UNDERSTANDING TEACHER QUALITY OF WORK LIFE: A DYNAMIC MODEL OF ORGANISATIONAL CLIMATE, PSYCHOLOGICAL DISTRESS AND MORALE *

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ABSTRACT

How does a school's organisational climate contribute to teachers' psychological distress and morale? This paper reports on three studies that investigated the relationships between different aspects of school organisational climate, and how these relationships contribute to teachers' quality of work life. Questionnaire data were obtained from 1,160 Victorian primary, secondary and technical and further education teachers. Structural equation analyses were used during the first study to develop a model of the relationship between 11 different aspects of school organisational climate and a teacher's level of morale, psychological distress, and overall quality of work life. Two further studies supported the relationships specified in the

original model. Collectively, the three studies provide strong empirical evidence for a link between organisational climate and teacher quality of work life. In particular, it was found that supportive leadership, professional interaction between teachers, opportunities for professional growth, and goal congruency were an essential feature of positive school organisations. Moreover, it is argued that an understanding of the relationship between organisational climate and teacher quality of work life will provide practitioners and policy makers with appropriate points of entry to bring about sustainable school improvement.

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The relationship between organisation climate, teacher well-being and student outcomes has been discussed widely in the school effectiveness (e.g., Cheng, 1993; Conley, Bacharach & Bauer, 1989; Lee, Dedrick & Smith, 1991; Rosenholtz, 1989) and teacher stress literature (Borg, 1990; Cox, Boot, Cox & Harrison, 1988; Hart, 1992; Kyriacou, 1987; Wearing, Bell, McMurray, Conn & Dudgeon, 1990). In particularly, it is generally agreed that the way in which school organisations operate plays a major role in determining teachers' affective response to their work, level of motivation and commitment toward students. Despite this agreement, there have been relatively few studies that have investigated the causal interdependency between different aspects of organisational climate and teacher stressors, and how these relate to teachers' levels of psychological distress, morale and quality of work life. This paper reports three studies that used structural equation modeling (e.g., Cuttance & Ecob, 1987; Hayduk, 1987; Loehlin, 1992) to investigate these relationships among primary, secondary and technical and further education teachers.

Study 1: A Dynamic Model of School Organisational Climate

Method

Participants

Data were derived from responses to a pretest survey used to evaluate a staff development program conducted by the Victorian Department of School Education during 1991. All teachers working in the schools that took part in this program were invited to participate in the evaluation. Completed questionnaires were provided by 563 teachers (response rate: 92%)1 from 12 primary (N = 209) and 9 secondary (N = 343) schools in both country and metropolitan regions. Their ages ranged from 21 to 62 years (M = 39.7, SD = 8.30), and 56.2% were female. The age and gender profile was similar to that found in the Department as a whole.

Measures

Quality of Work Life. Teacher quality of work life refers to the judgements that teachers make about the extent to which their work is satisfying and meeting their needs (cf. Efraty & Sirgy, 1990). It reflects the overall impression that teachers have about their work, rather than focusing on either positive (e.g., positive affect or morale) or negative (e.g., negative affect or psychological distress) dimensions (Hart, 1992). Quality of work life was measured with a 5-item scale adapted from Diener, Emmons, Larsen and Griffin's (1985) Satisfaction With Life Scale by replacing the word 'life' in each item with the phrase 'life at work'. The items therefore became "In most ways my life at work is close to my ideal", "The conditions of my life at work are excellent", "I am satisfied with my life at work", "So far, I have got the important things I want in my life at work", and "If I was able to live my work life over again, I would change almost nothing". Teachers were asked to rate their level of agreement with each of the five items on a 7-point scale ranging from 'strongly disagree' to 'strongly agree' (alpha = .88).

Psychological Distress. The General Strain Index (Tellenback, Brenner & Lofgren, 1983) was used to measure the aversive feelings that teachers experienced as a result of their work. Teachers were asked to indicate the extent to which they experienced various emotional states during the past month, on a 5-point scale ranging from 'rarely or never' to 'very often'. These emotional states are similar to the most frequent stress symptoms reported by teachers (Kyriacou & Pratt, 1985). Four of the five items in this scale refer to aversive feelings associated with work in general (e.g., "Worry or feeling of discomfort before work"), whereas one item refers to feelings associated with a specific class (e.g., "Worry or feeling of discomfort before a particular class"). Only those items associated with work in general were used, as internal consistency and confirmatory factor analyses suggested that the items referring to a specific class did not form part of the overall scale (alpha = .81).

Morale and School Organisational Climate. The School Organisational Health Questionnaire (Hart, Carter, Conn, Dingle & Wearing, 1993) was used to assess teacher morale (alpha = .86) and 11 dimensions of organisational climate. These dimensions were: (a) Curriculum Consultation (alpha = .70); (b) Participative Decision-Making (alpha = .75); (c) Effective Discipline Policy (alpha = .71); (d) Feedback (alpha = .90); (e) Excessive Work Demands (alpha = .77); (f) Goal Congruence (alpha = .77); (g) Professional Development (alpha = .74); (h) Professional Interaction (alpha = .84); (i) Role Clarity (alpha = .71); (j) Student Orientation (alpha = .71); and, (k) Supportive Leadership (alpha = .84). Teachers were asked to rate the extent

to which each item described their school on a 5-point scale ranging from 'strongly disagree' to 'strongly agree'. Sample items include "The morale in this school is high", "I am regularly given feedback on how I am performing my role", "I receive support from my colleagues", "I am encouraged to pursue further professional development", and "My personal goals are in agreement with the goals of this school". Items from each dimension were distributed evenly throughout the questionnaire.

Results and Discussion

The Linear Structural Relations (LISREL VII) Program (Joreskog & Sorbom, 1989) was used to examine the interdependent relationships between different aspects of school organisational climate, psychological distress, morale and teacher quality of work life. The data used in this study were cross-sectional in nature, so rather than testing true causal relationships it was only possible to test theoretical models that implied them (cf. Hart & Wearing, 1993; Hart, Wearing & Conn, 1993; Headey, Veenhoven & Wearing, 1991). Each of the models reported in this paper employed maximum likelihood estimation, using a Pearson product-moment correlation matrix. This method of estimation is commonly reported in the psychological literature (Gerbing & Anderson, 1992), and has been shown to be robust against moderate departures from the skewness and kurtosis of the normal distribution (Cuttance, 1987). The skewness and kurtosis was less that 1.0 in absolute value for all indicators used in the reported models. All latent constructs in the reported models were treated endogenously. This maximised identification and enabled us to examine the possibility that each variable had causal antecedents. Since the number of cases contra-indicated estimating a full measurement model,2 the unit weighted composite scores were used to estimate each construct.3 All theta epsilons were fixed at (1 - alpha) to account for measurement error.

The structural equation model shown in Figure 1 was based on two earlier models developed by Hart (1992) and Hart and Conn (1991). Although these earlier models predicted most of the relationships (core model) shown in Figure 1, some 'exploratory' model building was necessary in order to integrate the Curriculum Consultation, Effective Discipline Policy, Excessive Work Demands, Participative Decision Making and Student Orientation variables. This was achieved by making few assumptions about the relationships between these variables and the core model, and using the goodness-of-fit and diagnostic statistics provided by LISREL VII to identify appropriate paths. These paths were required to have statistical and substantive meaning. For example, we assumed that morale would lead to a more positive orientation toward students (Conley et al., 1989; Rosenholtz, 1989). A model was estimated to test this assumption, without making any structural changes to the core model. This path was

significant and did not affect the relationships between variables in the core model. The normalised residuals and modification indices obtained from this solution suggested that Student Orientation contributed to Excessive Work Demands. Student Orientation measures the extent to which teachers have a positive orientation toward students, which includes encouraging students to experience success. It is possible that this requires more engagement with students, and therefore greater work demands. The relationship between Student Orientation and Work Demands was tested in the next model. This iterative process was continued until all variables had been integrated into the model shown in Figure 1. It should be noted that LISREL is typically viewed as a confirmatory modeling technique. As shown here, however, it can be used effectively for exploratory model building provided that an emphasis is placed on substantive meaning rather than statistical expediency. Moreover, statistically equivalent models always exist (MacCullum, Wegener, Uchino & Fabrigar, 1993), and alternative theoretical models that fit the data equally well can often be found (e.g., Hill, Holmes-Smith & Rowe, 1993). These alternatives should be examined routinely. The value of any given model ultimately rests on its theoretical relevance, statistical adequacy and usefulness in applied settings.

The goodness-of-fit indices suggested a reasonable fit between the observed correlation matrix and theoretical model. Although the likelihood ratio test statistic provides the only true parametric test of a model's fit (Cuttance, 1987), this statistic is strongly influenced by sample size and departures from multivariate normality. Therefore, other indices of fit should be considered. Cuttance (1987) recommends that most acceptable models have a goodness-of-fit index (GFI) greater than .90. Anderson and Gerbing (1984) have shown, however, that the goodness-of-fit index (GFI) is biased downwards as the number of indicators and latent constructs in a particular model increases; a problem that seems to be more pronounced when maximum likelihood estimation is used with a Pearson product-moment correlation matrix (Hart, Carter, Conn, Dingle & Wearing, 1993). More recently, Gerbing and Anderson (1992) have argued that the relative noncentrality index (RNI)(McDonald and Marsh, 1990) provides the best incremental fit index. The RNI is unaffected by

sample size, and compares the model under investigation with a null model that assumes no relationships between the observed variables. The RNI of .98 obtained for the reported model indicates an excellent fit.

The model suggests that Psychological Distress and Morale were independent constructs, each contributing separately to Quality of Work Life (Hart, 1992; cf. Headey & Wearing, 1992). Quality of Work Life was also directly influenced by Professional Development (standardised beta = .32), suggesting that teachers' overall judgements about their work are influenced by the extent to which teachers' believe their schools' provide opportunities for professional growth (Conley et al., 1989). Interestingly, Professional Development was influenced by Feedback and Professional Interaction. This supports earlier findings showing that Professional Interaction and Feedback are much stronger predictors of Professional Development than the number of inservice training programs attended by teachers (Hart & Conn, 1991). This finding also supports Powney's (1991) notion that teacher appraisal should be oriented toward professional development. The assertion that teachers develop professionally by working with one another and by receiving feedback on how they are performing their role, rather than through their mere participation in professional development programs, is also consistent with Lally, Knutton, Windale and Henderson's (1992) call for a collaborative teacher-centered model of inservice training.

Evans (1992) has noted that few empirical studies have investigated the determinants of teacher morale. The findings reported here showed that Supportive Leadership, Professional Interaction and Goal Congruence directly effected Morale, and along with other aspects of organisational climate accounted for 79% of the variance in teachers' levels of morale. These relationships were consistent with the findings of Hill et al. (1993) who used multilevel regression analyses to show that goal congruence, supportive leadership and peer support accounted for 75% of the variance in teacher morale. Most of the explained variance in their study resulted from teacher level effects,

providing support for the single level analyses reported here.

Unlike regression techniques, which can only show the direct relationships between a set of predictor variables and a single dependent variable, structural equation models enable indirect effects and the "causal" sequence of variables to be examined (e.g., Cuttance & Ecob, 1987; Hayduk, 1987; Loehlin, 1992). This is particularly important for the development of policy and school improvement programs (Wearing et al., 1990). For example, the direct effects shown in Figure 1 and the findings reported by Hill et al. (1993) suggest that increased morale can be achieved by improving (in order of importance) teachers' perceptions of goal congruence, professional interaction and supportive leadership. Although useful in themselves, these findings provide few clues as to how these improvements might be achieved.

As can be seen by the model shown in Figure 1, structural equation analyses can be useful in providing these clues. For example, the model suggests that clearly defined roles and appropriate professional development contribute to goal congruence. Moreover, the relationships found between Goal Congruence, Effective Discipline Policy, Professional Interaction and Supportive Leadership can be interpreted to suggest that goal congruence is most likely to be achieved by developing effective school policies through the joint efforts of teachers and a school's leadership (cf. Hart, Wearing & Conn, 1993; Wearing et al., 1990). Moreover, the model also provides some clues about how to improve professional interaction among teachers. Professional Interaction was influenced by Participative Decision-Making, Curriculum Consultation and Role Clarity, and these were either directly or indirectly influenced by Supportive Leadership. The relationships specified in this model accounted for 67% of the variance in Goal Congruence and for 69% of the variance in Professional Interaction. Consequently, an understanding of the causal relationships suggested by the model

shown in Figure 1 enables policy makers and practitioners to identify appropriate points of entry and increase their likelihood of bringing about sustainable improvement in school organisations (Carter, Hart & Wearing, 1993). This point has previously been made by Klein and D'Aunno (1986) who noted that whilst research has demonstrated the importance of workplace support, few empirical studies have tried to articulate its determinants and consequences. Conley et al. (1989) have also noted that the specific consequences of changing particular aspects of the work environment must be empirically identified, before changes are made to the way in which schools operate as work organisations.

The results of this study also suggest that the determinants of psychological distress and morale are essentially different (cf. Kelloway & Barling, 1991). It was found that Excessive Work

Demands contributed to Psychological Distress, but not to Morale. Likewise, Supportive Leadership, Curriculum Consultation, Participative Decision Making, Professional Interaction, Feedback, Effective Discipline Policy and Goal Congruence contributed to Morale, but not to Psychological Distress. There were some exceptions to this general trend. Role Clarity was found to have an indirect effect on Morale and a direct effect of Psychological Distress. Supportive Leadership was also found to have an indirect effect on both Psychological Distress and Morale. Moreover, higher levels of morale contributed to a more positive orientation toward students which, in turn, contributed to an increase in work demands and psychological distress. Despite these exceptions, it appears that positive teaching experiences, particularly those associated with professional growth, tend to contribute to morale (cf. Conley et al., 1989), whilst negative teaching experiences such as work overload tend to contribute to psychological distress (Wearing et al., 1990). This finding adds to a growing body of evidence in occupational (Hart, 1992; Hart, McIntosh & Wearing, 1993; Hart, Wearing & Headey, in press; 1993a) and other settings (Cowan, Hart, McMurray & Wearing, 1993; Headey & Wearing, 1992; Kanner, Coyne, Schaefer & Lazarus, 1981) showing that positive and negative experiences are independent and generally contribute differently to the positive (e.g., positive affect, well-being) and negative (e.g., negative affect, psychological distress) dimensions of psychological well-being.

Study 2: Integrating School Organisational Climate, Student Misbehaviour and Teacher Stressors

In order to investigate further the relationship between positive and negative teaching experiences in determining morale and psychological distress, a second study was conducted. The aim of this study was to examine the relationships between school organisational climate, student misbehaviour and teacher stressors, and to establish how these determine teachers' psychological distress, morale and quality of work life.

Method

Participants

The data were derived from responses to a pretest survey used to evaluate a discipline and student welfare program conducted by the Victorian (Australia) Department of School Education during early 1991 (Hart, Wearing & Conn, 1993; Willich & Stammers, 1989). All teachers working in the schools that took part in this program were invited to participate in the evaluation. Completed questionnaires were provided by 342 teachers (response rate: 91%) from 1 primary (N = 18) and 6 secondary (N = 324) schools in the metropolitan area. Teachers' ages ranged from 21 to 61 years (M = 38.4, SD = 8.77), and 53.9% were female.

Measures

Quality of Work Life and Psychological Distress. The same

measures as those employed during Study 1 were used to assess teachers' quality of work life (alpha = .86) and psychological distress (alpha = .77).

Student Misbehaviour. A single item scale was used to assess teachers' perceptions about the amount of time they spent dealing with student misbehaviour. Teachers were asked to select the class or grade they taught most frequently, and to indicate on a 100 point scale the amount of class time (percentage of time) they spent dealing with student misbehaviour. Teachers' responses ranged from 0% to 80% (M = 24.7, SD = 18.87). It was assumed that the reliability of this measure was .85 (15% error variance). This was considered conservative and minimised the extent to which the correlations associated with this variable were disattenuated in the structural equation analyses.

Morale and School Organisational Climate. Six subscales from the School Organisational Health Questionnaire (Hart, Carter, Conn, Dingle & Wearing, 1993)4 were used to measure teacher morale and five dimensions of school organisational climate. These dimensions were: (a) Curriculum Consultation (alpha = .68); (b) Effective Discipline Policy (alpha = .72); (c) Participative Decision-Making (alpha = .78); (d) Professional Interaction (alpha = .75); and, (e) Supportive Leadership (alpha = .81).

Teacher Stressors. Three subscales from the Teacher Stress Inventory employed by Wearing et al. (1990) were used to measure organisational and student behaviour stressors. This inventory measures a range of teaching experiences which were shown to be separate sources of psychological distress (Wearing et al.). The three subscales used in this study were: (a) Authoritarian Leadership; (b) Poor Staff Relations; and, (c) Student Behaviour. Teachers were asked to rate each item according to how stressful they found that aspect of their teaching during the preceding month, on a 5-point scale ranging from "Absolutely no stress at all" to "Much more stress than I can cope with", where "stressful" was defined as the total amount of "tension, anxiety and pressure" that teachers' experienced. Sample items from each subscale include "Authoritarian nature of the school organisation", "Unnecessary 'cliquishness' amongst staff", and "Poor student behaviour". A principal components analysis, using an oblimin rotation, was conducted on the 12 items from these subscales. The results supported a two factor solution, accounting for 58.4.% of the variance, that reflected organisational and student behaviour stressors. The factor loadings ranged from .58 to .89 (M = .74, SD = .10), and no items significantly loaded on more than one factor. These items were therefore used as measures of Organisational (alpha = .86) and Student Behaviour (alpha = .80) Stressors.

Results and Discussion

The LISREL VII Program (Joreskog & Sorbom, 1989) was used to examine the interdependent relationships between variables measured in this study. Maximum likelihood estimation was used, based on a Pearson product-moment correlation matrix. The use of maximum likelihood estimation was consider appropriate, since the skewness and kurtosis were less that 1.0 in absolute value for all indicators (Cuttance, 1987). All latent constructs were treated endogenously. The measurement model was based on unit weighted composite scores and the theta epsilons were fixed at (1 - alpha) to account for measurement error. The initial theoretical model investigated in this study was based on the relationships predicted by the results of Study 1 and a structural equation model reported by Hart, Wearing and Conn (1993). Although most goodness-of-fit indices for this model suggested a good fit between the observed correlation matrix and theoretical model, the RMSR was slightly higher than expected (X2 = 75, df = 36, GFI = .95, AGFI = .91, RMSR = .08, RNI = .96). Examination of the modification indices suggested that the fit of the model could be improved by specifying a

direct relationship between Professional Interaction and Student Misbehaviour, and by allowing the unique variances (theta epsilons) in the measurement of Participative Decision Making and Curriculum Consultation to be correlated. The correlation between these unique variances suggests that not all of the shared variance between Participative Decision Making and Curriculum Consultation was accounted for by the model. Based on the findings reported in Study 1, it is possible that this correlation reflected the variables' joint dependence on role clarity. The suggested direct effect between Professional Interaction and Student Misbehaviour is consistent with the notion that student misbehaviour can be reduced when teachers support one another in matters of discipline (Hart, Wearing & Conn, 1993). The revised model, taking into account these two additional relationships, is shown in Figure 2.

The model shown in Figure 2 fit the data significantly better than the initial model. The likelihood ratio test statistic was reduced by 26 with the loss of just 2 degrees of freedom ($p < .001$). The GFI, RMSR and RNI were also improved, and suggested that the revised model was an excellent fit to the data.

The nonsignifcant relationship between Supportive Leadership and Morale was the only notable difference between the model shown in Figure 2 and the model reported in Study 1. This discrepancy, however, might reflect differences in sample size given that the standardised beta coefficients were not that dissimilar (.15 and .10 for Studies 1 and 2 respectively). More generally, these findings suggest that the direct effect of leadership on teacher morale is marginal and that leadership operates through other variables. Leadership is still important, however, since these findings suggest that school leaders play a central role in establishing an organisational environment that is conducive to teacher well-being (Lee et al., 1991; Wearing et al., 1990; cf. Repetti & Cosmas, 1991).

As expected, the teacher stressor variables contributed to psychological distress, but were not related to morale (Cowan et al., 1993; Hart, 1992; Hart, McIntosh & Wearing, 1993; Headey & Wearing, 1992; Kanner et al., 1981; Warr, Barter & Brownbridge, 1983). The organisational climate variables, however, were related, either directly or indirectly, to psychological distress and morale. This finding was not overly surprising, since leadership, staff interactions and decision making form a basis to organisational behaviour (Milton, Entrekin & Stening, 1984), and are likely to give rise to both positive (e.g., feedback, professional development, goal congruence) and negative (e.g., organisation stressors) experiences. Hart, Wearing and Headey (1993a) provide empirical evidence for this notion with their structural equation models of police work experiences. These models showed that supervision, staff relationships and decision making have both positive and negative components.

Contrary to the public perception that student behaviour is the greatest source of teacher stress (Balson, 1992; Lewis, 1991), these findings suggest that organisational and student stressors contribute equally to psychological distress. The parameter estimates linking Organisational Stressors and Student Stressors to Psychological Distress (standardised beta

coefficients of .27 and .29 respectively) were not significantly different ($p > .10$). This view is consistent with the conclusions reached by Kyriacou (1987) and Borg (1990) in their reviews of the teacher stress literature. Moreover, the model in Figure 2 suggests that schools' discipline policies have little, if any, effect on student misbehaviour. Effective Discipline Policy reflects (a) the extent to which the rules and sanctions relating to discipline in schools are enforced in a consistent manner and well understood by both staff and students, (b) the extent to which there is an agreed philosophy on discipline, and (c) the extent to which teachers expectations about discipline are similar. These conditions are central to most discipline theories (e.g., Charles, 1992; Slee, 1988), and are generally expected to have an influence on student behaviour (Willich & Stammers, 1989). Although the findings reported in this study run contrary to these views, they have been replicated with other large samples of Victorian teachers (Hart, Wearing & Conn, 1993). However, it was found that effective discipline policies helped to reduce the psychological distress that results from student misbehaviour. This was consistent with Hart, Wearing and Conn's (1993) notion that it is important to develop a supportive organisational climate that enables teachers to cope with the student misbehaviour that confronts them. Moreover, there was a direct effect from Professional Interaction to Student Misbehaviour, suggesting that less class time is spent dealing with student misbehaviour when teachers support one another and work collaboratively.

Study 3: Organisational Climate and Quality of Work Life Among Technical and Further Education Teachers

Method

Collectively, the results of Studies 1 and 2 suggest that there is a strong link between school organisational climate and the positive and negative affective responses that teachers have in relation to their work (cf. Cox et al., 1988). Since these studies were conducted with primary and secondary school teachers, it was possible that the findings did not apply to teachers working in other settings. The aim of a third study, therefore, was to examine the relationships between organisational climate, morale, psychological distress and quality of work life among teachers working in the technical and further education (TAFE) sector. Two goals of this study were to examine (a) the extent to which the model reported in Study 1 held with data obtained from teachers working in a different setting (ecological validity), and (b) the extent to which changes were needed to achieve the best fit between the model and sample data.

Participants

Data were obtained from 255 (response rate: 85%) teachers working in a metropolitan college of TAFE. All teachers who worked in the college were invited to participate in an

organisational health survey as part of an organisational development program. Since the survey was administered by departmental managers, demographic information, such as gender and age, was not collected to maintain confidentiality and encourage staff participation in the survey. Consequently, it is not known how the demographic profile compares to the college as a whole, but the high response rate indicates that the sample was most likely representative.

Measures

Quality of Work Life and Psychological Distress. The same measures as those employed during Studies 1 and 2 were used to assess teachers' quality of work life (alpha = .87) and psychological distress (alpha = .87).

Teacher Morale and School Organisational Climate. The School Organisational Health Questionnaire (Hart, Carter, Conn, Dingle & Wearing, 1993) was used to measure morale (alpha = .90) and eight dimensions of organisational climate. These dimensions were (a) Excessive Work Demands (alpha = .92); (b) Feedback (alpha = .91); (c) Goal Congruence (alpha = .93); (d) Participative Decision Making (alpha = .89); (e) Professional Development (alpha = .80); (f) Professional Interaction (alpha = .91); (g) Role Clarity (alpha = .87); and, (h) Supportive Leadership (alpha = .90). The items from this questionnaire were reworded to reflect organisational climate within individual departments, rather than the college as a whole. For example, the item "The morale in this school is high" became "The morale in this department/area is high". In order to minimise response bias, the items for each dimension are usually spread evenly throughout the School Organisational Health Questionnaire. On this occasion, the items for each dimension were presented together.5 This may account for the higher alpha coefficients reported for this study, in comparison to those reported for Studies 1 and 2. A principal components analysis, using an oblimin rotation, supported the theoretical structure of the questionnaire. Nine factors had an eigenvalue greater than unity and these accounted for 74.4% of the variance. All items loaded on their respective dimension, and there were no significant crossloadings. The factor loadings ranged from .57 to .94.

Results and Discussion

The LISREL VII Program (Joreskog & Sorbom, 1989) was used to examine the interdependent relationships between eight aspects of organisational climate, psychological distress, morale and quality of work life. Maximum likelihood estimation was used, based on a Pearson product-moment correlation matrix. The use of maximum likelihood estimation was consider appropriate, since the skewness and kurtosis were less that 1.0 in absolute value for all indicators (Cuttance, 1987). All latent constructs were treated endogenously. The measurement model was based on

unit weighted composite scores and the theta epsilons were fixed at (1 - alpha) to account for measurement error. The model shown in Figure 3 is only a partial replication of the structural equation model reported in Study 1, since three of the organisational climate dimensions were not assessed in this study (Curriculum Consultation, Effective Discipline Policy and Student Orientation). These dimensions were not considered relevant to TAFE teachers.

The goodness-of-fit indices for the model shown in Figure 3 were adequate, but suggested that a more appropriate model could be fit to the data. The likelihood ratio test statistic was large, relative to the degrees of freedom, and the RMSR indicated that there was a poor match between the observed and implied correlation matrices. Moreover, the RNI was lower than would be expected for a good fitting model of this size. It can be seen from the model shown in Figure 3 that four paths were not significant at the .05 level. Examination of the modification indices also suggested that there were four additional paths that should be considered: (a) a path from Participative Decision Making to Professional Development, (b) a path from Professional Interaction to Goal Congruence; (c) a path from Role Clarity to Quality of Work Life; and, (d) a path from Supportive Leadership to Psychological Distress. Once these paths had been taken into account, the relationship between Professional Interaction and Professional Development was nonsignificant ($p > .10$). The final model, which included these changes, is shown in Figure 4.

Comparison of the likelihood ratio test statistics for the models shown in Figures 3 and 4 showed that the model depicted in Figure 4 was a significantly better fit to the data. The likelihood ratio test statistic was reduced by 66 for the loss of 1 degree of freedom ($p < .001$). The GFI, RMSR and RNI were also improved, and their values suggested that there was a good fit between the observed correlation matrix and theoretical model.

Although there were some notable differences between this model and the model reported in Study 1, many of the relationships were consistent across the two studies. For example, Professional Interaction, Supportive Leadership and Goal Congruence all contributed directly to Morale. The standardised beta coefficients differed, however, suggesting that the relative importance of these relationships varied between the two studies. It was also found that Psychological Distress, Morale and Professional Development contributed directly to Quality of Work Life. For TAFE teachers, however, Quality of Work Life was directly influenced by Role Clarity. It was also found that Excessive Work Demands contributed to Psychological Distress, but not to Morale in both studies. Finally, it was found in both studies that a common causal sequence linked Supportive Leadership, Role Clarity, Feedback, Professional Development, Goal Congruence, and Morale to Quality of Work Life.

Consequently, with regard to the first goal of this study, these results largely replicated the model reported in Figure 1, and suggested that the relationships between different aspects of organisational climate and teachers' psychological responses to their work were essential the same for teachers working in different settings.

With regard to the second goal of this study, there was a

need to make several changes to the model. These changes did not alter the overall integrity of the model reported in Study 1, and indicates that the model and, more generally, the School Organisational Health Questionnaire are sensitive to the differences that might occur in various organisational settings. There was a notable difference between the two studies in that Professional Interaction was not related to Feedback or Professional Development among TAFE teachers, but was related to these variables among primary and secondary teachers. Moreover, in the model derived from data obtained from TAFE teachers, there was a direct effect linking Participative Decision Making to Professional Development. These discrepancies might reflect actual differences between TAFE teachers and their counterparts in primary and secondary schools. For example, primary and secondary teachers work within a relatively flat organisational structure, whereas the organisational structure in TAFE colleges tends to be more hierarchical. From a career development perspective, it is possible that professional development for primary and secondary teachers focuses more on classroom teaching, whereas for TAFE teachers in might be associated more with administrative and managerial functions. The development of more effective teaching skills might be achieved by sharing ideas, working collaboratively and obtaining feedback about one's current performance. The development of administrative and managerial skills, however, is more likely to be achieved by participating in the decision making and policy formation processes of the organisation. Notwithstanding these differences, the results of this study demonstrate the importance of organisational climate in determining teachers' affective responses to their work.

General Discussion

Whilst the importance of organisational factors has been widely discussed in the school effectiveness (e.g., Cheng, 1993; Conley et al., 1989; Lee et al., 1991; Rosenholtz, 1989) and teacher stress literature (Borg, 1990; Cox et al., 1988; Hart, 1992; Kyriacou, 1987; Wearing et al., 1990), few empirical studies have investigated the complex pattern of relationships operating between different aspects of organisational climate, teacher stressors, and teachers' psychological response to their work. The models derived from data on three large samples of teachers suggest that these relationships are all important and must collectively be taken into account in order to understand teachers' quality of work life.

The theoretical models developed in this paper suggest that it is meaningful to distinguish between psychological distress and morale, since these appear to be determined, in part, by different work experiences (Hart, 1992; Hart, McIntosh & Wearing, 1993; Hart, Wearing & Headey, in press; 1993a; cf. Headey & Wearing, 1992). The implications flowing from this finding are quite obvious. It is necessary to investigate the way in which

school organisations operate and to identify the needs of particular schools before attempting to implement organisational change (Carter et al., 1993; Hart, Carter, Conn, Dingle & Wearing, 1993). For example, conventional wisdom suggests that when trying to improve quality of work life, practitioners should aim to reduce the amount of psychological distress experienced by teachers (Hart, 1992). It is possible, however, that poor quality of work life is due to a lack of morale, rather than the presence of psychological distress. As demonstrated by the

results of these studies, completely different intervention strategies are required depending upon whether the aim is to improve teacher morale or reduce psychological distress.

The complex pattern of relationships found to operate between different aspects of organisational climate also demonstrates the importance of understanding the causes and consequences of these aspects before attempting to change school organisations (Conley et al., 1989). These models have been used by school administrators and teachers to interpret organisational climate data obtained during organisational and staff development programs (e.g., Hart, Carter, Conn, Dingle & Wearing, 1993). Responses to these models have been overwhelmingly positive, and the models have been used to guide the development of appropriate strategies for bringing about desired change in school organisations. More importantly, empirical evaluation of these programs supported the utility of these models, and showed that the observed changes in schools were generally consistent with those that would be predicated on the basis of these models (Carter et al., 1993).

We should note, however, that these models form only one theoretical view of school organisations. It is quite possible that other models provide adequate explanations of the data, and that school administrators and teachers would also find these new models to be informative and appealing (e.g., Hill et al., 1993). Since it is relatively easy to devise post hoc explanations that explain or justify particular findings, it is essential that exploratory analyses are replicated. It is also important to conduct panel studies that will provide more appropriate tests of the causal relationships suggested by these models (Kessler & Greenberg, 1981). The use of structural equation modeling and other correlational techniques can be problematic when the analyses are based on cross-sectional data. Such analyses are unable to separate spurious from true relationships and cannot establish the causes of stability and change in psychosocial processes (cf. Ormel & Schaufeli, 1991; Headey et al., 1991). These limitations can sometimes lead to erroneous conclusions and incorrect policy decisions (Hart & Wearing, 1993; Hart, Wearing & Conn, 1993).

Moreover, it is not suggested that these models provide a

complete understanding of the determinants of teacher quality of work life. It is still necessary to integrate other important personal and environmental factors. For example, research has shown that the personality dimensions of neuroticism (emotionality) and extraversion (sociability) relate differently to positive and negative experiences (Hart, Wearing & Headey, 1993a; Headey & Wearing, 1992; Warr et al., 1983) and quality of life indices (Costa & McCrae, 1980; Diener & Emmons, 1985). These personality characteristics should be included in a more comprehensive model, since they are likely to influence the strength of the relationships found in the current studies (e.g., Hart, Wearing & Headey, 1993b; cf. Costa & McCrae, 1990). The way in which teachers' manage their work environment should also be investigated. It is not always possible to change work environments, and it might be more beneficial in these circumstances for teachers to develop appropriate skills and coping strategies necessary to manage their environment more effectively. A considerable body of evidence has shown that coping strategies and resources provide an important role in determining people's perception of their environment and their psychological outcomes (e.g., Carpenter, 1992; Cowan et al., 1993; Hart, Wearing & Headey, 1993a; Headey & Wearing, 1990). Despite having to build on the foundation presented here, this paper demonstrates the value that can be gained by investigating the causal dynamics that operate between teachers and their environment. Establishing how the interaction between teachers and their environment determines psychological outcomes will provide policy makers and practitioners with clear guidelines on how to improve teacher well-being and school effectiveness.

NOTES

1. The response rates reported in this paper were based on the staff establishment size for each school during 1990. This may have resulted in slightly higher response rates being reported than were actually obtained, as the staff establishment refers to full-time equivalent positions rather than the number of teachers in a particular school.
2. There were 63 items that made up the 14 constructs measured in this study. Although there are no specific guidelines, we recommend that there should be at least 10 subjects for every indicator used during the estimation of a structural equation model. Moreover, the goodness-of-fit statistics for a given model are biased downwards as the number of indicators in the model increases (Anderson & Gerbing, 1984; Hart, Carter, Conn, Dingle & Wearing, 1993), making it difficult to judge the statistical merits of large models.

3. It was also possible to create two indicators for each variable (e.g., Ormel & Schaufeli, 1991) or use weighted composites based on the factor regression scores obtained from separate single factor congeneric models (e.g., Hill et al., 1993). Each of these methods are based on different assumptions about the measurement properties of the observed indicators, but give rise to the same substantive results when good measures (in terms of their factor structure, internal consistency and distribution) are used. Unit weighted composite scores were employed, as these are the scores typically used by practitioners and most researchers. Moreover, unit weighted composite scores are less likely to be biased by sampling fluctuations.
4. An earlier developmental version of the questionnaire was used for this study. There were minor differences in the wording of some items used in this version, compared to the final version used during Study 1. The earlier version also had two additional items in Curriculum Consultation, and two items less in both Professional Interaction and Supportive Leadership. See Study 2 in Hart, Carter, Conn, Dingle and Wearing (1993) for details.
5. The survey form was designed in consultation with College staff, and these consultations resulted in changes being made to the questionnaire's format.

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