

# Understanding Engagement: Its Structure, Antecedents and Consequences

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## Abstract

This study examined the antecedents and consequences of a multi-dimensional model of engagement. It was proposed that engagement is a positive psychological state that can be defined in terms of individual and workgroup morale, affective and continuance commitment, and job involvement. Moreover, it was hypothesised that psychological climate would be a predictor of the five components of engagement, and that psychological climate and engagement would contribute to performance-related outcomes. The relationship between psychological climate, engagement and performance-related outcomes was examined through a series of confirmatory factor analyses and structural equation analyses using data obtained from 592 academic staff from a large Australian university. The results provided strong empirical support for the proposed five-factor model of engagement and demonstrated that engagement mediated the relationship between psychological climate and performance-related outcomes. Moreover, the results strongly suggested that engagement programs should focus on improving workgroup morale and that this will best be achieved by focusing on the organisational characteristics that underpin psychological climate.

## Introduction

In recent years, the term *engagement* has grown in popularity among business leaders, consultants, and human resource professionals alike. Its appeal can be linked to the notion that engaged employees are better performers and, therefore, more likely to drive business success. Although the link between engagement and performance has an intuitive appeal, the concept of engagement has received relatively little attention in the scientific literature. Accordingly, engagement can best be described as a practical concept that is yet to be scientifically validated.

In this paper, we propose a model of engagement that addresses three inter-related areas of enquiry. First, there is a need to develop a unifying definition that draws together the common themes in the practitioner and scientific literatures. Although many practitioners refer to engagement as a uni-dimensional construct, we believe that a multi-dimensional approach is needed to account for the various components that define an engaged workforce. Second, there is a need to establish the empirical links between the components of engagement and performance-related outcomes. By defining engagement as a multi-

dimensional construct, it is likely that different components of engagement will relate to performance outcomes in different ways. Third, there is a need to establish the antecedents of engagement. Given the practitioner world's concern for developing engaged workforces, it is necessary to build an understanding of the individual and environmental factors that actually contribute to engagement.

### **Structure of Engagement**

Although there is no agreed definition or theory of engagement, several common themes are beginning to emerge in the literature. The concept of engagement can be traced to Khan (1990), who argued that engaged employees are physically, cognitively and emotionally connected to their work and to others. Khan (1992) later expanded on this work by focusing attention on the importance of 'psychological presence.' In essence, it was argued that engaged employees have a psychological presence that includes attributes such as attentiveness, connectedness, integration and focus. This view is consistent with Schaufeli, Martinez, Marques-Pinto, Salanova and Bakker's (2002) notion that engagement is a positive and fulfilling work-related state of mind that is characterised by vigor, dedication, and absorption (cf. May, Gilson & Harter, 2004; Rothbard, 2001). A common thread in these different conceptualizations is that engagement is a positive psychological state that connects people in cognitive, affective and behavioural ways to their work and job performance (e.g., Bakker, Schaufeli, Leiter, & Taris, 2008).

Notwithstanding this common thread, Macey and Schneider (2008) recently argued that a key source of ambiguity in defining engagement has been the way in which it is referred to as a stable trait (e.g., positive affectivity), psychological state (e.g., commitment, job involvement and mood), performance-related behaviour (e.g., discretionary effort), or combination of these (e.g., Mone & London, 2010; Wellins & Concelman, 2005). This led them to develop a series of propositions that focused on trait engagement, psychological state engagement, and behavioural engagement. Although there is much to commend in Macey and Schneider's propositions, we believe that it fails to adequately separate the antecedents and consequences of engagement from the concept of engagement itself. In essence, their model of engagement can encompass any construct that fits within the school of positive psychology, irrespective of whether it is a trait, state or behaviour.

Our view is that engagement should be defined in terms of the positive psychological state that links the person and their environment with the performance-related behaviours and outcomes that underpin organisational success. This approach is consistent with Hart and Cooper's (2001) theory of organizational health which emphasizes the need to separate the antecedents and consequences of positive and negative psychological states, such as state positive and negative affect. Indeed, there is a considerable body of empirical evidence demonstrating that positive and negative psychological states have different causes and consequences in both work (e.g., Cotton & Hart, 2005; George, 1996; Hart & Cotton, 2003).and nonwork settings (Headey & Wearing, 1992).

Accordingly, we believe that engagement is a multi-dimensional construct that can be defined in terms of four key positive psychological states that have previously been linked to performance-related behaviours and outcomes. These are positive affect, affective commitment, continuance commitment, and job involvement (e.g., Allen & Meyer, 1990; Brown & Leigh, 1996; Cooper-Hakim & Viswesvaran, 2005; Hart & Cooper, 2001). Moreover, we argue that positive affect must be considered in two separate ways. First, in terms of the energy, enthusiasm, pride and passion that people personally experience at work

(e.g., “I have a lot of energy and enthusiasm when I’m at work”) and, second, in terms of the energy, enthusiasm, pride and passion that people experience in their workgroup (e.g., “there is a lot of energy and enthusiasm in this team”). This distinction is consistent with Hart and Cooper’s (2001) notion of individual and team morale which separates people’s personal emotion from their experience of the emotional tone of the workgroup in which they work (cf. George, 1990). Affective commitment refers to the emotional attachment that people have to their organisation, whereas continuance commitment is defined in terms of people’s desire to remain with the organization for the medium to long term. Job involvement is defined as people’s positive connection with their work (e.g., my work is challenging, interesting, and personally rewarding).

### **Consequences of Engagement**

There is a strong body of empirical evidence that links the components of engagement to a wide range of performance-related behaviours and outcomes (e.g., Harter, Schmidt, & Hayes, 2002; Salanova, Agut, & Peiró, 2005). From a practical viewpoint, for example, one of the key attractions of engagement for business leaders, consultants and human resource management professionals is its supposed link to discretionary effort. Nevertheless, we believe the link between engagement and performance-related behaviours is not well validated for two key reasons. First, there are no studies that have included the broad range of engagement components that have been proposed. Accordingly, there is no empirical evidence to determine which components of engagement are the best predictors of performance-related behaviours and outcomes. Second, it is possible that the antecedents of engagement either partially or wholly explain the links that have been found between engagement and performance. This raises the possibility that the supposed link between engagement and performance is, in fact, spurious. Moreover, this may explain why engagement programs are not universally successful.

### **Antecedents of Engagement**

To be successful, an engagement program must focus on the individual and organisational characteristics that contribute to engagement. In other words, to bring about improvements in engagement and, ultimately, performance, it is necessary to bring about a change in those factors that will enhance the morale of employees and their teams, bring about a stronger sense of commitment to the organisation, and build a positive connection between people and their work.

As noted by Macey and Schneider (2008), there are several personality characteristics that will predispose employees to feel engaged. These include extraversion, conscientiousness, trait positive affectivity, and proactivity (e.g., George, 1996; Hart & Cooper, 2001; Miller, Griffin, & Hart, 1999). Given that these characteristics are stable over long periods of time and inherent to employees (e.g., Costa & McCrae, 1980), they are best considered at the recruitment stage of the employment life cycle. Other research has found that job characteristics and characteristics of the organization are likely to be strong determinants of engagement.

A strong correlation has been found, for example, between psychological and work-related attitudes, motivation, job involvement, discretionary effort, and work performance (e.g., Brown & Leigh, 1996; Parker, Baltes, Young, Huff, Altmann & Lacast, 2003). Psychological climate refers to the way in which employees perceive and interpret their organisational environments (James, Hater, Gent, & Bruni, 1978). Psychological climate is an individual rather than an organisational attribute and hence it indicates perceptions that are

psychologically meaningful to the individual rather than in terms of concrete organisational features and processes. Importantly, practitioners sometimes refer to psychological climate as organisational climate or culture. When used in this way, organisational climate or culture really means “the typical way we do things around here.” From a scientific perspective, however, it is employees’ perceptions of the way things are typically done in their organisation that is most psychologically meaningful.

### The Present Study

In this study, we used self-report data obtained from 592 faculty members of a large Australian university to investigate the relationship between psychological climate, engagement and performance. Four of the performance-related outcomes were related to the quality of teaching, two were related to the quality of research, and one was related to students’ engagement in learning. This enabled us to also examine how the quality of teaching and learning contributed to faculty members’ views about the motivation of their students.

The primary focus of the study, however, was to examine the relationships among the five proposed components of engagement, before testing three hypothesized models that explained the relationships between psychological climate, engagement and performance. In Model 1, we hypothesized that engagement partially mediated the relationship between psychological climate and performance-related outcomes (see Figure 1 for details). In Model 2, we hypothesized that engagement wholly mediated the relationship between psychological climate and performance-related outcomes (see Figure 2 for details). In Model 3, we hypothesized that psychological climate explained the relationship between engagement and performance-related outcomes. In other words, it was hypothesized that there was no relationship between engagement and performance-related outcomes (i.e., it is a spurious relationship) once the effects of psychological climate had been taken into account (see Figure 3 for details).

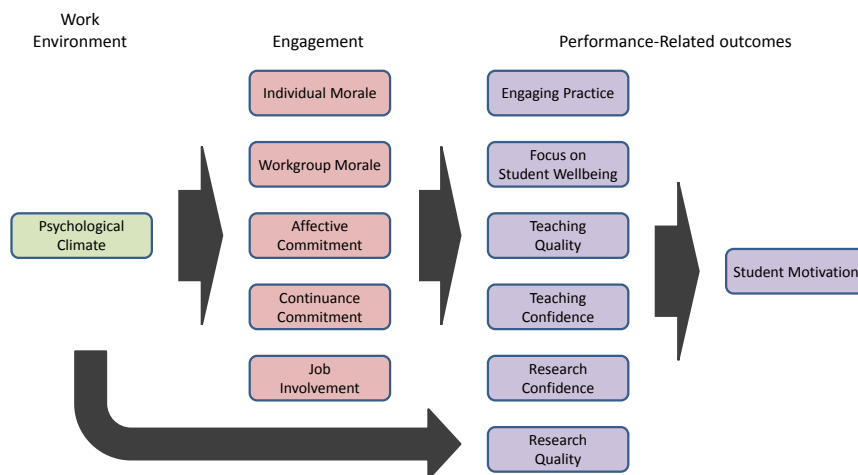


Figure 1. A partially mediated model where the relationship between psychological climate and performance-related outcomes is partially mediated by engagement.

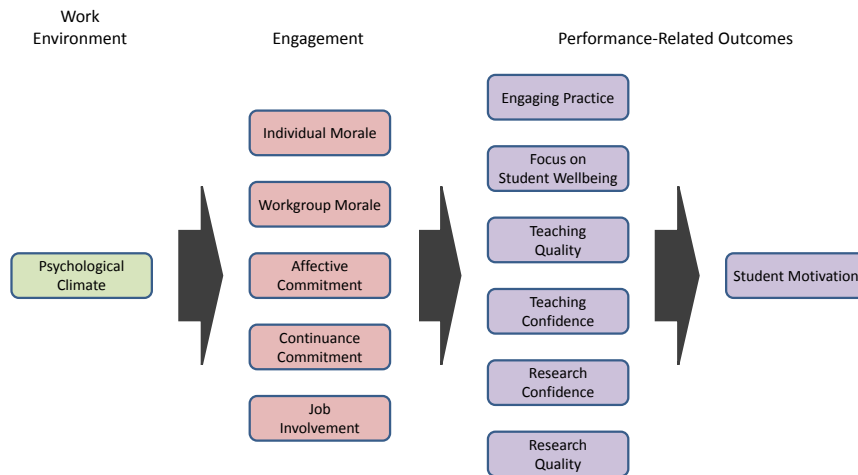


Figure 2. A fully mediated model where the relationship between psychological climate and performance-related outcomes is wholly mediated by engagement.

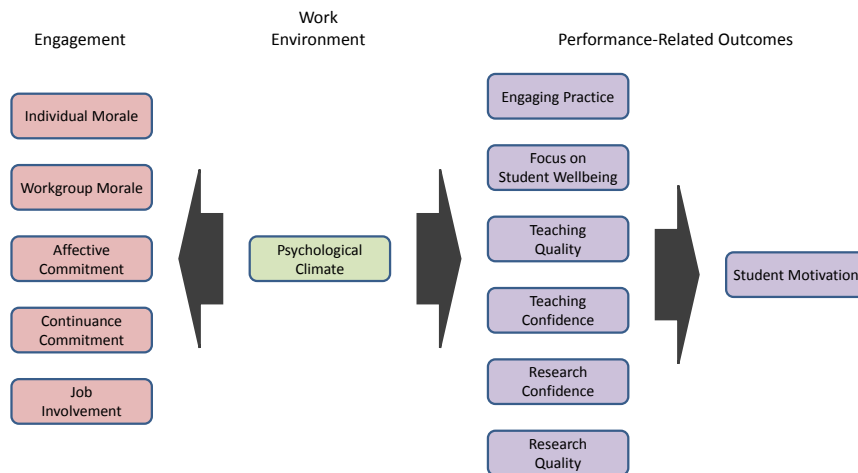


Figure 3. A model where psychological climate explains the relationship between engagement and performance-related outcomes.

## Method

### Participants

A total of 592 academic staff, drawn from all faculties, schools and research institutes within a large Australian university participated in this study. All 1,121 casual and full-time academic staff were invited to participate as part of an organisation wide employee opinion survey (response rate = 53%). Participants' lengths of service ranged from less than 1 year to 38 years ( $M = 7.98$ ,  $SD = 7.30$ ) and their ages ranged from 21 to 85 years ( $M = 45.26$ ,  $SD = 10.09$ ). There were 304 females and 286 males in the sample.

### Measures

*Psychological Climate.* Employees' perceptions about seven different aspects of their work environment (appraisal and recognition, employee development, goal alignment, participative decision-making, role clarity, supportive leadership and teamwork) were assessed using 35 items from Hart, Griffin, Wearing & Cooper's (1996) Organizational Climate Scale. This scale is based on the generic components of the School Organizational Health Questionnaire (Hart, Wearing, Conn, Carter, & Dingle, 2000) that were designed to assess the organizational factors that are common to most organizations. Employees were

asked to rate the extent to which each item (e.g., “My work objectives are always well defined”) described their day-to-day experience on a 5-point scale ranging from “strongly disagree” to “strongly agree”. Confirmatory factor analyses showed that the seven separate dimensions could be aggregated at a second-order level to provide an overall index of Psychological Climate (coefficient alpha = .94).

*Engagement.* Engagement was measured with five separate measures. Affective Commitment was assessed with four items adapted from Allen and Meyer’s (1990) Affective Commitment Scale (e.g., “I feel emotional attached to this university). Employees were asked to rate how they felt about the university on a 7-point scale ranging from “strongly disagree” to “strongly agree” (coefficient alpha = .92). Individual Morale was measured with five items adapted from Hart et al.’s (1996) Positive and Negative Affect Scales. Employees were asked to rate the extent to which they had experienced the emotion contained in each item (e.g., “feeling enthusiastic at work”) over the past month on a 7-point scale ranging from “not at all” to “all the time” (coefficient alpha = .92). This measure has been used in previously published research (e.g., Cotton & Hart, 2005; Hart & Cotton, 2003). Workgroup Morale was measured with Hart et al.’s (2000) five item Morale subscale (e.g., “There is a lot of energy in the workgroup”). Employees were asked to rate each item on a 5-point scale ranging from “strongly disagree” to “strongly agree” (coefficient alpha = .89). Continuance Commitment was assessed with two items that asked employees to rate “Over the past month, how often have you seriously thought about resigning from your job altogether?” and “Over the past month, how often have you seriously thought about looking for a new job outside the university?” on a 5-point scale ranging from “rarely or never” to “very often” (coefficient alpha = .87). Finally, Job Involvement was measured with three items adapted from Hart, Wearing and Headey’s (1994) Police Daily Hassles and Uplifts Scales (e.g., “In my job I do a lot of interesting work”). Employees were asked to rate each item on a 7-point scale ranging from “strongly disagree” to “strongly agree” (coefficient alpha = .87).

*Performance.* Performance-related outcomes were measured with 32 items that were developed for the purpose of this study. Some of the items were adapted from educational assessment tools used to monitor the performance of Australian schools and others were developed through a consultative process with a reference group that was established within the university. The quality of teaching was assessed with four measures that assessed Engaging Practice (6 items, including “The teaching practices in this school always encourage discussion of supporting and contradictory evidence”), Focus on Student Wellbeing (4 items, including “The staff in this school go out of their way to support students with wellbeing issues”), Teaching Quality (5 items, including “Staff in this school have created an environment that promotes excellence in the University’s teaching and learning practices”), and Teaching Confidence (3 items, including “Staff in this school are always confident about teaching undergraduate students”) (coefficients alpha = .94, .86, .85 and .85, respectively). The quality of research was assessed with two measures that assessed Research Quality (5 items, including “Staff in this school always focus on improving the quality of their research activity and outputs”) and Research Confidence (5 items, including “Staff in this school are always confident in submitting papers to top quality research journals in their field”) (coefficients alpha = .88 and .92, respectively). Students’ engagement in learning was assessed with a 4-item measure of Student Motivation (e.g., “Students in this school are really motivated to learn”) (coefficient alpha = .85). The factor structure for the 32 items was supported by a confirmatory factor analysis that demonstrated an excellent fit between the data and theoretical structure of the items.

## Results

The Linear Structural Relations (LISREL 8.72) Program (Joreskog & Sorbom, 1993) was used to examine the relation between the indicators of psychological climate, engagement and performance. The structural equation analyses were based on variance-covariance matrices and employed the maximum likelihood method of estimation. The maximum likelihood method of estimation 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 than 1.0 in absolute value for most of the study variables.

In each of the structural equation models the unit weighted composite scores for the study variables were used as single indicators of their respective latent constructs. Measurement error was taken into account by setting the percentage of error variance at (1 – the scale’s reliability). Bagozzi and Heatherton (1994) note that this form of measurement model is satisfactory when global questions are being asked about the relations among the constructs of interest. Moreover, this procedure was adopted for practical reasons, because each construct was measured by a large number of items. The means, standard deviations and intercorrelations for the variables can be obtained from the authors on request.

The first step in the analyses was to conduct a confirmatory factor analysis of the 19 items that were used to assess the five engagement indicators. The goodness-of-fit statistics demonstrated that there was an excellent fit between the observed variance-covariance matrix and the theoretical factor structure ( $\chi^2 = 417.65$ ,  $df = 142$ ,  $p = <.001$ , root-mean-square-error of approximation = .06, standardized root-mean-square residual = .04, and relative noncentrality index = .99). Although the likelihood ratio test statistic is 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. Consequently Browne and Cudeck (1993) argued that the root-mean square error of approximation provides a better indicator of fit, and that in their experience most reasonable models have a value between .05 and .08. Moreover Gerbing and Anderson (1992) have argued that the relative noncentrality index (McDonald & Marsh, 1990) provides the best incremental fit statistic. The relative noncentrality index is unaffected by sample size, and compares the model under investigation with a null model that assumes no relationship between the observed variables. The standardised root-mean-square residual (Joreskog & Sorbom, 1993) was also used, because it is commonly report in the literature.

The item reliabilities ranged from .76 to .89 ( $M = .83$ ,  $SD = .04$ ) and the true score correlations between the latent constructs ranged from .33 to .71 ( $M = .50$ ,  $SD = .12$ ). Inspection of the true score correlations showed that the five individual components of engagement could not be aggregated to form an overall engagement index. Overall, the results of the confirmatory factor analyses provided strong empirical support for the hypothesized 5-factor model of engagement, suggesting that engagement is a multi-dimensional construct.

In the next stage of the analyses, we estimated three separate structural equation models to examine the relationships among the 13 study variables. In Model 1 Student Motivation was regressed onto the six indicators of quality teaching and research which, in turn, were regressed onto the five indicators of engagement. All of the indicators of engagement and performance were regressed onto Psychological Climate. The residual variances for the six indicators of quality teaching and research were allowed to correlate, as

were the correlations between the residual variances for the five indicators of engagement. This model was consistent with the model shown in Figure 1. Model 2 was the same as Model 1, except that in Model 2 we fixed the beta coefficients linking Psychological Climate to the seven performance indicators at zero. These constraints meant that the model could be used to test the hypothesis that the relationship between Psychological Climate and the performance indicators was wholly mediated through the engagement indicators. This model was consistent with the model shown in Figure 2. Model 3 was the same as Model 1, except that in Model 3 we fixed the beta coefficients linking the engagement indicators with the performance indicators at zero. These constraints meant that the model could be used to test the hypothesis that Psychological Climate explained all of the relationship between the engagement and performance indicators. The goodness-of-fit statistics for the three models are shown in Table 1.

*Table 1.* Goodness-of-fit statistics for the structural equation models used to examine the relationships among the 13 study variables.

Model	$\chi^2$	df	$p$	RMSEA	RNI	SRMSR
Null Model	9,481.54	78	< .001			
Model 1	15.31	5	< .01	.06	1.00	.01
Model 2	32.68	12	< .01	.06	.99	.01
Model 3	108.45	35	< .001	.06	.97	.03
Model 4	66.60	36	< .01	.04	1.00	.02

*Note.* Model 1 = Partial Mediation Model; Model 2 = Full Mediation Model; Model 3 = Spurious Model; Model 4 = Final Model.

The goodness-of-fit statistics for Model 1 demonstrate that there was an excellent fit between the observed variance-covariance matrix and the theoretical model. Given that Models 2 and 3 were nested within Model 1, we were able to use the chi-square difference test to determine which model provided the best fit to the data. The chi-square difference tests demonstrated that Model 1 was a significantly better fit to the data than Model 2 ( $\chi^2_{\text{diff}} = 17.37$ ,  $df_{\text{diff}} = 7$ ,  $p = <.05$ ) and Model 3 ( $\chi^2_{\text{diff}} = 51.29$ ,  $df_{\text{diff}} = 31$ ,  $p = <.05$ ). It is noteworthy, however, that there was not a lot of difference in the relative fit of the three models. This view is also consistent with the nonparametric fit statistics shown in Table 1.

Although Model 1 provided the best fit to the data, the beta coefficients showed that there were a large number of non-significant coefficients. Accordingly, we developed the more parsimonious model shown Figure 4. This model was developed by removing all non-significant paths and then examining the modification indices and standardised residuals to examine whether any of the removed paths should be included in the final model. The goodness-of-fit statistics for Model 4 are shown in Table 1.



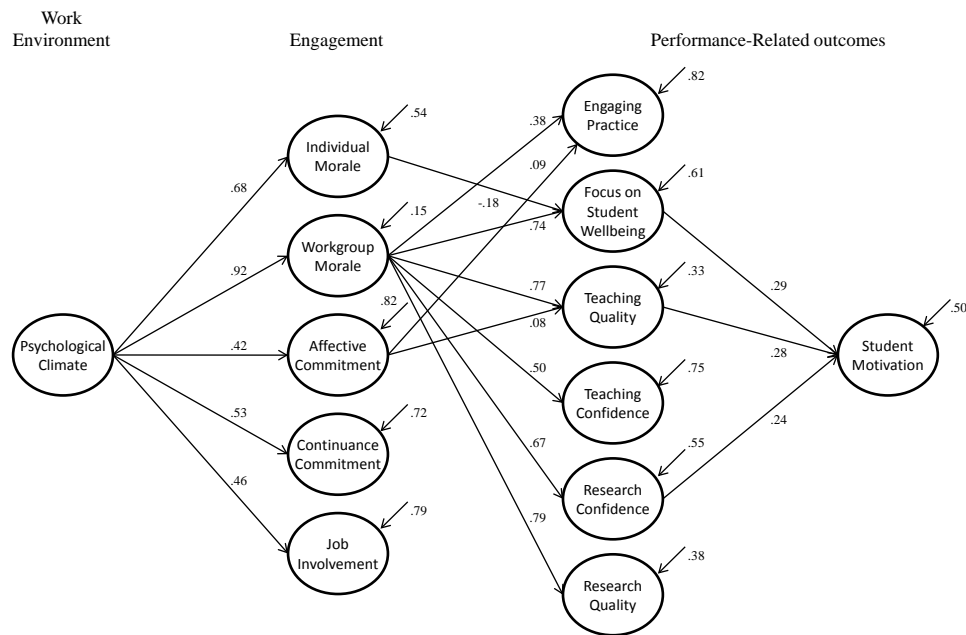


Figure 4. Structural equation model showing the standardised beta coefficients linking psychological climate, engagement and performance-related outcomes.

The goodness-of-fit statistics for Model 4 demonstrated that there was an excellent fit between the observed variance-covariance matrix and the theoretical model. Moreover, the standardised beta coefficients shown in Figure 4 demonstrate that Psychological Climate contributed significantly to the five engagement indicators. Additionally, we found a significant relationship between Workgroup Morale and the four indicators of quality teaching and two indicators of quality research. Affective Commitment had a small, but significant, relationship with Engaging Practice and Teaching Quality. Interestingly, we found a significant negative relationship between Individual Morale and Student Wellbeing Focus. Examination of the correlations between the parameter estimates indicated that this negative relationship was not the result of multicollinearity. Moreover, Continuance Commitment and Job Involvement were not significantly related to any of the performance indicators. Finally, the results showed that Student Wellbeing Focus, Teaching Quality and Research Confidence were the only significant predictors of Student Motivation.

## Discussion

In this study, we proposed a multi-dimensional model of engagement that included individual and workgroup morale, affective and continuance commitment, and job involvement. These five constructs are consistent with the growing body of literature that defines engagement as a positive psychological state. The results of a confirmatory factor analysis provided strong empirical support for the discriminant validity of the five components of engagement and demonstrated that the five components were not sufficiently correlated to form a single higher-order factor.

The discriminant validity of the five components of engagement was also supported by the results of a series of structural equation analyses which showed they had different relationships with psychological climate and a range of performance-related indicators. For example, the results of the structural equation analyses showed that workgroup morale was the most consistent predictor of quality teaching and research. Workgroup morale also had the strongest relationship, among the five components of engagement, with psychological climate. Overall, these results provide support for the notion that psychological climate

contributes positively to the emotional tone of workgroups and this, in turn, contributes to performance-related indicators. Importantly, the results also demonstrated that engagement wholly mediated the relationship between psychological climate and performance-related outcomes.

There are a number of limitations that should be considered when interpreting the results of this study. First, the performance-related outcomes were assessed through self-report measures. This limitation can be addressed in future studies through the use of student ratings to assess the quality of teaching and students' engagement in learning. Moreover, objective measures of research income, publications and citations could be used instead of self reports to assess the quality of research. Second, the reliance on self-report data always raises a concern about common method bias. The overall pattern of relations suggests, however, that common method effects have not played a large part in this study. Third, this study is cross-sectional in nature. Many of the hypotheses tested in the study infer causal relationships and these should be examined with longitudinal data in future studies. Finally, this study focused on one occupational group. It is important to replicate this study with different occupational groups to examine the ecological validity of the current findings.

Notwithstanding these limitations, the results of this study have provided strong empirical evidence in support of the notion that engagement is a multi-dimensional construct, and that each of its components have different relationships with the antecedents and consequences of engagement. Based on the results from a sample of university teaching and research staff, the results clearly demonstrate that psychological climate and workgroup morale are the strongest predictors of performance-related outcomes. This suggests that engagement programs should primarily focus on improving workgroup morale and that this will best be achieved by bringing about improvements in the organisational characteristics that underpin psychological climate.

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