress (Baldwin, 1999). The organization and delivery of health care is undergoing radical changes with relatively little attention to the impact of these changes on staff (Murphy, 1999). Moreover, the profession is dealing with a crisis in the recruitment and retention of staff (Butterworth, Carson, Jeacock, White, & Clements, 1999). A recent study of turnover in the National Health Service (NHS) in the United Kingdom (UK) concluded that more than

half of the variance in turnover rates is explained by differences in how staff are managed (Audit Commission, 1997). This indicates that there is considerable scope for action to address these problems. Attempts to increase support for nurses, for example through the introduction of formal support systems such as clinical supervision, have generated controversy and mixed findings regarding effectiveness (Morton-Cooper & Palmer, 2000; Spouse & Redfern, 2000). In the nursing literature, social support is cited as both an important factor in managing job-related stress (Boyle, Grap, Younger, & Thornby, 1991; Fletcher, Jones, & McGregor, 1991) and as a source of dissatisfaction (Fagin, Brown, Bartlett, Leary, & Carson, 1995). Thus, a better understanding of support processes is required if interventions to increase support are to be effective.

Nurses play an important role in providing support to patients who may be experiencing physical and psychological distress. There is some evidence that nurses' perceptions of professional support are related to their responses to patients (Booth, Maguire, Butterworth, & Hillier, 1996). In addition, research shows that nurses' competence in providing support has a major impact on how healthcare users view the quality of service. For example, Murphy notes that in a survey of over a million patients drawn from 500 hospitals in the United States, the 10 factors that correlated most highly with patient satisfaction were interpersonal factors, such as nurses' friendliness and their sensitivity to patient's personal needs (Murphy, 1999). Excessive stress is likely to have an adverse effect on such interpersonal competencies. Thus, it would seem particularly important to understand the relationship between support in the workplace and job stress for this professional group.

Many of the studies of social support and job stress within nursing are characterized by the same weaknesses of the broader research, such as the operationalization of social support as a unidimensional concept, and the predominance of cross-sectional designs. A number of studies have found that higher levels of social support are related to better health (Singh, 1990), less burnout (Fielding & Weaver, 1994), higher job satisfaction, and less turnover (Decker, 1985). However, the reliance on correlational data is a cause for concern. For example, there is some evidence from a longitudinal study of Dutch workers to indicate that high levels of job strain may cause lower levels of social support (Marcelissen, Winnubst, Buunk, & de Wolff, 1988). The possibility that work stressors may reduce social support is likely to be particularly relevant in the context of disrupted relationships as a result of organizational restructuring.

Social support may encompass a range of types of formal or informal processes in the workplace. Managers may provide support through the provision of resources and through help in managing the workload. The organization may provide support through training in required skills and resources such as employee assistance. Coworkers may provide support through practical help and emotional support. However, this complexity is not reflected in current theoretical models of social support.

While a better understanding of social support requires more complex models, the large number of potentially relevant variables also raises questions about how to design research that is parsimonious and yet adequately measures the concept. By focusing on nurses' perceptions of support from four different sources (the organization, managers, coworkers, and a confidante), this research includes support that has been identified in previous research as being relevant to nurses (Booth, 1992). This approach also takes account of support at different levels in the organization. This is important if the research is to be useful to the design of support interventions. The aims of the study are now outlined.

## Aims of the Study

The conceptual model for the study is presented in Figure 1. The main question for the study is whether different sources of support are related to different outcomes for nurses' health and job satisfaction. The study addresses two concerns in previous research. First, the failure to clarify what aspects of support in the workplace are being measured (O'Reilly, 1988) limits the application of previous research findings. Although previous studies have focused on different sources of support, such as supervisor and coworker, these have generally been studied separately. This study advances previous research by obtaining concurrent measures of the four sources of support most relevant to nurses. Second, most previous studies of stress and social support rely on cross-sectional designs (Viswesvaran et al., 1999), limited to the analysis of the relationship between social support and stress outcomes at a single point in time. In this study, health and job satisfaction are measured at two points in time, 6 months apart. While the collection of longitudinal data introduces problems,

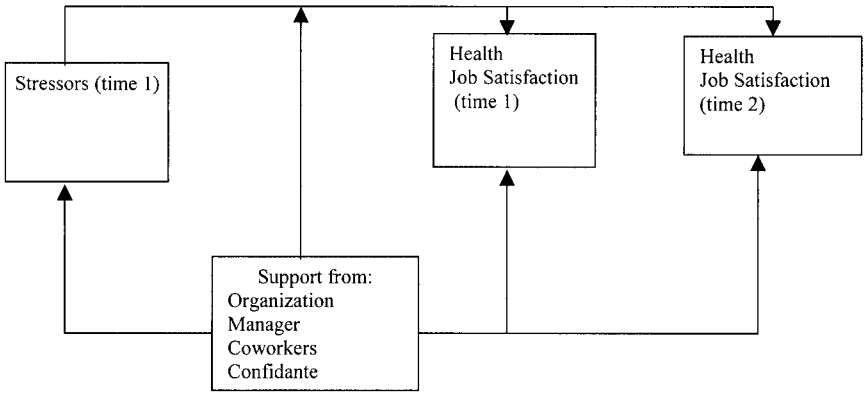


**Fig. 1.** Conceptual model of the relationship between social support, stressors, and outcomes.

such as those arising from sample attrition, it confers advantages in the examination of the relationship among variables. In this study, the extent to which perceived social support is related to nurses' health and job satisfaction over time is likely to be important, particularly if the findings are to be relevant to the design of support interventions. Although a controlled experiment is the method of choice to test causal relations among variables, the social context is clearly a major factor in social support, and thus the external validity of an experimental design is likely to be limited (Robson, 1993). In addition, the manipulation of social support may raise ethical issues. For these reasons, data was collected via a self-report survey.

Since this is an exploratory study, and in view of the mixed findings of previous research, specific hypotheses about the differences in the effects of different types of support were not made. General predictions regarding the relationship between job stress, social support, and health are summarized in HI to H4 below. In addition, the extent to which the relationship between job stress and health is explained by a direct or buffer model is also considered. If a buffer model explains the relationship between social support and health, the effect of social support will be shown only for nurses who report frequent stressors.

*H1:* Nurses with less frequent stressors will have better health at time 1 and time 2, and thus hassles will be positively correlated with scores on the General Health Questionnaire (GHQ-12; Goldberg, 1992).

*H2:* Nurses with less frequent stressors will be more satisfied with their jobs at time 1 and time 2, and thus hassles will be negatively correlated with job satisfaction.

*H3:* Higher levels of perceived social support will be related to better health at time 1 and time 2, and thus support will be negatively correlated with GHQ-12 measures.

*H4:* Higher levels of perceived social support will be related to higher job satisfaction at time 1 and time 2, and thus support will be positively correlated with job satisfaction at time 1 and time 2.

## METHOD

### Procedure

A number of healthcare organizations in northwest England were approached by letter to ascertain interest in the study. Follow-up of interested organizations, including a research proposal and face-to-face meetings, resulted

in the participation of four organizations, who provided access in return for a summary report of the findings. Individual participants received a briefing letter explaining the purpose of the study, assuring confidentiality, and providing contact details for the researcher. This was followed by the self-report questionnaire with a stamped return envelope for completion on a voluntary basis. A reminder letter was sent after 3 weeks. Three of the four organizations from the first phase of the study agreed to continue to participate in the 6-month follow-up. A brief follow-up questionnaire was mailed to all the nurses (from these three organizations) who had returned a usable questionnaire at time 1.

## Participants

The sample was designed to include nurses from a range of specialties, and levels of experience. At time 1 the questionnaire sample consisted of qualified nurses ($n = 727$) working in both hospital and community settings, student nurses ($n = 71$), and agency nurses ($n = 364$). A total of 1,162 questionnaires were distributed at time 1, yielding a response rate of 30% ($n = 350$). Of these time 1 respondents, 206 received a follow-up questionnaire at time 2. As noted above, one of the four organizations did not participate in the second phase of the study. At time two, 117 usable questionnaire were received (57% of the 206 mailed). Data was not available to compare responders and nonresponders at time 1. At time 2, although responders were likely to be significantly older ($t = 2.9$; $p < .05$; $df = 202$) and to have been in the nursing profession for longer ($t = 2.77$; $df = 169$; $p < .05$) than nonresponders, they did not differ significantly in measures of stressors or health outcomes. The final sample was predominately female (92.2%), with a mean age of 39 years, had worked for their current employer for at least one year (73.6%), and worked a median of 37.5 hours a week.

## Measures

Demographic and job data were collected using questions designed specifically for the study. Otherwise, previously validated measures were used as far as possible, since the study aimed to explore the effects of social support from different sources. Measures used at time 1 only are described first, followed by those used at both time 1 and time 2.

### *Time 1 Measures*

Nurses' appraisal of day-to-day experiences of stress was measured by the Hassles and Uplifts scale (Lazarus & Folkman, 1989; Kanner, Coyne, Schaefer, & Lazarus, 1981). This measure was deemed appropriate for this study since

it includes both work and nonwork domains (e.g., job security, children) and has been identified as a useful measure of general stress and predictor of concurrent and subsequent psychological distress (Quick & Quick, 1984). Each of 53 items is rated on a 4-point scale (0 = not applicable; 3 = a great deal of hassle), so that a higher score indicates more frequent hassles. Uplifts are measured using the same items, but in this study respondents were directed to complete only the hassles portion of the scale ($\alpha = 0.91$), as a means of reducing the time required to complete the scale. Pilot work indicated that time demand was likely to influence nurses' willingness to complete the questionnaire. In addition, previous research has measured hassles only (DuBois, Felner, Brand, Adan, & Evans, 1992).

Managerial support was measured by seven items ($\alpha = 0.87$), and coworker support was measured by eight items ($\alpha = 0.69$) from the Job Content Questionnaire (JCQ; Karasek et al., 1998). The term supervisor was replaced with manager as pilot work indicated that this was more appropriate for this sample. The items describe aspects of support such as concern, awareness, and competence, for example, "my manager pays attention to what I am saying"; "the people I work with encourage each other to work together." Respondents rate their agreement on a 5-point scale (1 = strongly disagree; 4 = strongly agree; 0 = not applicable), so that a higher score indicates greater perceived support. Since support from a confidante has been identified as an important factor in health outcomes (Steptoe & Appels, 1989), two additional items adapted from Unden (Unden, 1996) were included to measure personal support in the workplace. These described having someone to talk or speak to about a workplace or personal problem.

Perceived organizational support ($\alpha = 0.93$) was measured by 17 items adapted from the scale developed by Eisenberger and colleagues (Eisenberger, Huntington, Hutchinson, & Sowa, 1986). Sample items are: "the organization cares about my opinions," "help is available from the organization when I have a problem," and "the organization would ignore any complaint from me." Respondents rate their agreement on a 7-point scale (1 = disagree strongly; 7 = agree strongly; 0 = not applicable). Negatively worded items are reverse scored, so that a high score indicates greater organizational support.

### *Time 1 and Time 2 Measures*

Attempts to minimize the time demands on participants in the follow-up study were an important priority in the selection of measures for use at time 1 and time 2. Sample attrition is a widely recognized problem in the collection of longitudinal data (Bowling, 1997). In addition, despite concerns about job stress, nurses may be unwilling to complete a second questionnaire on the same topic

due to questionnaire fatigue, particularly in the context of increased requirements for data collection arising from a variety of audit and quality assurance projects. For these reasons, measures of hassles and support were not repeated at time 2. The proportion of questionnaire recipients who responded at time 2 increased by 27%, indicating that the use of a brief questionnaire at time 2 was justified in this study.

The 12-item version of the GHQ-12 was used to measure psychological distress at time 1 ($\alpha = .87$) and time 2 ($\alpha = .90$). This scale has been extensively validated (Goldberg & Williams, 1988) and has been widely used with nurses (Borrill et al., 1998). A single item was adapted from the Job Content Questionnaire (Karasek, 1985) to measure global job satisfaction at time 1 and time 2. Satisfaction was rated on a 4-point scale, ranging from "not at all" to "very." Since there is evidence that health may be influenced by life events as well as hassles (Sarafino, 1998), a categorical item (yes/no) measured participants' perceptions about whether their life "included any major changes" over the past 6 months.

### *Data Analysis*

The data was analyzed using SPSS (Norusis, 1993; SPSS, 1998). Descriptive statistics and correlations were calculated for the study variables. Hierarchical multiple regression analysis was used to examine the relationship between the independent variables (hassles) and the dependent variables (GHQ-12 time 1, GHQ-12 time 2, job satisfaction time 1, job satisfaction time 2). This method identifies the amount of contribution to the dependent variable (Bryman & Cramer, 1997) and thus is particularly appropriate for applied research where the findings may inform the design of interventions. Age was treated as a control variable in the analysis of job satisfaction since there is evidence that it is related to job satisfaction (Baglioni, 1990). In view of the absence of theory to guide the order of entry of the support variables, stepwise regression analysis was used to examine sources of support as predictors.

## RESULTS

### Stressors, Well-Being, and Job Satisfaction

Descriptive statistics and intercorrelations between the study variables are presented in Table 1. Approximately half of the respondents reported major life changes in the previous 6 months at both time 1 (48%) and time 2 (51%). Analysis of hassles showed that the three items most frequently cited as either

**Table 1.** Descriptive Statistics and Intercorrelations for Study Variables

| | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Age | 39.31 | 10.98 | — | | | | | | | | | |
| 2 Hassles | 34.82 | 18.68 | −.13* | — | | | | | | | | |
| 3 Organizational support | 3.55 | 1.06 | .11* | −.24* | — | | | | | | | |
| 4 Managerial support | 2.49 | .79 | .07 | −.06 | .34* | — | | | | | | |
| 5 Coworker support | 3.03 | .55 | | .10 | .05 | .31* | — | | | | | |
| 6 Confidante support | 2.77 | .87 | .02 | −.04 | .24* | .42* | .46* | — | | | | |
| 7 GHQ time 1 | 11.60 | 4.91 | −.06 | .42* | −.17* | −.12* | .02 | −.10 | — | | | |
| 8 GHQ time 2 | 13.48 | 6.13 | .00 | .38* | −.08 | −.14 | .11 | −.01 | .42* | — | | |
| 9 Global job satisfaction (*t*1) | 3.01 | .76 | .22* | −.24* | .41* | .26* | .16* | .29* | −.25* | −.16 | — | |
| 10 Global job satisfaction (*t*2) | 2.87 | .95 | .06 | −.24* | .38* | .33* | −.07 | .05 | −.24* | −.34* | .31* | — |

*$p < .05$

**Table 2.** Multiple Regression Analysis: Stressors as Predictors of Health (GHQ-12 time 1 and time 2)

| Dependent variable | Control variable | Variables entered | *B* | *SE B* | β | t | Sig. |
|---|---|---|---|---|---|---|---|
| GHQ-12 (time 1) | | Hassles | .11 | .02 | .42 | 7.64 | <.05 |
| *Note* $R^2 = .18$; $df = 1,275$. | | | | | | | |
| GHQ-12 (time 2) | | Hassles | .11 | .03 | .38 | 3.72 | <.05 |
| *Note* $R^2 = .14$; $df = 1, 83$. | | | | | | | |
| GHQ-12 (time 2) | | | | | | | |
| | GHQ-12 (time 1)[a] | | .41 | .11 | .37 | 3.67 | <.05 |
| | | Hassles[b] | 7.99 | .03 | .27 | 2.68 | <.05 |

[a]$R^2 = .19$; $df = 1, 82$.
[b]$R^2 = .07$; $df = 1, 81$.

"quite a bit" or "a great deal of hassle" were "workload" (54%), "nature of the work" (37%), and "meeting deadlines" (33%). As predicted, the results show that nurses' health is adversely affected by higher levels of stressors. Regression analysis with GHQ-12 as the dependent variable (Table 2) showed that hassles explained 18% of the variance at time 1 and 14% percent of the variance in health at time 2. When time 1 GHQ-12 was controlled by entering it into the equation first, hassles (measured at time 1) remained a significant predictor of GHQ at time 2, explaining 7% of the variance. Thus H1 was supported.

Higher levels of stress were related to lower job satisfaction, but the findings for time 2 were less clear (Table 3). Previous research indicates that age may be a factor in job satisfaction (Baglioni, 1990), and, as shown in Table 1,

**Table 3.** Multiple Regression Analysis: Stressors as Predictors of Job Satisfaction (time 1 and time 2*)

| Dependent variable | Control variable | Variables entered | *B* | *SE B* | β | t | Sig. |
|---|---|---|---|---|---|---|---|
| Job Satisfaction (time 1) | | | | | | | |
| | Age | | 1.48 | .004 | .19 | 3.05 | <.05 |
| | | Hassles | −8.82 | .002 | −.22 | −3.54 | <.05 |

*Note* $R^2 = .09$; $df = 1, 244$.
*Hassles not a significant predictor at time 2.

age was statistically related to job satisfaction in this study. Thus, age was controlled by entering it into the regression equation first. Hassles predicted 9% of the variance in job satisfaction at time 1. Although hassles also accounted for 6% of the variance in job satisfaction at time 2, this variable was not statistically significant ($p > .05$). While this may be due to the reduced sample size at time 2, the findings do not exclude a reverse causal relationship between job satisfaction and stressors. H2 was only partly supported.

## Support Variables and Health

Table 4 presents the findings for the relationship between the support variables and health. Nurses who felt that the organization was more supportive have better health at time 1. Specifically, organizational support accounted for 6% of the variance in GHQ at time 1. There was no evidence in this study that nurses' perceptions of support from managers or coworkers were significantly related to health. In addition, none of the support variables emerged as significant predictors of health at time 2. Thus, although the data indicate that health is positively related to organizational support, these data do not exclude a reverse causal relationship. H3 was only partly supported.

As indicated in Figure 1, social support may buffer the relationship between organizational support and health. In this case, support would benefit only those nurses with high levels of stressors. This was tested by dichotomizing the sample at the median stressor score and comparing health outcomes for nurses with high and low support (Boumans & Landeweerd, 1992). There was no evidence of a buffer effect.

## Support Variables and Job Satisfaction

Table 5 presents the results for the stepwise multiple regression of the support variables with job satisfaction time 1 and time 2 as the dependent variables and age and stressors as control variables. The findings suggest that per-

**Table 4.** Summary of Stepwise Multiple Regression Analysis: Support Variables as Predictors of Psychological Well-Being (GHQ-12 time 1 and GHQ-12 time 2*)

| Dependent variables | Variables entered** | *B* | *SE B* | β | t | Sig. |
|---|---|---|---|---|---|---|
| GHQ-12 (time 1) | Organizational Support | −1.23 | .30 | −.24 | −4.10 | <.05 |

*Note* $R^2 = .06$; $df = 1$; 227.
*Support variables not significant at time 2 predictor.
**Stepwise criteria: probability of-F-to-enter ≤ .05; Probability of-F-to-remove ≥ .100.

**Table 5.** Summary of Stepwise Multiple Regression Analysis: Support Variables as Predictors of Job Satisfaction Time 1 and Time 2

| Dependent variable | Control variable | Variables entered* | *R* | $R^2$ | *B* | *SE B* | β | t | Sig. |
|---|---|---|---|---|---|---|---|---|---|
| Job Satisfaction (time 1) | | | | | | | | | |
| | Age | | .22 | .05 | 1.09 | .004 | .16 | 2.80 | <.05 |
| | Hassles | | .31 | .09 | −5.66 | .002 | −.14 | −2.40 | <.05 |
| | | Perceived Organizational Support | .46 | .21 | .22 | .043 | .30 | 5.06 | <.05 |
| | | Support from Confidante | .50 | .25 | .18 | .050 | .21 | 3.60 | <.05 |
| *Note: df* = 1, 241. | | | | | | | | | |
| Job satisfaction (time 2) | | | | | | | | | |
| | Age | | .06 | .00 | −2.6 | .01 | −.00 | −.03 | >.05 |
| | Hassles | | .24 | .06 | −7.8 | .01 | −.15 | −1.28 | >.05 |
| | | Organizational Support | .41 | .17 | .31 | .11 | .34 | 2.87 | <.05 |

*Note: df* = 1, 64.
*Stepwise criteria: probability of-F-to-enter ≤ .05; Probability of-F-to-remove ≥.100.

ceived organizational support has a positive impact on job satisfaction. Organizational support explained 12% of the variance in job satisfaction at time 1 and 11% at time 2. The relationship between the other perceived support measures and job satisfaction is less clear. Confidante support explained 4% of the variance in job satisfaction at time 1, but was not a significant predictor at time 2. Managerial support was not a significant predictor of job satisfaction when the effects of age and hassles were controlled. Thus H4 was supported overall, although different sources of support have different effects.

## DISCUSSION

The present study extends previous research on the role of social support in job stress outcomes by concurrently examining the effects of support from different sources on measures of nurses' health and job satisfaction at two points in time at a 6-month interval. The findings indicate that differentiating among the different sources of support available to nurses, as described in Figure 1,

may be important in the advancement of our understanding of the role of social support in occupational stress

## Stressors, Health, and Job Satisfaction

The study supported the findings of previous research that job stress has important consequences for nurses and that excessive stress adversely affects health and job satisfaction (Baldwin, 1999). Previous research indicates that nursing work is characterized by both quantitative and qualitative overload (Borrill et al., 1998). In this study, workload and meeting deadlines were two of the most frequently cited stressors. This concurs with other data, such as records of patient admission episodes (Seccombe & Patch, 1995), which provide objective evidence that nurses' workloads have increased significantly. Increased time pressure may have important implications for the development and maintenance of supportive relationships in the workplace. In this context, support interventions that do not take account of existing time pressures are unlikely to be effective.

As expected, nurses who reported more frequent hassles were less satisfied with their jobs. However, hassles did not predict job satisfaction at time 2. One limitation of this study is the use of a single item measure of job satisfaction. However, single item measures of job satisfaction have been used successfully in previous research (Wanous, Reichers, & Hudy, 1997), and as discussed above, it was important to take account of the time demands of the survey in this study.

## Perceived Support, Health, and Job Satisfaction

The findings of this study indicate that support from different sources may have different outcomes. Of the support variables measured, perceived support from the organization was the only significant predictor of health at time 1 in this study. Thus, nurses who perceive that they are valued by the organization also report better health. The evidence that organizational factors are related to individual health is an important finding since programs aimed at increasing support among nurses are frequently designed to intervene at the individual or group level and may include health outcomes as an indicator of effectiveness. Evaluation research of such formal programs is limited and has produced mixed findings (Butterworth, 1997; Heaney, Price, & Rafferty, 1995). This study suggests that those involved in the development of support programs should also take account of support at the organizational level and consider a range of outcome measures. It is interesting to note that in a larger study of health service

employees from different organizations in the United Kingdom, Borrill and colleagues found that employees had better health outcomes in organizations where ongoing training was emphasized and available (Borrill et al., 1998). Training may be one tangible way in which organizations convey to employees that they are valued.

It is perhaps surprising that support from managers and coworkers was unrelated to health in this study. Although support from coworkers may be valued, it is not necessarily effective in reducing the negative effects of job stress. In one study of nurses (McIntosh, 1990), having a larger number of supporters was related to higher levels of emotional exhaustion. More exposure to distressed coworkers may increase negative affect through a contagion effect (Gump & Kulik, 1997). In addition, seeking help involves risk (Fisher, Nadler, & Whitcher-Alagna, 1982), and for example, support that does not resolve the problems may lead to feelings of incompetence (Buunk, 1990). Although the failure to identify perceived support as a predictor of health at time 2 may be due to the sample size, further research is required to clarify the relationship between organizational support and health over the long term.

This study shows that the extent to which nurses feel that the organization is supportive is an important factor in global job satisfaction. This indicates that interventions that do not take account of nurses' views of support from the organization are unlikely to be effective in addressing these issues. Despite the emphasis on coworker support in previous research, it was not significantly related to job satisfaction in this study. Support from a confidante may be related to job satisfaction in the short term. Support from a manager did not predict job satisfaction once the effects of age and stressors were controlled. These mixed findings are consistent with previous research on social support and job satisfaction (Jones, Flynn, & Kelloway, 1995). The extent to which effective support can be provided is likely to be influenced by a range of individual, group, and organizational factors. For example, in larger hierarchical organizations, such as the NHS, first-line managers may have limited control over resources, and thus nurses may perceive that these managers are not in a position to address major sources of stress, such as excessive workload.

## Limitations and Future Research

Although the most striking finding of this study is that perceived organizational support influences both nurses' health and nurses' job satisfaction, the limitations of the study should be noted. An important issue for the validity of survey research is the potential for sampling bias (de Vaus, 1990; Johnson, Beaton, Murphy, & Pike, 2000). In this study participation was voluntary, raising concerns about the representativeness of the sample, since only about a third

of the potential participants chose to complete a questionnaire at time 1. Although there is some evidence that volunteers may differ from nonvolunteers in factors such as education (Rosenthal & Rosnow, 1991), this is unlikely to be a major factor in this relatively homogenous sample.

Stress research may involve participants in disclosing sensitive information. Although questionnaires were anonymous, longitudinal studies require a system of coding to link responses at different time periods. This may compromise the extent to which the data is perceived as being confidential. The limited contact between researcher and respondents in a mail survey makes it difficult to address participants' concerns directly.

In stress research, the likelihood of responding may be increased due to concern about stress, or decreased due to too many demands. This issue has not yet been resolved in the literature (Karasek et al., 1998). In the present study, there was no difference in measured stress levels of nurses who participated in the follow-up study compared to those who did not participate in the follow-up study, suggesting that experienced stress did not affect the likelihood of responding.

While a similar proportion of the respondents reported a major life change in the previous 6 months at both time 1 and time 2, as discussed above, hassles measures were not included in the follow-up study. This clearly limits analysis of the potential effects of any change in stressors. Nevertheless, work demands have been consistently identified as a predictor of health among staff in the NHS (Borrill et al., 1998). In addition, there was no evidence of a buffer effect of support, indicating that its relationship with health does not depend on the level of stressors. Although the research benefited from a longitudinal design for the outcome measures, a larger sample size at time 2 would have helped to clarify some of the findings. In addition, it is evident that a potential weakness of multiple regression is the assumption of linear relationships between the variables (Bryman & Cramer, 1997). Further testing of the model with different samples is required to confirm the order of the support variables derived from the stepwise procedure (Cohen & Cohen, 1983).

Another limitation of the study is the reliance on self-report data. Research participants clearly have unique access to their experiences of stress and perceptions of support. Previous research indicates that perceived support is a valid topic for research (Wethington & Kessler, 1986). Nevertheless, questions for future research include the extent to which perceived support concurs with received support. The study of social support is likely to require a combination of methodological approaches. For example, indirect or disguised helping processes, which vary in different professional and organizational cultures (Glidewell, Tucker, Todt, & Cox, 1982), may be more difficult to measure.

As noted above, job satisfaction was measured by a single item in this study. This underestimates the relationship between job satisfaction and health

by masking the potential effects of differences in outcomes for nurses' satisfaction with intrinsic and extrinsic aspects of the job (Butterworth et al., 1999). There is considerable evidence that nurses' dissatisfaction with extrinsic work conditions such as pay is increasing (Nolan, Brown, Naughton, & Nolan, 1998).

Nursing is a predominately female profession. Since there is some evidence that gender is a factor in social support research (Tyler & Cushway, 1995), future research should include different occupational groups. In addition, supportive acts may have different meanings in different contexts. Some researchers have suggested that some forms of support may be taken for granted in everyday social relations and thus may not be visible (Cohen, 1987). In addition, a better understanding of cultural factors in social support research is particularly relevant in an increasingly diverse workforce (Kandola, 1995). It is clear that the complexity of the relationship between social support in the workplace and job stress will continue to provide interesting challenges for researchers in this field.

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