

The Relationship of Work Support and Work Demands to Individual Outcomes and  
Absenteeism of Rural Nurses.

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### Abstract

This study looked at the relationships among work support, work demands, individual morale, individual distress, quality of working life, and absenteeism outcomes of 188 rural nurses working in the Southern Downs District Health Service. The absenteeism data were obtained from the employee information report that listed total monthly absenteeism rates (calculated as hours per full time employee) for the nursing staff at each of the six hospitals. Using structural equation modelling, it was found that work demands predicted levels of individual distress while work support predicted individual morale, quality of working life, and individual distress. Examination of the data revealed that hospitals where staff reported higher levels of work demands and lower levels of work support had higher absenteeism rates. The establishment of better support networks for rural nursing staff and reducing the work demands may influence levels of absenteeism although there could be a reciprocal effect whereby absenteeism contributes to greater work demands.

Key words: work demands, work support, morale, distress, quality of work life, absenteeism.

## The Relationship of Work Support and Work Demands to Individual Outcomes and Absenteeism of Rural Nurses

Two common indicators of organisational health are withdrawal behaviours such as absenteeism and turnover (Johns 2001). Absenteeism can be linked to individual, organisational, and social factors (Stetzer, Fearing, Cunningham and Anderson 2000). Two organisational factors that can contribute to absenteeism are individual perceptions of the stressors in the workplace (i.e., work demands) and ability to cope with workplace stressors, including the level of work support (Scheck, Kinicki, and Davy 1997). This paper will describe the organisational demands and supports experienced by rural nurses and propose some tentative links between these factors and absenteeism.

### *Description of Rural Nursing*

Stress in the health profession has been extensively researched from both a physiological and psychological perspective (Cozens and Payne 1999). Studies have emphasised that nursing is a 'high-risk' profession, one in which nursing staff are more likely to experience chronic levels of stress (Baldwin 1999). Hemingway and Smith (1999) reviewed research showing that nurses have high levels of work-related injuries, turnover, and absenteeism, and that nursing is one of the top 40 occupations with the highest prevalence of stress-related disorders. Not only are these outcomes unfortunate for the individuals concerned, they result in staffing shortages and increased levels of work-related stress for the remaining workers.

Some possible reasons for the reportedly higher levels of stress-related disorders can be found in the working environment itself. First of all, within Australia, the rural nursing profession has shown little growth. Statistics from the Association for Australian Rural Nurses (AARN) indicate that the number of nurses currently

employed within rural hospitals has decreased, while the age of the workforce has increased. Secondly, compared with their urban counterparts, nurses working within a rural community are exposed to a unique set of challenges and circumstances (Bigbee 1993), such as being occasionally required to undertake tasks for which they may not be qualified or trained (Witham 2000). It has been suggested that nurses working within a rural environment function as generalists rather than specialists (Anderson and Kimber 1991), especially nurses employed in the smaller rural hospitals in Australia (Hegney 1996).

There are several limitations faced by nurses working in rural hospitals, including being more isolated, working with a smaller number of employees, reduced opportunities for career advancement, and restricted employment opportunities in general (Coward et al 1995). However, working within a unique but generalist specialty area of general practice within small communities may also provide an opportunity for increased community interaction and visibility.

There are several models describing how work-related variables influence the reactions and behaviour of employees. In the next section, a general model will be presented that has the potential to capture important interactions among variables affecting the rural nurse and to explain how these variables impact on behaviour.

#### *Factors Influencing Work Reactions and Behaviour of Rural Nurses*

Recent research into occupational stress (Hart and Cooper 2001) has argued that employee well-being and organisational performance are determined by a combination of individual (e.g., personality and coping) and organisational (e.g., organisational climate and work experiences) characteristics. Hemingway and Smith (1999) found that organisational factors such as work pressure, autonomy, peer cohesion, and supervisor support were consistently related to perceived stressors in

nurses. Some aspects of the climate (e.g., work pressure) contributed to poorer well-being, whilst others (e.g., supervisor support) were linked to better well-being. The interaction of positive and negative aspects of organizational climate is a key consideration when attempting to understand the impact of organisational climate.

The present study sought to extend the work of Hemingway and Smith (1999) in the context of rural nursing by demonstrating that aspects of organisational climate can predict objective performance indicators, such as absenteeism. The components of organisational climate that were the focus of the current study included two aspects of work demands: excessive work demands and workplace distress; and two aspects of work support: supportive leadership and professional interaction. These variables will be explained in more detail before outlining a conceptual model showing how they are related to each other and to the work reactions and behaviour of rural nurses. The focus of this study is on organisational factors that can explain individual outcomes and absenteeism in rural nurses. It is recognised that there may be nursing-specific factors (e.g., dealing with death) that have not been included in the measure of organisational climate. However, there is some evidence that general aspects of organisational climate have equal predictive validity as the more specific climate approach in predicting individual reactions and behavior (Fearing, Stetzer, Ladd, and Moss 2002; Hart, Wearing, Conn, Carter, and Dingle 2000).

*Excessive work demands* are defined as the extent to which employees are overloaded with constant pressure to keep working, leaving no time to relax (Hart, Griffin, Wearing, and Cooper 1996). Due to the generalist nature of the role of the rural nurse, work demands may exceed those of other occupations. There is also an expectation of nursing competence within a wide range of nursing and non-nursing practice (Hegney 1996). Onyett and Pillinger (1997) noted high emotional exhaustion

among nurses due to work overload resulting from working with a large proportion of people requiring care and having minimal resources at their disposal. Therefore, the constant pressure of maintaining standards of care across a range of areas can contribute to excessive work demands. It is expected that this variable will be strongly related to the level of distress experienced by rural nurses, and that it would also be associated with absenteeism.

*Workplace distress* is defined as the degree to which employees perceive other employees as feeling frustrated, stressed, tense, anxious and depressed about their work (Hart et al 1996). This variable measures the extent to which nurses are aware of the level of distress that other nurses are experiencing. Hart (1994, 1999) found that high levels of workplace distress are associated with more negative organisational outcomes, and it was expected that this variable would also be strongly related to the level of strain experienced by rural nurses, and with absenteeism.

*Supportive leadership* is defined as the extent to which managers are approachable, dependable, and supportive, know the problems faced by staff, and communicate well with them (Hart et al 1996). Ducharme and Martin (2000) suggested that informational and instrumental support is most commonly provided by supervisors, often in response to increased stressors and particular circumstances. Edwards and Rothbard (1999) argued that strong social relations found within the work environment may enhance well-being and be a key factor contributing to job satisfaction, productivity, and coping with stress. Therefore, social support may be thought of as providing individuals with improved coping mechanisms (Ducharme and Martin). It is expected that this variable will be strongly related to the level of morale experienced by rural nurses, and that it would also be associated with low levels of absenteeism.

*Professional interaction* is defined as the level of acceptance and support that employees receive from other employees, including the level of involvement, sharing of resources, good communication and help when needed (Hart et al 1996). The degree to which an employee is accepted and involved in the workplace can impact upon whether or not the employee feels comfortable communicating and sharing work issues with other staff members (Onyett and Pillinger 1997). Jackson (1983) noted that when communication between co-workers and supervisors increased, the employee was less likely to experience isolation, and job induced strain was reduced. The impact of this increase in communication between peers and supervisors may further aid the employee to feel less isolated, thus enhancing the work climate through professional interaction. It was expected that this variable would be strongly related to the level of morale experienced by rural nurses and that it would be associated with low levels of absenteeism.

*Model of Work Climate, Work Reactions and Absenteeism*

Hart and Cooper (2001) have described a comprehensive model of organisational health that proposed that positive work experiences operate mainly through improving individual morale while negative experiences mainly influence individual distress (see Figure 1).

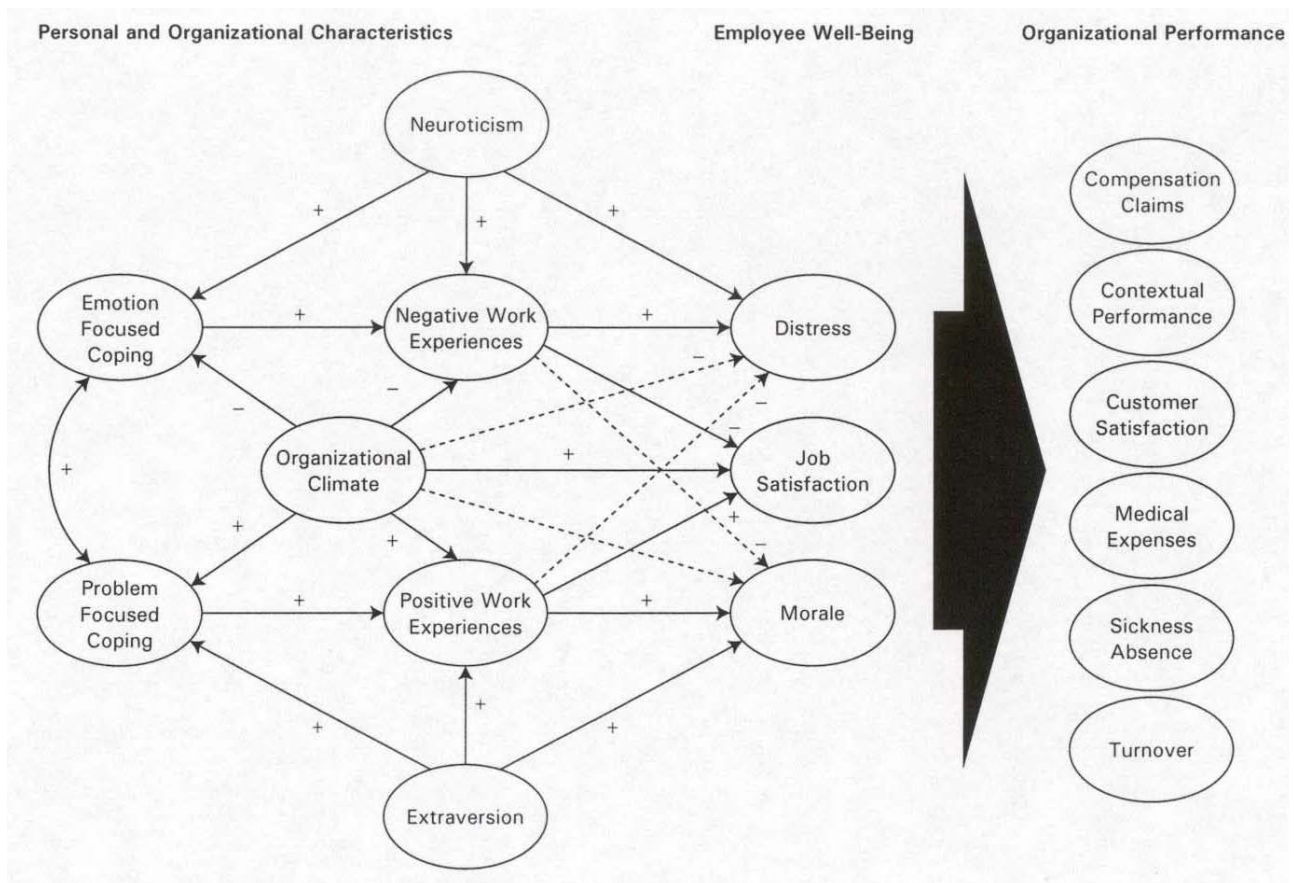


Figure 1. The Organisational Health Research Model (Hart & Cooper, 2001, p. 107).

Note: "+" indicates a positive relationship; "-" indicates a negative relationship;

Dotted lines represent relationships which are expected to be relatively weak.

This model, based on the dynamic equilibrium model, holds that the person and the environment both contribute to individual distress and morale. The model has been supported by cross-sectional and longitudinal studies (Hart 1994; Hart and Cooper 2001). Therefore, the measure of work reactions used in this study included measures of both positive work-related affect (individual morale) and negative work-related affect (individual distress), as well as a general measure of quality of work life. High levels of individual morale and quality of work life were both expected to



be associated with low levels of absenteeism and, conversely, high levels of individual distress were expected to contribute to high levels of absenteeism.

Work climate is also considered to be an antecedent to absenteeism and may in fact be the major influence on absenteeism (Goldberg and Waldman 2000). Erikson, Nichols, and Ritter (2000) noted that high levels of burnout contributed to absenteeism, although high levels of burnout on its own did not result in increased absenteeism. Therefore, this study also focused on the relationships between the organisational climate variables and absenteeism. It was expected that greater work support and lower work demands might both contribute to lower absenteeism. Due to the absenteeism data being aggregated at the hospital level, it was not possible to include the absenteeism variable in the structural model that was tested. However, the model specified relationships between the four organisational climate variables (which were allowed to be indicators of two separate, but related organisational climate constructs) and the levels of individual morale, individual distress, and the quality of work life.

### *Hypotheses*

It was hypothesised that:

*H1.* Work demands would be positively related to levels of individual distress in the structural model. Work demands would also be associated with higher absenteeism in rural nurses (Hegney 1996; Onyett and Pillinger 1997).

*H2.* Work support would be positively related to levels of individual morale and quality of work life in the structural model. Work support would also be associated with lower levels of absenteeism in rural nurses (Ducharme and Martin 2000; Jackson 1983).

*H3.* Individual morale and quality of work life would be negatively associated with levels of absenteeism, while individual distress would be positively associated

with levels of absenteeism in rural nurses (Hart et al 1996; Hart and Cooper 2001).

## Method

### *Participants*

The participants in the study were 188 rural nurses who participated in a survey for the Southern Downs District Health Service (SDDHS) between March and April, 1998. The response rate was 80%. One respondent's data set was not usable and this case was deleted from the sample. Therefore 187 nurses (172 females) remained, ranging in age from 20 years to over 60 years. All nurses were employed at one of six hospitals located in the Southern Downs District Health Service (77 at Warwick, 42 at Stanthorpe, 31 at Goondiwindi, 15 at Texas, 12 at Inglewood, and 10 at Millmerran). Monthly absenteeism data for the period March, 1999 to February, 2000 were provided by the Southern Downs District Health Service District Office subsequent to the staff survey. These data were the average number of hours of sick leave per full-time employee (FTE) for each month. The average numbers of full-time nursing staff for each location were: 53.9 at Warwick, 43.3 at Stanthorpe, 39.4 at Goondiwindi, 13.1 at Texas, 14.1 at Inglewood, and 12.7 at Millmerran. While most of these average numbers of FT nursing staff are slightly above the number of survey respondents, the number of respondents at Warwick is clearly well above the staffing levels in 1999. Information was later obtained to indicate that one ward at the Warwick hospital had closed after the survey was completed in 1998.

### *Instruments*

The Queensland Public Agency Staff Survey (QPASS) is a self-administered employee opinion survey designed by Hart et al (1996) to assess quality of work life

in the Queensland Public Service. The original survey was designed to measure employees' perceived work experiences in six areas. The current study has used measures from only the Psychological Outcomes and Organisational Climate sections of the survey although a number of other sections were included and feedback to the organisation covered all sections that were administered. The measures used in this study will be described below.

*Quality of work life* is a measure of the extent to which the employee's conditions of life at work are excellent giving everything important that might be wanted. It includes six items such as "In most ways my work life is close to my ideal", and "I am satisfied with my life at work". The Cronbach alpha reported in Hart et al (1996) was .91.

*Individual morale* is a measure of positive job-related affect. It includes seven items that assess the extent to which the employee is feeling positive, proud, cheerful, and energised at work. The Cronbach alpha reported in Hart et al (1996) was .92.

*Individual distress* is a measure of negative job-related affect. It includes seven items that assess the extent to which the employee is feeling tense, afraid, unhappy, anxious, negative, uneasy, and depressed at work. The Cronbach alpha reported in Hart et al (1996) was .88.

*Excessive work demands* contains four items that assess the extent to which staff are overloaded with constant pressure to keep working, leaving no time to relax. Two of the items were, "Staff are overloaded with work at this place", and "There is too much expected of staff in this workplace". The Cronbach alpha reported in Hart et al (1996) was .79.

*Workplace distress* contains five items that assess the extent to which staff feel frustrated, stressed, tense, and anxious and depressed about their work. Two of the

items were, “Staff in this workplace are frustrated with their job”, and “There is a lot of tension in this workplace”. The Cronbach alpha reported in Hart et al (1996) was .83.

*Supportive leadership* contains five items that assess the extent to which staff perceive that managers are approachable, dependable, supportive, know the problems faced by staff, and communicate well with them. Two of items were, “I am able to approach the managers in this workplace to discuss concerns and grievances”, and “There is support from the managers in this workplace”. The Cronbach alpha reported in Hart et al (1996) was .84.

*Professional interaction* contains six items that assess the extent to which staff receive acceptance and support from others, with involvement, sharing, good communication and help when needed. Two of the items were, “I feel accepted by staff in this workplace”, and “Staff frequently discuss and share work practices with each other”. The Cronbach alpha reported in Hart et al (1996) was .83.

## Results

Descriptive statistics and reliability estimates are presented in Table 1. Table 1 also contains the correlations between the QPASS subscales. Table 1 reveals that all four aspects of the work climate were significantly related to Individual Morale, Quality of Work Life, and Individual Distress. Hypothesis *H1* had predicted that work demands would be positively related to levels of Individual Distress, while hypothesis *H2* had predicted that work support would be positively related to levels of both Individual Moral and Quality of Work Life. These hypotheses were supported in that the predicted relationships were found. However, both work demands variables were also correlated (negatively) with Individual Morale, while both work support variables were correlated (negatively) with Individual Distress. The pattern of correlations is

better understood by examining the structural model that estimates the direct and indirect effects between the organisational variables and the individual outcomes.

Table 1

*Means, standard deviations, alpha coefficients and correlations for QPASS subscales*

Variables	<i>M</i>	<i>SD</i>	QWL	IM	ID	PI	SL	WD	EWD
QWL	50.58	20.21	.90						
IM	60.31	18.17	.61**	.92					
ID	37.00	20.62	-.43**	-.37**	.88				
PI	47.83	16.12	.47**	.39**	-.35**	.83			
SL	52.99	23.07	.60**	.43**	-.37**	.58**	.84		
WD	54.79	22.85	-.42**	-.40**	.46**	-.35**	-.50**	.83	
EWD	48.83	23.88	-.28**	-.29**	.39**	-.21**	-.28**	.62**	.79

*Note.* QWL = Quality of Work Life, IM = Individual Morale, ID = Individual Distress, PI = Professional Interaction, SL = Supportive Leadership, WD = Workplace Distress, EWD = Excessive Work Demands. All measures have been rescaled to range from 0 to 100. The alpha coefficients are in the diagonal.  $N = 187$ .

\*\* $p < .01$ .

### *Structural Equation Modelling*

In order to simultaneously test the degree to which both work demands and work support predict the individual outcomes, a structural model was specified that allowed the four organisational climate variables to be indicators of two separate, but related organisational climate constructs, and for both of these constructs to predict the levels of individual morale, individual distress, and the quality of work life (see Figure 2). The significance of the pathways shown in Figure 2 was tested using Version 4.01 of Amos (Arbuckle 1999). Hu and Bentler (1999) recommended a cut-

off value of close to .95 for the Tucker-Lewis Index (TLI) and a cut-off value of .06 for the root mean square error of approximation (RMSEA) before one can be reasonably satisfied that the model fits the observed data. These indexes were used in combination with the traditional Chi Square test to determine the fit of the model shown in Figure 2. This model demonstrated a good fit to the data,  $\chi^2 (8) = 10.56, p > .05$ ; TLI = 1.00; RMSEA = .04.

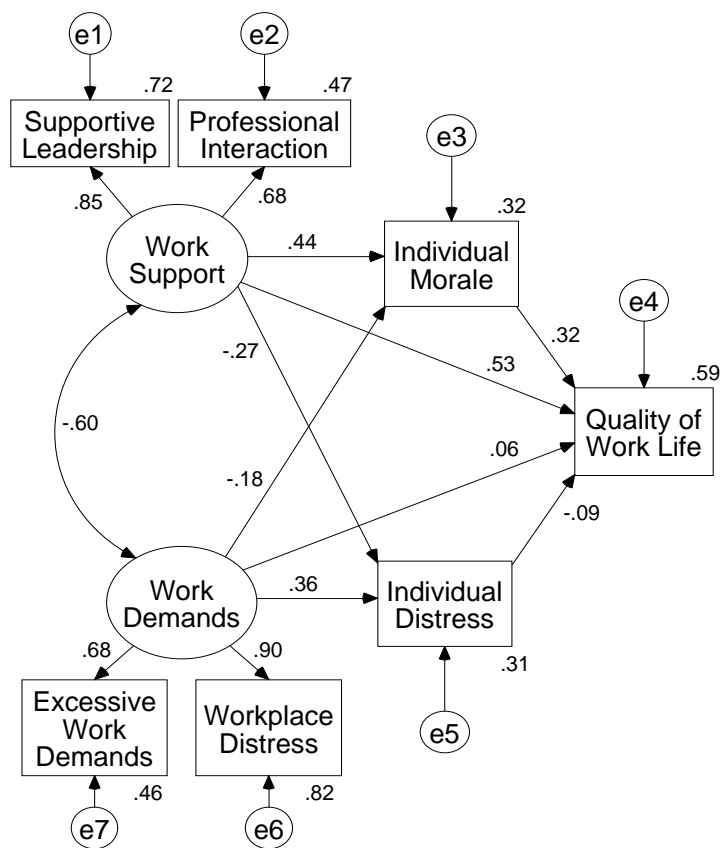


Figure 2. Results for the structural model depicting the relationships between Work Demands, Work Support, Individual Morale, Individual Distress, and Quality of Work Life.

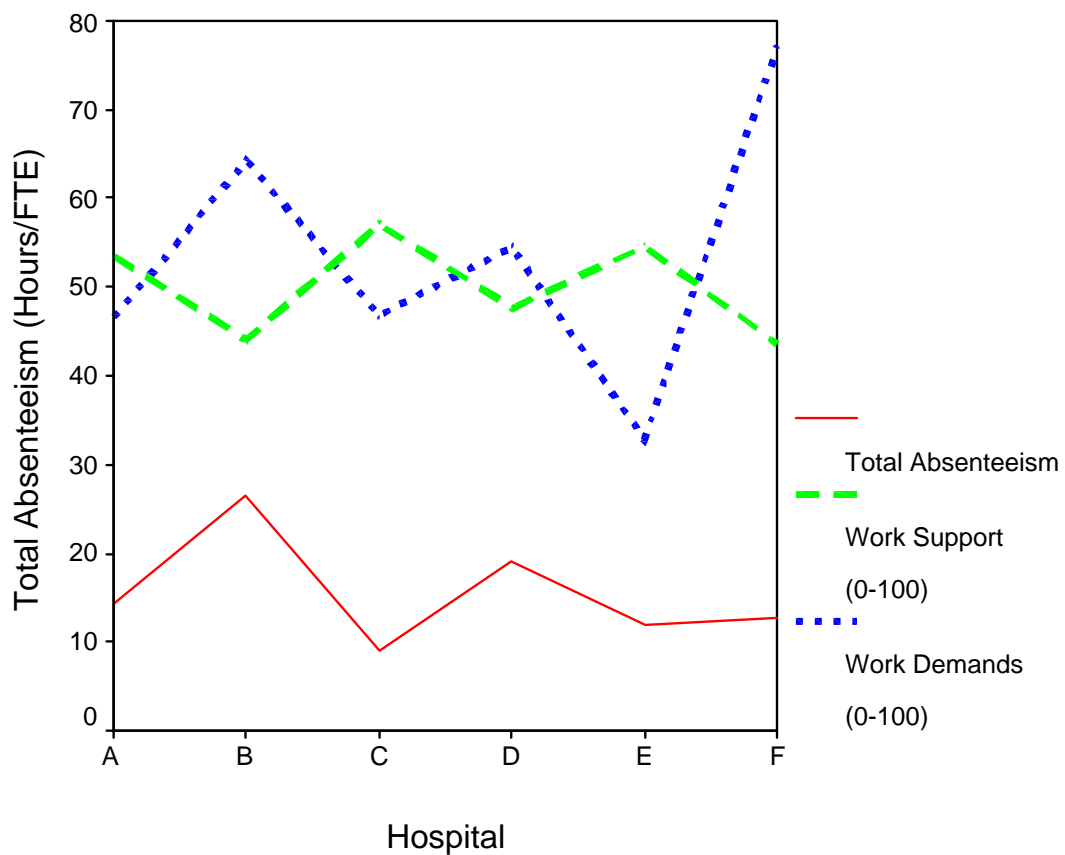
With regards to Work Support, the pathways from Work Support to Individual Morale (.44), from Work Support to Quality of Work Life (.53), and from Work Support to Individual Distress (-.27) were all significant. With regards to Work Demands, only the pathway from Work Demands to Individual Distress (.36) was significant. This result is consistent with the first parts of both hypotheses *H1* and *H2*, while suggesting a stronger role for Work Support than was initially expected.

#### *Analysis of Absenteeism Data*

As stated above, the absenteeism data were aggregated across all nurses in each of the hospitals. As it was not possible to incorporate these group data into our structural model of data based on individual scores, it was decided to calculate a total absenteeism score for each hospital and then plot the mean levels of each of the variables (including absenteeism) for each hospital. The hospitals were labeled A to F to ensure that the results for each facility were kept confidential.

In order to calculate the most reliable absenteeism score for each hospital, the data for the 12 months were analysed using the SPSS reliability analysis. The six hospitals were treated as cases and the reliability analysis assisted in identifying those months that had absenteeism levels that were not consistent with the levels in the other months. Using this method, the data for the months of April, June, July, August, September, November, and December (all in 1999) were summed to produce a total absenteeism level (hours/full-time employee). The Cronbach alpha for this measure was .80 compared to .63 when all 12 months were included. The total absenteeism scores ranged from 9.01 for Hospital C to 26.42 for Hospital B. The month with the lowest absenteeism level was April (1.11), while the greatest absenteeism occurred in July (3.56).

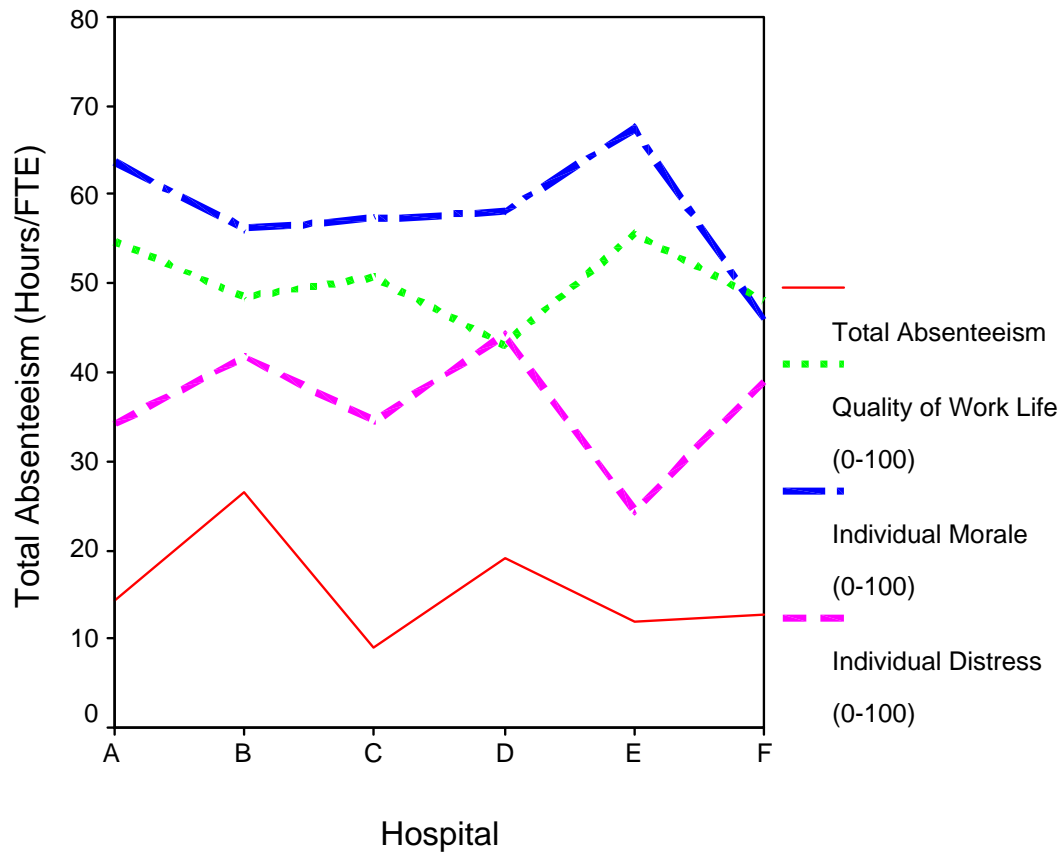
A statistical test of the second part of hypotheses *H1* and *H2* was not possible due to the fact that absentee data were available only for groups and not individuals. Nevertheless, the plots of the means levels of Work Demands, Work Support, and Absenteeism for each of the six hospitals (see Figure 3) show a consistent pattern, apart from those for Hospital F, which is clearly an outlier. Where Work Demands is higher and Work Support is lower (e.g., Hospitals B and D), Absenteeism is higher.



*Figure 3.* Plot of the mean levels of Work Demands, Work Support, and Absenteeism for each of the six hospitals. *Note:* Work Demands and Work Supports are on a scale ranging from 0-100.



In a similar way, Hypothesis *H3* was explored by plotting the means levels of Individual Morale, Individual Distress, Quality of Work Life, and Absenteeism for each of the six hospitals (see Figure 4). Once again, the results are consistent apart from those for Hospital F. Where Individual Morale and Quality of Work Life are lower, and Individual Distress is higher, Absenteeism is higher (e.g., Hospitals B and D). The pattern is a little more evident for Individual Distress than for the other two individual outcomes.



*Figure 4.* Plot of the means levels of Individual Morale, Individual Distress, Quality of Work Life, and Absenteeism for each of the six hospitals. *Note:* Individual Morale, Individual Distress, and Quality of Work Life are on a scale ranging from 0-100.

## Discussion

The aim of this study was to examine the relationships among measures of work demands, work support, individual outcomes, and absenteeism in a sample of hospital-based rural nurses. This study incorporated individual-level measures of nurses' perceptions of the level of work demands and work support they experience, and their reactions to these experiences. It also incorporated a hospital-level measure of absenteeism which was compared to mean levels of the other variables for all nurses in each of the six hospitals.

Hypotheses *H1* and *H2* were partly supported. The results of the structural equation modelling demonstrated that Work Support was a strong predictor of Individual Morale, Quality of Work Life, and Individual Distress and that Work Demands was a strong predictor of Individual Distress. The second parts of these hypotheses were supported by the plots which showed that both Work Demands and Work Support were associated with Absenteeism for five of the six hospitals.

Hypothesis *H3* was also supported by the plots which showed that Individual Distress, and to a lesser degree, both Individual Morale and Quality of Work Life were associated with Absenteeism for five of the six hospitals. Previous research (Goldberg and Waldman 2000) has concluded that job satisfaction was not a mediator between work climate and absenteeism.. In the current study, Work Demands and Work Support were predictors of the individual outcomes and were also associated with Absenteeism although this was not tested in the structural model and therefore it is difficult to make a conclusion about any mediating effects. Nevertheless, our results are not inconsistent with the findings of Goldberg and Waldman.

There have been several studies that have examined the relationship between role stressors for nurses and behavioural outcomes such as absences. Although

Landeweerd and Boumans (1994) found that work pressures were related to level of absences, most studies have failed to find a direct relationship between work climate and absenteeism (Hemingway and Smith 1999).

Limitations of this study should be considered when interpreting the findings. With regards to the absenteeism data, it should be noted that these data were not available at the individual level, only at the hospital level (i.e., aggregated across individuals). Therefore, the relationships that were found at the hospital level may not reflect the actual relationships that exist at the individual level. Nevertheless, plots of the group-level data provided evidence for consistent relationships for five of the six hospitals. The aberrant results obtained from the sixth hospital were not surprising as it was a very small rural hospital which had specific issues. The main strength of the study is that the absenteeism data were collected in the year following the survey and the relationships are indicative that measures of particular aspects of organisational climate are a leading indicator of the likelihood of staff withdrawing from the workplace by taking sick leave.

In conclusion this study provides support for the relationships described in Figure 2. Levels of Individual Morale and Distress in rural nurses are linked to different but related aspects of organisational climate, namely Work Support and Work Demands respectively. It is suggested that the establishment of better support networks for nursing staff to assist them to cope with workplace stressors and reducing work demands could beneficially reduce levels of absenteeism. However, in the absence of any testing of the causal relationships between climate scales and absenteeism, it needs to be acknowledged that there could be a reciprocal effect whereby absenteeism contributes to greater work demands.

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