

## **PSYCHOLOGICAL CLIMATE: WHAT IS IT AND WHAT DOES IT LOOK LIKE?**

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### **Abstract**

Within the field of management and organisational behaviour research, the climate concept is relatively common. Despite its presence in the literature, however, at times it is poorly defined, particularly in terms of the distinction between psychological climate and organisational climate. Further, there is ongoing discussion in the literature regarding the content of the climate construct and whether it is best conceptualised as multidimensional or a single higher order factor. This paper seeks to address these major issues through discussing two questions associated with the psychological climate literature. The first question is what is psychological climate? The second research question is what does psychological climate look like? The first question is addressed through a review of the current literature in the field. The second question is addressed through the results of exploratory and confirmatory factor analyses conducted on psychological climate data gathered from 739 employees of one organisation. The results of the data analysis indicate that the psychological climate construct is best represented as a multidimensional construct.

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# PSYCHOLOGICAL CLIMATE: WHAT IS IT AND WHAT DOES IT LOOK LIKE?

## INTRODUCTION

The intention of this paper is to address two major questions associated with the psychological climate literature. The first is what is psychological climate? The second question is, what does it look like? Within the climate literature there has been much debate and discussion, over a series of decades, on the climate concept. The intention of this paper is to contribute to this discussion through, first, using the existing literature to establish a clear definition of psychological climate, and in doing so, distinguishing it from organisational climate. Secondly, this paper will contribute to discussion relating to the dimensionality of the climate construct. Whilst psychological climate is defined as being multidimensional, James and James (1989) presented a higher order factor named General Psychological Climate ( $PC_g$ ) as a unifying theme within the literature. Using confirmatory factor analysis, two psychological climate models will be tested. The first model is multidimensional and the second, a higher order  $PC_g$  factor.

This paper is composed of four sections. The first section contains a literature review of the climate concept. Within this review the formation of climates will be discussed, definitions and distinctions of psychological climate and organisational climate will be provided, and some of the conceptual and data treatment issues associated with the climate concept will be discussed. The second section will outline the method to be employed in testing the dimensionality of the psychological climate construct. The third section will present the results, and the fourth, a discussion of these results.

## THE FORMATION OF CLIMATE

Climate research has a long history in the fields of industrial and organisational psychology and was first used in the industrial context by Lewin, Lippitt and White in the late 1930s (Ashkanasy, Wilderom, & Peterson, 2000; Reichers & Schneider, 1990). Climate represents a relatively homogenous set of beliefs and perceptions toward the organisation, while climate theory is primarily focused on the process through which such homogeneity occurs (Moran & Volkwein, 1992; Reichers & Schneider, 1990). Climate theory has evolved considerably over the past twenty-five years, stemming from the structural approach where organisational dimensions (e.g. hierarchy and size) were theorized to be the dominant contributors to climate (Moran & Volkwein, 1992; Rentsch, 1990). From these origins, climate theory and the focus of climate research shifted to a perceptual approach in which the individual was perceived to be the core factor in climate formation. These two approaches, as will be discussed in the following sections, were widely criticized. Such criticisms provided the impetus for the development of the interactive approach to climate formation (Moran & Volkwein, 1992; Rentsch, 1990; Zohar, 1980).

As discussed previously, two of the earliest and most criticized approaches to climate formation are the structural and perceptual approaches. The structural approach was initially proposed by Payne and Pugh (1976), who argued that climate is an attribute of organisational characteristics such as size, structure, leadership style and systems complexity (Moran & Volkwein, 1992; Zohar, 1980). Whilst it is acknowledged in the structural approach that individual personality will play a role in the development of homogenous attitudes and perceptions (i.e. the climate), it is argued that exposure to similar organisational characteristics and experiences that plays the dominant role (Schneider & Reichers, 1983).

The perceptual or selection-attraction-attrition approach to climate formation proposes that climate originates from within the individual. In this approach, the individual is the source of the climate, imposing meaning on the organisation and its components (Moran & Volkwein, 1992; Schneider, 1983).

The structural and perceptual approaches have both been criticized (Moran & Volkwein, 1992; Schneider, 1983) for each considering only one side of what is a relatively complex process (i.e. the creation of homogenous beliefs and perceptions). Organisations and individuals are complex and dynamic, changing and evolving over time to reflect the interaction that occurs between the two (Moran & Volkwein, 1992). Considering only one side of this process is too simplistic. A more appropriate approach is that of the interactive approach.

The interactive approach to climate formation is a considerable advancement from the structural and perceptual approaches because it addresses many of the primary criticisms made of each of the previous approaches (Moran & Volkwein, 1992). This approach argues that through the interaction between the individual and their environment, a shared set of perceptions or climate is generated. In the interactive approach, climate is defined as the aggregated effect of the interaction between the characteristics of the person and the organisation. Climate is created through the interaction between members of the organisation and the exchange of information through communication (Moran & Volkwein, 1992). Therefore, through various common experiences and conversations, a shared set of meanings are created.

## **PSYCHOLOGICAL CLIMATE: WHAT IS IT?**

The psychological climate concept is defined as being a multidimensional construct representing shared individual perceptions (Koys & De Cotiis, 1991) that are relatively homogenous, persistent and stable over time (Moran & Volkwein, 1992; Schneider, 1983; Schneider & Reichers, 1983). Psychological climate guides behaviours with the aim of meeting organisational objectives (L.A. James & Jones, 1974; L.R. James & McIntyre, 1996; Jones & James, 1979; Schneider & Reichers, 1983), and is a set of perceptions that describe experiences as opposed to being an affective reaction, as is the case with job satisfaction (Koys & De Cotiis, 1991).

The discussion and debate surrounding the distinction between the terms psychological climate and organisational climate has considerable longevity but does not appear to have reached consensus (C.P. Parker et al., 2003). The key issues surrounding the distinction between psychological climate and organisational climate concern either a focus on conceptual distinctions or through employing different data treatment techniques. The conceptual distinctions are based on the argument that there is a conceptual difference between psychological climate and organisational climate (Glick, 1985; Koys & De Cotiis, 1991). Such conceptual distinctions have not been sufficiently supported within the literature to be applied here; however, these issues will be reviewed in the following section. The data treatment issues that are drawn from to distinguish between psychological climate and organisational climate are associated with the unit of analysis and aggregation or composition theory (Glick, 1985; L.R. James, 1982). Additionally, whilst psychological climate is a multidimensional construct there is an argument that the dimensions can be converted into a higher order factor. These differences and issues will be discussed in turn, as will the specific application of the psychological climate construct in this research.

### **Conceptual issues with the psychological climate construct**

The aim of many researchers employing the psychological climate concept is to carefully define the term and differentiate it from organisational climate conceptually, as was suggested by Glick (1985). In the literature, there are two key points made about the conceptual distinction between organisational and psychological climate.

First, psychological climate is conceptually different from organisational climate because it emphasizes a value laden perspective of the organisation that encompasses issues or characteristics the individual considers as psychologically meaningful. The perceptions also relate to the extent that the characteristics contribute to the individual's sense of well being and psychological safety. Therefore, the psychological climate variable will impact the extent to which

the individual engages or disengages with their workplace (L.A. James & James, 1989; Kahn, 1990).

The second distinction is in accordance with one of Koys and De Cotiis' (1991) criteria that psychological climate should not include any aspect of organisational task or structure. Koys and DeCotiis (1991) identified three defining criteria of psychological climate as being: (a) that the concept is perceptual, (b) that it must describe, as opposed to evaluate issues, and (c) that it cannot encompass any aspect of organisational task or structure. Therefore, the purpose of the climate construct is not to measure organisational characteristics such as technology, size, and span of control or hierarchy. Rather, climate is aimed at measuring how these factors and other organisational characteristics are interpreted and assigned meaning by the individual (L.R. James, 1982). A definition of climate provided by James, Hater, Gent and Bruni (1978) emphasizes the importance of the psychological meaning and significance of situations to the individual. The way in which the individual understands or 'knows' their environment is a cognitive construction subject to filtering, abstraction, generalization and interpretation. Therefore, climate is important to the development of higher-order schemata or beliefs about situations. The representations generated by the individual are generally more meaningful than the objective situation in the prediction of many important dependent variables (L. James et al., 1978; L.R. James & Sells, 1981).

Glick (1985) argued that it was important for researchers to begin to make clear distinctions between organisational climate and psychological climate based on conceptual differences. To this point, a clear conceptual difference remains missing from the literature with the bulk of the contemporary climate literature. The point was also made by Patterson et al. (2005) that the bulk of climate theory in contemporary research focuses on organisational climate, as opposed to psychological climate. This shift is a reflection of the prevailing interest in understanding organisational performance, making the organisation the appropriate unit of analysis.

In this research, therefore, the psychological climate domains and dimensions reflect the definitions of climate that focus on psychological meaningfulness and the importance of situations to the individual as recommended by a range of authors in the field (Glisson & James, 2002; L.A. James & James, 1989; Jones & James, 1979; Joyce & Slocum, 1984; Koys & De Cotiis, 1991; Patterson et al., 2005). The argument presented in the literature, that there is a conceptual difference between organisational climate and psychological climate, is not sufficiently established or supported for it to be argued that difference can be argued to be conceptual.

Another of the key conceptual problems with the climate literature is a lack of consensus on the domains and dimensions that are encompassed within the climate construct. Wilderom, Glunk, and Maslowski (2000) conducted a review of the climate literature and were not able to reach a clear conclusion on which of the dimensions employed in research could be considered core. Reflecting on the research conducted by Wilderom et al. (2000), Patterson et al. (2005, p. 383) stated that "this diffuse pattern of result is likely to be due, in part, to the variety of methods of assessment of climate ... [and] the inability to draw clear research conclusions [is a result of] ... a lack of theory and subsequent inconsistent operationalisation."

In the process of conducting a meta-analytic review of the psychological climate literature, Parker et al. (2003) commented that there are a staggering number of dimensions employed with psychological climate research. The authors commented that the range of psychological climate dimensions covered most aspects of the individual's work environment, including characteristics of their job, leadership style, the physical environment, and relationships with co-workers and supervisors. Parker et al. (2003) did, however, comment on the usefulness of the measure developed by Jones and James (1979) because of its use of situational characteristics as referents and because it has remained aligned with the notion of tapping into the individuals' cognitive representation of their work environment. The Jones and James (1979) measure has been employed in this research.

## Data treatment issues with the psychological climate construct

The first point to consider with regard to data treatment issues associated with distinguishing between organisational climate and psychological climate is the unit of analysis. The unit of analysis relates to whether climate should be analysed as an individual or organisational attribute. James (1982) argues that the answer to this question is associated with the source of the behaviour. If the organisation is the source of the behaviour and in fact the environment causes the behaviour, then the organisation is the unit of analysis. If the organisation is the unit of analysis, climate should encompass characteristics such as the size, structure and technology of the organisation. However, because we know that climate is based on the attitudes and perceptions of the individual, then the unit of analysis is the individual and climate is understood as a perceptual construct (Glick, 1985; L.R. James, 1982).

If we consider the unit of analysis discussion in conjunction with the literature previously discussed on the formation of climates, deciding on the unit of analysis becomes a little clearer. Both the structural and perceptual approaches to climate formation were criticized because they addressed only half of the issue. In the structural approach, it was argued that the characteristics of the organisation dictate meaning, while in the perceptual approach it was the person who imposed the meaning on the organisation (Moran & Volkwein, 1992). The interactive approach to climate formation, however, promotes the understanding that the homogeneity of perceptions are the result of people having a similar history of experiences as members of the organisation (Moran & Volkwein, 1992). Therefore, climate is formed through the individual's interaction with the organisation and the individual's interactions with each other. The individual is the source of the perception on which climate measures are based and, therefore, the individual is the unit of analysis (Glick, 1985; L.R. James, 1982).

In arguing to support the individual as the unit of analysis, James, Joyce and Slocum (1988, p. 129) made the point that "organisations don't cognize." However, based on the climate formation literature it is also logical to suppose that similarities or homogeneity in climate may be strongly represented within certain groups as a result of common history of experiences. This point of discussion leads to the second major measurement issue, composition theory.

James (1982) states that composition theory is a critical component of climate research. Composition theory posits that a concept operationalised at one level of analysis (i.e. the individual) can be aggregated to form a construct at a different level of analysis (i.e. organisational climate). If this is the case, then the implications are that there is little difference, conceptually, between the psychological climate and organisational climate terms, and that the difference is based entirely on the extent of aggregation. Joyce and Slocum (1984) have contributed further to this argument by stating that if the psychological climate data satisfies three requirements for aggregation, then the psychological climate can be considered collective at varying levels (e.g., teams, work groups, departments and possibly the organisational level). The first criteria is that if the researcher is able to discriminate between climates such that significant differences in perception can be achieved within a larger group, these sub-groups can be assumed to be composed of different climates. The second is to establish the internal consistency of the cluster, and the third is to determine predictable relationships between the climate measures and organisational and individual outcome criteria.

The requirements outlined by Joyce and Slocum (1984) have been criticized. It is argued that through disregarding analysis of previously hypothesised climate differences between work groups or subunit structures, this method only clusters people together on the basis of their agreement in perception. Such a post hoc approach does little more than identify people who agree or disagree on aspects of the organisation, representing an activity in grouping like people as opposed to climate (Moran & Volkwein, 1992; Schneider & Reichers, 1983). Glick (1985) has also criticized Joyce and Slocum's (1984) argument by positing that if such requirements for aggregation were not met within a particular organisation, the implications would be such that it could be assumed that the group being analysed would in fact not have a climate.

In the work of Joyce and Slocum (1984) the process of aggregation has been described as ad hoc, raising the issue of aggregation with an a priori assumption on what the groups that form the basis for aggregation should look like. The process of aggregation and composition theory has become somewhat central to the distinction between organisational climate and psychological climate. James (1982) referred to the process in which a construct operationalised at one level of analysis is related to another form of that construct at a different level of analysis, as a composition model. Chan (1998) subsequently developed a taxonomy of composition models, the most common of which is the direct consensus model. The notion of direct consensus is associated with the homogeneity created through the interactive approach to climate formation, and refers specifically to instances in which the meaning created by the group level construct is the consensus of the lower level variable (Chan, 1998).

Based on the work of Chan (1998) and reflecting on the comments made by Joyce and Slocum (1984), within-group agreement is necessary if aggregation to a different level of analysis is to be undertaken. Further, Roberts, Hulin and Rousseau (1978) state that before individual level concepts generally can be aggregated to represent a macro level concept, the applicability of the construct to both levels (individual and organisation) of analysis must be considered. Roberts et al. (1978) argue that before aggregation of the construct can occur, homogeneity of with-in groups or with-in organisational variance must be demonstrated.

Based on the distinctions made between the unit of analysis and composition theory the following definitions of psychological climate and organisational climate are employed here. Psychological climate is the individual's perceptions or their cognitive appraisal of their work environment. Psychological climate is also a representation of the impact of such perceptions on the individual's well being, as well as the meaning and importance associated with aspects of the environment (Glisson & James, 2002; L.R. James, 1982; C.P. Parker et al., 2003; Patterson et al., 2005). In certain organisational groups, teams or departments, the level of agreement between each individual may be high, therefore the shared perceptions can be aggregated to describe the organisational climate, although group or department climate is probably a more appropriate term depending on the level of aggregation (Bowen & Ostroff, 2004; Glisson & James, 2002; Jones & James, 1979; Joyce & Slocum, 1984). Schneider, Salvaggio and Subirats (2002) refer to the level of homogeneity as being climate strength and state that a climate that is strong and positive will lead to extremely high and consistent levels of performance, whereas climates that are strong and negative will lead to consistently low levels of performance. Regardless of the manner in which composition occurs or the extent to which the data is aggregated, the perception invariably remains the property of the individual (Glisson & James, 2002; Patterson et al., 2005).

As stated in the previous section, psychological climate is a multidimensional construct. However, the psychological climate literature has not reached consensus on the dimensions or concepts included in the psychological climate construct. Therefore, James and James (1989) presented a higher order general psychological construct as a unifying theme within the literature,  $PC_g$ .

Burke et al. (2002) outline two perspectives relevant to the factor structure of psychological climate, the first of which supports a multidimensional view and the second a higher order  $PC_g$ . The first perspective is a social constructionist perspective and is characterized by the presence of multiple dimensions and the representation of psychological climate as a series of first order dimensions. The second perspective is one of a general psychological climate employed by James and James (1989). This perspective reflects a higher-order factor or General Psychological Climate ( $PC_g$ ). James and James (1989) argue that there is a hierarchical relationship within the psychological climate dimensions. They argue that an element common to all dimensions in the psychological climate construct is the judgment process of evaluating organisational events and characteristics in reflection of one's own values. James and James (1989) argue that this commonality in judgement reflects an underlying factor,  $PC_g$ , which represents the individuals assessment of whether the work environment is beneficial or detrimental to individual well-being.

While James and James (1989) have found support for this PC<sub>g</sub> higher-order construct, Parker (1999) questions whether such results are an artifact of common method variance.

As stated in the introduction, this paper aimed to address two major questions. The first question was what is psychological climate? The intention of the literature review has been to address this question. The second research question is what does psychological climate look like? The factor structure of psychological climate will be explored as part of the data analysis.

## **METHOD**

### **Sample**

The psychological climate data was gathered using a survey research method. One thousand eight hundred surveys were administered, 800 were returned with the useable number being 739, constituting a 41.1% response rate. The research site was an electricity provider that employed over 3000 employees. The average age of the sample was 40.93 years (s.d=15.57) and length of employment was 10.23 years (s.d=8.83). Of the sample 74.7% were male, while 44.3% worked predominantly in a field or workshop environment as opposed to the office environment. The majority of the sample was classified in the role of employee (74.3%), with the remainder in supervisory or management roles. Eighty-eight point eight percent were full time employees, while the remainder was part-time or casual.

### **Measurement**

All items were measured on a six point Likert scale (1=Strongly Disagree to 6=Strongly Agree). The psychological climate items used in this study were adapted from the work of Jones and James (1979). The lack of consensus in the psychological climate literature (Patterson et al., 2005) led to the decision to review a range of items and dimensions, however, because an aim of this research was to test the PC<sub>g</sub> proposed by Jones and James (1979), the Jones and James (1979) scale was retained for use. The Jones and James (1979) scale consists of four major domains, each of which encompasses a number of dimensions. Table 1 presents each of the original domains, the dimensions, a definition of the dimension and an example item used to measure the dimension. As a result of the size of the survey not all dimensions were included in the survey, and some items were adapted to ensure they made sense in the organisational context.

**Table 1: Psychological climate domains, dimensions, and example items**

<b>Domain (in bold font) and dimension (in italicized font)</b>	<b>Example item and number of items in brackets</b>
<b>Role stress and job characteristics</b>	
<i>Role ambiguity</i>	'Sometimes I am not sure how to complete all the tasks I have been assigned'. (2)
<i>Role conflict</i>	'At times I feel the quality of my work suffers in order to meet work quantity demands.' (2)
<i>Job importance</i>	'I understand how my job contributes to the achievement of workplace objectives'. (2)
<i>Job standards</i>	'I understand the standard of performance expected of my position'. (2)
<i>Job feedback</i>	'I regularly receive feedback on how well I'm doing my job'. (3)
<i>Job challenge</i>	'My job requires me to use the full range of my skills'. (2)
<i>Job pressure</i>	'At times I feel overloaded with the amount of work I am required to do'. (2)
<b>Subsystem and organisational characteristics</b>	
<i>Awareness of employees' needs and problems</i>	'My workmates and I discuss work/job problems and expectations freely'. (4)
<i>Downward organisational communication</i>	'Often I am not informed about changes to policies and procedures until after they have been implemented'. (3)
<i>Ambiguity of organisational structure</i>	'I feel that the organisational hierarchy or chain of authority is clearly defined.' (2)
<i>Consistent application of organisational policies</i>	'I feel that all organisational policies are applied fairly to all organisation members'. (2)
<i>Opportunities for growth and advancement</i>	'My workplace provides me with opportunity to further develop my skills and abilities'. (2)
<b>Leadership characteristics</b>	
<i>Support</i>	'I feel that my supervisor cares about the problems I have with my job'. (5)
<i>Planning coordination</i>	My supervisor plans work to ensure that it is complete with the highest possible standard. (4)
<i>Confidence and trust-up</i>	'I trust my supervisor to effectively represent my views in meetings with other managers'. (3)
<i>Confidence and trust-down</i>	'My supervisor shows trust in my ability to perform my job'. (4)
<b>Workgroup characteristics</b>	
<i>Reputation for effectiveness</i>	'My workteam is focused on achieving then highest standards in performance'. (4)
<i>Workgroup esprit de corps</i>	'My work team takes pride in their work'. (2)
<i>Workgroup friendliness and warmth</i>	'When I communicate my ideas to members of my workteam they listen and are supportive'. (3)

## ANALYSIS

A major aim of this research was to explore the factor structure of the psychological climate construct. Therefore two major steps in data analysis were undertaken here. The first was to conduct exploratory factor analysis (EFA) on the original items. Principle components factor analysis with oblique rotation was used in this research. Prior to commencing analysis all EFA assumptions were tested. Confirmatory factor analysis was used to compare the two psychological climate models, the multidimensional model and the higher-order factor structure. The models were judged based on the range of fit indices, which in this research included the goodness-of-fit index (GFI), root mean square error of approximation (RMSEA), Tucker-Lewis index (TLI), normed fit index (NFI), relative fit index (RFI), incremental fit index (IFI), comparative fit index (CFI), parsimonious normed fit index (PNFI), and akaike information criterion (AIC). The AMOS software program was employed (Arbuckle & Wothke, 1999).

### Exploratory factor analysis

Eleven factors emerged from the EFA of the psychological climate dimensions representing some structural changes to the dimensions outlined in Table 1. In terms of the domain role stress and job characteristics, the majority of the items loaded onto four factors, which were relabelled. The first factor, *job pressure* (2 items;  $\alpha = .70$ ), included items such as 'At times I feel overloaded with the amount of work I am required to do'. The second factor, *understanding of role* (4 items;  $\alpha = .72$ ), included items such as 'I understand the standard of performance expected of my position'. The third factor, *job challenge* (2 items;  $\alpha = .66$ ), encompassed items such as 'I find my job challenging'. The final factor, *feedback and development* (3 items;  $\alpha = .68$ ), included items such as 'I regularly receive feedback on how well I'm doing my job'.

Four items from the subsystem and organisational characteristics domain loaded onto one factor. This factor was relabelled *clarity of organisational policy* ( $\alpha = .70$ ) and represented items associated with the application of organisational policy. An example item in this factor is 'I feel that the organisational hierarchy or chain of authority is clearly defined'. A second factor emerged associated with this dimension representing the original dimension *awareness of employee needs and problems* (1 item) and included the item 'My workmates and I do not discuss our personal lives at work'.

Fifteen of the 16 items associated with the leadership characteristics domain loaded onto two factors, *leadership support* (3 items;  $\alpha = .83$ ) and *confidence in the abilities of leader* (7 items;  $\alpha = .9$ ). Examples of the items attached to the two leadership factors are 'I feel that my supervisor cares about problems I have with my job' and 'My supervisor plans work to ensure that it is complete with the highest possible standard'. Items relating to each of these scales were aggregated. To use all of the items in a parsimonious format, the aggregated items were again analyzed using EFA. They both loaded onto one construct, which was named *leadership characteristics* ( $\alpha = .85$ ).

Three factors emerged from the workgroup characteristics domain. The first two loaded onto one factor in the first run of EFA but when analysed separately split into two factors. These factors were relabelled *reputation for effectiveness* (3 items;  $\alpha = .74$ ) and *workgroup friendliness and warmth* (3 items;  $\alpha = .62$ ). Examples include 'My work team is focused on achieving the highest standards in performance' and 'When I communicate my ideas to members of my work team they listen and are supportive'. One additional single item factor emerged labelled *workgroup esprit de corps* which included the item 'There is a high level of team spirit in my workplace'.

Only one of the psychological climate factors did not meet the required reliability value of .70, *workgroup friendliness and warmth*, which had a reliability value of .62. Given that whilst .70 is considered acceptable but that some authors accept values as low as .6 (Hair, Anderson, Tatham, & Black, 1998), the decision was made to retain the *workgroup friendliness and warmth* in further analysis.

## Confirmatory factor analysis

As discussed previously, it has been proposed by James and James (1989) that psychological climate may be better represented by a one factor, higher-order model termed  $PC_g$ . Whether psychological climate is better represented as a multidimensional construct, or as a unidimensional construct will be tested using CFA. When each of the psychological climate constructs are aggregated and loaded onto a  $PC_g$  factor the results are as follows:  $\chi^2(35) = 235.24$   $p < .001$ , with the following fit indices  $GFI = .93$ ,  $CFI = .89$ ,  $RFI = .84$ ,  $TLI = .87$  and  $RMSEA = .07$ . The multidimensional psychological climate construct  $\chi^2(247) = 676.73$   $p < .001$  is better fitting (e.g.  $GFI = .93$ ,  $CFI = .92$ ,  $RFI = .85$ ,  $TLI = .9$  and  $RMSEA = .05$ ). The multidimensional construct also retains much of the explanatory information between the separate constructs.

The results of the convergent validity for the multidimensional psychological construct ( $\chi^2(247) = 676.73$   $p < .001$ ) are that it is a better fitting model than a one factor model ( $\chi^2(299) = 2057.07$   $p < .001$ ) and the null model ( $325) = 5968.88$   $p < .001$ ). These results indicate that the multidimensional model is the better fitting of the two, and that it displays convergent validity.

Data analysis was also conducted to determine the discriminant and convergent validity of the factors. Whilst there is not sufficient scope in this paper to report all validity results, it is important to note that all factors displayed discriminant and convergent validity. Therefore, the error associated with common method variance is reduced.

## Limitations

There are a range of established limitations associated with cross-sectional, quantitative and questionnaire-based research designs (Bryman & Bell, 2003; Cavana, Delahaye, & Sekaran, 2001; Neuman, 2000). Common method variance is also a limitation to be conscious of when interpreting the results presented in this paper. However, error has been mitigated in this thesis through the process of testing for discriminant and convergent validity (Kline, Sulsky, & Rever-Moriyama, 2000; Podsakoff & Organ, 1986).

## DISCUSSION AND CONCLUSION

The focus of this paper was to address two questions. The first question was what is psychological climate? The second question was what does it look like? Due to the nature of these questions this discussion section will be brief, with much of the focus of this paper on the literature review.

This research is yet another exemplification of the dynamic and multidimensional nature of the psychological climate concept (Patterson et al., 2005). Whilst literature in the climate field defines the climate concept, whether is be psychological or organisational, as being multidimensional, its application is predominantly as an aggregate in which the explanatory capacity of the multiple dimensions is concealed. Additionally, within the field of psychological climate research, James and James (1989) have outlined an argument in support of a higher order general psychological construct,  $PC_g$ . This research has contributed to this discussion in finding that the multidimensional psychological climate factor structure is a better representation of the construct than a higher order, general psychological climate factor.

Contemporary research continues to explore and question the structure of the psychological climate construct, with some projects outlining a very large number of psychological climate dimensions (Patterson et al., 2005). While a lack of consensus exists in the content of the psychological climate construct, it is very important that researchers continue to clearly define their research problem, develop and understanding of the organisation, and employ the most appropriate form of the psychological climate concept.

## REFERENCE LIST

- Arbuckle, J.L., & Wothke, W. (1999). *Amos 4.0 user's guide*. Chicago: SmallWaters Corporation.
- Ashkanasy, N.M., Wilderom, C.P.M., & Peterson, M.F. (2000). Introduction. In N.M. Ashkanasy, C.P.M. Wilderom & M.F. Peterson (Eds.), *Handbook of organizational culture and climate* (pp. 1-18). London: Sage.
- Bowen, D.E., & Ostroff, C. (2004). Understanding HRM-firm performance linkages: The role of the "strength" of the HRM system. *Academy of Management Review*, 29(2), 203-221.
- Bryman, A., & Bell, E. (2003). *Business research methods*. Oxford: Oxford University Press.
- Burke, M.J., Borucki, C.C., & Kaufman, J.D. (2002). Contemporary perspectives on the study of psychological climate: A commentary. *European Journal of Work and Organizational Psychology*, 11(3), 325-340.
- Cavana, R.Y., Delahaye, B.L., & Sekaran, U. (2001). *Applied business research: Qualitative and quantitative methods*. Sydney, NSW: John Wiley.
- Chan, D. (1998). Functional relations among constructs in the same content domain at different levels of analysis. *Journal of Applied Psychology*, 83, 234-246.
- Glick, W.H. (1985). Conceptualizing and measuring organizational and psychological climate: Pitfalls in multilevel research. *Academy of Management Journal*, 10, 601-616.
- Glisson, C., & James, L.R. (2002). The cross-level effects of culture and climate in human service teams. *Journal of Organizational Behaviour*, 23, 767-794.
- Hair, J.F., Anderson, R.E., Tatham, R.L., & Black, W.C. (1998). *Multivariate Data Analysis* (5th ed.). Upper Saddle River, NJ: Prentice Hall.
- James, L., Hater, J., Gent, M., & Bruni, J. (1978). Psychological climate: Implications from cognitive social learning theory and interactional psychology. *Personnel Psychology*, 31, 783-813.
- James, L.A., & James, L.R. (1989). Integrating work environment perceptions: Explorations into the measurement of meaning. *Journal of Applied Psychology*, 74, 739-751.
- James, L.A., & Jones, A.P. (1974). Organizational climate: A review of theory and research. *Psychological Bulletin*, 81, 1096-1112.
- James, L.R. (1982). Aggregation bias in estimates of perceptual agreement. *Journal of Applied Psychology*, 67, 219-229.
- James, L.R., Joyce, L.R., & Slocum, J.W. (1988). Comment: Organizations do not cognize. *Academy of Management Review*, 13, 129-132.
- James, L.R., & McIntyre, M.D. (1996). Perceptions of organizational climate. In K.R. Murphy (Ed.), *Individual differences and behavior in organizations* (pp. 416-450). San Francisco: Jossey-Bass.
- James, L.R., & Sells, S.B. (1981). Psychological climate: Theoretical perspectives and empirical research. In D. Magnusson (Ed.), *Toward a psychology of situations: An interactional perspective* (pp. 275-295). New Jersey: Lawrence Erlbaum.
- Jones, A.P., & James, L.R. (1979). Psychological climate: Dimensions and relationships of individual and aggregated work environment perceptions. *Organizational Behavior and Human Performance*, 23, 201-250.
- Joyce, W.F., & Slocum, J. (1984). Collective climate: Agreement as the basis for defining aggregate climates in organizations. *Academy of Management Journal*, 27, 721-724.
- Kahn, W.A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33, 692-724.

- Kline, T.J.B., Sulsky, L.M., & Rever-Moriyama, S.D. (2000). Common method variance and specification errors: A practical approach to detection. *Journal of psychology, 134*, 401-421.
- Koys, D.J., & De Cotiis, T.A. (1991). Inductive measures of psychological climate. *Human Relations, 44*, 265-285.
- Moran, E.T., & Volkwein, J.F. (1992). The cultural approach to the formation of organizational climate. *Human Relations, 45*, 19-47.
- Neuman, W.L. (2000). *Social research methods: Qualitative and quantitative approaches*. Sydney, NSW: Allyn and Bacon.
- Parker, C. (1999). A test of alternative hierarchical models of psychological climate: PCg, satisfaction, or common method variance? *Organizational Research Methods, 2*, 257-274.
- Parker, C.P., Baltes, B.B., Young, S.A., Huff, J.W., Altmann, R.A., Lacost, H.A., et al. (2003). Relationships between psychological climate perceptions and work outcomes: A meta-analytic review. *Journal of Organizational Behavior, 24*, 389-416.
- Patterson, M.G., West, M.A., Shackleton, V.J., Dawson, J.F., Lawthom, R., Maitlis, S., et al. (2005). Validating the organizational climate: Links to managerial practices, productivity and innovation. *Journal of Organizational Behavior, 26*, 379-408.
- Payne, R.L., & Pugh, S.S. (1976). Organizational structure and organization climate. In M.D. Dunnette (Ed.), *Handbook of industrial and organizational psychology*. Chicago: Rand McNally.
- Podsakoff, P.M., & Organ, D.W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management, 12*, 531-544.
- Reichers, A., & Schneider, B. (1990). Climate and culture: An evolution of constructs. In B. Schneider (Ed.), *Organizational climate and culture* (pp. 5-39). Oxford: Jossey-Bass.
- Rentsch, J.R. (1990). Climate and culture: interaction and qualitative differences in organizational meaning. *Journal of Applied Psychology, 75*, 668-681.
- Roberts, K.H., Hulin, C.L., & Rousseau, D.M. (1978). *Developing an interdisciplinary science of organizations*. San Francisco, CA: Jossey-Bass.
- Schneider, B. (1983). Work climates: An interactionist perspective. In N.W. Feimer & E.S. Geller (Eds.), *Environmental psychology: Directions and perspectives*. New York: Praeger.
- Schneider, B., & Reichers, A. (1983). On the etiology of climates. *Personnel Psychology, 36*, 19-39.
- Schneider, B., Salvaggio, A.M., & Subirats, M. (2002). Climate strength: A new direction for climate research. *Journal of Applied Psychology, 87*, 220-229.
- Wilderom, C.P.M., Glunk, U., & Maslowski, R. (2000). Organizational culture as a predictor of organizational performance. In N.M. Ashkanasy, C.P.M. Wilderom & M.F. Peterson (Eds.), *Handbook of organizational culture and climate* (pp. 193-209). Thousand Oaks, CA: Sage.
- Zohar, D. (1980). Safety climate in industrial organizations: Theoretical and applied implications. *Journal of Applied Psychology, 65*, 96-102.