國立雲林科技大學
98學年度博士班招生考試試題

所別：技職所

科目：教育研究法

注意：

答題內容請勿出現任何足以辨識考生身分之文字(例如任職學校、職稱等)，違者依本校招生考試試場規則論處。

壹、 教育研究依研究方法論區分為量化研究與質性研究，請說明教育研究如何應用科學方法解決教育問題？（本題配分6%）再請試舉一則量化研究或質性研究的主題，說明研究主題須包涵的要素？（本題配分3%）研究動機、研究目的、待答問題及研究假設的關連性為何？（本題配分3%）何謂操作型定義？（本題配分3%）文獻探討的作用為何？（本題配分3%）研究方法與設計須包括哪些要項？（本題配分6%）研究發現、結論與建議如何回應研究目的的訴求？（本題配分6%）

貳、請就技職教育之「課程」或「教學」領域，選擇一主題以質性研究（qualitative research）簡要說明您的研究計畫，包含：研究主題、研究目的、研究方法及其理論依據、資料蒐集的方法。(本大題30%)

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參、本大題共有五個題目，請在答案紙上註記清楚所回答之題號：

一、某個母體的標準差為 6，自其中抽取大小 64 的隨機樣本，請回答下列問題。(本題配分佔 5%)

1、求此抽樣分配平均數之標準誤。

2、若希望標準誤為 1，則應抽多少樣本？_

二、假設檢定結果可能會犯錯，請回答下列問題。(本題配分佔 5%)

1、當虛無假設為假，卻被接受，此時就犯了什麼錯誤？

2、當虛無假設為真，卻被拒絕，此時就犯了什麼錯誤？

3、以上兩種錯誤的結果，何者較為嚴重？

三、下表為項目分析摘要表，請根據表中內容敘述該如何對各題項進行裁決？(本題配分佔 10%)

信度統計量表

Cronbach's Alpha 值	項目的個數
.637	5

項目總和統計量表

題項編號	項目刪除時的尺度平均數	項目刪除時的尺度變異數	修正的項目總相關	項目刪除時的 Cronbach's Alpha值
I1	17.14	7.174	.507	.558
I2	17.43	6.951	.251	.654
I3	17.36	5.884	.578	.489
I4	17.40	6.033	.476	.538
I5	17.57	6.636	.254	.663

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四、下表爲以 BEH 爲效標變項，以 COG、BEL 爲預測變項之回歸分析摘要表，請根據表中內容回答下列問題。(本題配分佔 10%)

1、撰寫原始分數回歸方程式。

2、撰寫標準分數回歸方程式。

3、根據標準化係數，簡要繪製此變項間之回歸徑路圖。

回歸分析摘要表

模式		未標準化係數		標準化係數	t	顯著性
		β之估計值	標準誤	Beta 分配		
1	(常數)	14.207	4.026		3.529	.001
	COG	-.357	.156	-.282	-1.304	.042
	BEL	.392	.171	.318	2.300	.025

五、下表為某抽樣調查研究中，不同性別教師在工作壓力的差異分析摘要表。請根據表中內容，回答下列問題。(本題配分佔10%)

1、空格中自由度的數值為何？

2、母群體中男女教師之工作壓力是否相同？

3、若研究假設為：「男女教師工作壓力有顯著差異。」該如何根據摘要表，陳述此項研究結果？

性別在「教師工作壓力」t檢定摘要表

變異來源	性別	個數	平均數	標準差	t	自由度	顯著性
教師工作壓力	男	21	21.76	3.254	1.448		.153
	女	37	20.46	3.313			

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注意：、

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1. 請你(妳)論述說明「技職教育」理論與哲學思想，就「上古科技→中古科技→古代科技」的實務觀點，台灣技專校院應如何推動跨領域科際整合(interdisciplinary)之教學策略、與教學模式？並配合數位化、國際化、產學化的趨勢以發展國家經濟，來培育「技職教育」之高級專業人才，以因應未來高科技工商企業界之需求，就業市場人力資源之需求與國際性之競爭力。試論述之。(本題 15%)

2. 請你(妳)論述說明，目前「台灣技職教育」與世界先進國家(例如：美國、英國、德國、日本、韓國、澳洲、中國大陸)等三個以上國家技職教育之比較，分述其體制、發展、課程、教學、訓練、證照、評鑑等方面之異同。試論述之。(本題 15%)

3. 試析全球化思潮下的社會特質、以及在產業全球化趨勢之下，技職教育的未來發展方針和具體作爲。（本題 15%）

4. 就臺灣的情況言之，自學童國中畢業之後有一半的人進入高職（職業教育）；普通的社會大眾有一半以上的人生歲月在於職場世界(25 歲到 55 歲)，試析技職教育的意識和應有的教育內涵。(本題 15%)

5. 試就附錄一 "Validating the organizational climate measure: links to managerial practices, productivity and innovation"一文，回答下列四個題項(中文填答佔 40%)
   1.試譯本文的"Summary"(15%)
   2.評述"Climate and culture"兩者的異同(5%)
   3.評述"The dimensions of climate"的論點(5%)
   4.就"Links between climate and outcomes"及"Existing measures of climate"二段所提到的理念，試述應用在技職教育的實務作法(15%)

附錄一

Validating the organizational climate measure: links to managerial practices, productivity and innovation

Summary

This paper describes the development and validation of a multidimensional measure of organizational climate, the Organizational Climate Measure (OCM), based upon Quinn and Rohrbaugh's Competing Values model. A sample of 6869 employees across 55 manufacturing organizations completed the questionnaire. The 17 scales contained within the measure had acceptable levels of reliability and were factorially distinct. Concurrent validity was measured by correlating employees' ratings with managers' and interviewers' descriptions of managerial practices and organizational characteristics. Predictive validity was established using measures of productivity and innovation. The OCM also discriminated effectively between organizations, demonstrating good discriminant validity. The measure offers researchers a relatively comprehensive and flexible approach to the assessment of organizational members' experience and promises applied and theoretical benefits.

Introduction

Central to most, if not all, models of organizational behavior are perceptions of the work environment, referred to generally as 'organizational climate' (Rousseau, 1988). Primarily understood as an intervening variable between the context of an organization and the behavior of its members, and attempting to understand how employees experience their organizations, the concept has inspired many descriptions and operationalizations. Despite the level of interest surrounding organizational climate, however, there are few well-validated measures of the construct. In this paper, we describe the development of a new measure of organizational climate which is both theoretically grounded and empirically validated.

The climate concept

While climate has been consistently described as employees' perceptions of their organizations, the construct has suffered over the years from conflicting definitions and inconsistencies in operationalization. The dominant approach conceptualizes climate as employees' shared perceptions of organizational events, practices, and procedures. These perceptions are assumed to be primarily descriptive rather than affective or evaluative (Schneider & Reichers, 1983). More recent work contradicts this view, suggesting strong evaluative or affective components (Patterson, Warr, & West, 2004). At the individual level of analysis, referred to as 'psychological climate' (James & Jones, 1974), these perceptions represent how work environments are cognitively appraised and represented in terms of their meaning to and significance for individual employees in organizations (James & Jones, 1974; James & Sells, 1981).

Most empirical studies have used an aggregate unit of analysis, such as the work group, department, or organization (hence group, departmental, and organizational climate constructs). Such climates have been operationally constructed by aggregating individual scores to the appropriate level and using the mean to represent climate at that level. The rationale behind aggregating individual data to a unit level is the assumption that organizational collectives have their own climate and that these can be identified through the demonstration of significant differences in climate between units and significant agreement in perceptions within units (James, 1982). Perceptual agreement implies a shared assignment of psychological meaning allowing individual perceptions to be aggregated and treated as a higher-level construct. Most research is now focused on aggregate rather than on psychological climate (Schneider, Bowen, Ehrhart, & Holcombe, 2000). This paper therefore describes the development of a measure of organizational-level climate that is intended to support research focusing on organizational climate, given the current emphasis on organizational level climate in both theory and research (Schneider, Smith, & Goldstein, 2000).

Climate and culture

Consensus is not easily achieved in this area, however, since there are both theoretical differences and disciplinary differences in what climate represents. Many of these differences are revealed in the debate about the distinction between organizational climate and culture. Indeed, the two terms are sometimes used interchangeably. Goodman and Svyantek (1999), for example, used the Organizational Climate Questionnaire (OCQ) to operationally define dimensions of organizational culture. While this seems paradoxical, the OCQ's authors, Litwin and Stringer (1968), did describe the variables measured by the OCP as assessing the shared beliefs and values of organizational members that constitute the perceived work environment, and shared beliefs and values are often incorporated as central elements in definitions of organizational culture. Hence the problems of conceptual and definitional overlap.

There is no doubt that culture and climate are similar concepts since both describe employees' experiences of their organizations. Organizational climate, according to Schneider (2000), represents the descriptions of the things that happen to employees in an organization. Climate (he suggests) is behaviorally oriented. Climates for safety or service, for example, represent the patterns of behavior that support safety or service. Organizational culture, in contrast, comes to light when employees are asked why these patterns exist. The question is answered in relation to shared values, common assumptions, and patterns of beliefs held by organizational members, and it is these which define organizational culture.

Svyantek and Bott (2004) propose the definitions which help distinguish between climate and culture. Organizational culture is defined as a set of shared values and norms held by employees that guide their interactions with peers, management, and clients. Organizational climate is more behaviorally oriented in that climates for creativity, innovation, safety, or service, for example, may

be found in the workplace. These climates represent employees' perceptions of organizational policies, practices, and procedures, and subsequent patterns of interactions and behaviors that support creativity, innovation, safety, or service in the organization. Thus climate can be understood as a surface manifestation of culture (Schein, 1985; Schneider, 1990). Exploring organizational cultural values and assumptions in relation to, for example, individualism/collectivism can help explain employees' perceptions of the climate for teamwork in their organizations.

The quest to differentiate the concepts has influenced approaches to measurement, with most climate research utilizing quantitatively based questionnaire measures applied comparatively across several organizations, while most culture researchers have advocated the use of qualitative measures and a focus on single organizations. The approach taken in the research described here derives from climate research and involves the development of a quantitatively based questionnaire measure of organizational climate. What dimensions should such a measure seek to tap?

The dimensions of climate

An initial assumption of theory and research in the area of organizational climate was that social environments could be characterized by a limited number of dimensions. For example, Campbell, Dunnette, Lawler, and Weick (1970) identified four dimensions common to a number of climate studies (individual autonomy; degree of structure imposed on the situation; reward orientation; and consideration, warmth, and support). James and his colleagues (James & James, 1989; James & McIntyre, 1996; James & Sells, 1981) describe four dimensions they identified across a number of different work contexts: (1) role stress and lack of harmony; (2) job challenge and autonomy; (3) leadership facilitation and support; and (4) work group cooperation, friendliness, and warmth. James suggested that individuals developed a global or holistic perception of their work environment (e.g., James & Jones, 1974), which could be applied to any number of contexts and industries.

However, over the years the number of climate dimensions identified as targets of assessment has proliferated, leading to confusion and slow theoretical progress. For example, Glick's (1985) review of the field described an abbreviated list of climate dimensions including leader's psychological distance (Payne & Mansfield, 1978), managerial trust and consideration (Gavin & Howe, 1975), communication flow (Drexler, 1977), open-mindedness (Payne & Mansfield, 1978), risk orientation (Lawler, Hall, & Oldham, 1974), service quality (Schneider, Parkington, & Buxton, 1980); equity (James, 1982), and centrality (Joyce & Slocum, 1979). Since Glick's review, the development of new climate scales has continued. For example, the Business Organization Climate Index (Payne & Pheysey, 1971) was revised in 1992 with the addition of scales measuring concern for customer service, the impact of information quality, and ability to manage culture (Payne, Brown, & Gaston, 1992).

Schneider (1975, 1990, 2000) eschews the use of general multidimensional measures of climate and argues for a facet-specific climate approach where climate has a focus and is tied to

something of interest. Schneider suggests that the dimensions of organizational climate will differ depending on the purpose of the investigation and the criterion of interest, and that general measures of organizational climate will contain dimensions that are not relevant for each specific study. This line of argument has encouraged the development of measures of several dimensions of climate such as service (Schneider, 1990) and innovation (Anderson & West, 1998; West, 1990).

Rather than considering the global and domain-specific approaches to organizational climate as opposite sides of one coin, it is worthwhile viewing both as a valid basis for the investigation of work environment perceptions. Which approach is favored depends largely on the interests of the investigation. The global approach is advantageous in terms of its provision of an overall snapshot of organizational functioning, allowing a view of the ways whole organizations operate (Ashkanasy, Wilderom, & Peterson, 2000). A multidimensional global approach can also highlight subcultures and identify the effects of particular dimensions on specific outcome measures, such as organizational productivity or innovation (Ashkanasy et al., 2000). The domain-specific approach contributes more precise and targeted information for use in areas such as the improvement of customer satisfaction and the improvement of company safety. What has research revealed about the relationship between organizational climate and outcomes of theoretical interest?

Links between climate and outcomes

Research has suggested that climate perceptions are associated with a variety of important outcomes at the individual, group, and organizational levels. These include leader behavior (Rousseau, 1988; Rentsch, 1990), turnover intentions (Rousseau, 1988; Rentsch, 1990), job satisfaction (Mathieu, Hoffman, & Farr, 1993; James & Tetrick, 1986; James & Jones, 1980), individual job performance (Brown & Leigh, 1996; Pritchard & Karasick, 1973), and organizational performance (Lawler et al., 1974; Patterson et al., 2004).

As a global or summary construct, organizational climate has been related to several important work outcomes. Brown and Leigh (1996) demonstrated that perceptions of a motivating and involving organizational climate were positively related to supervisory ratings of performance. Organizational climate has been shown to relate to group process variables across organizational levels (Griffin & Mathieu, 1997). Day and Bedeian (1991) showed that employees performed better (as rated by their supervisors) in organizational climates they perceived as structured (unambiguous) and supportive of risk.

Domain-specific climate has also been linked with several important work outcomes. Using their model of service climate, Schneider and colleagues demonstrated that service climate is related to customer perceptions of service quality (Schneider, 1980; Schneider et al., 1980; Schneider, White, & Paul, 1998). Safety climate has been significantly linked with safety behaviors in accidents teams (Hofmann & Stetzer, 1996), and safety compliance in the health sector (Murphy, Gershon, & DeJoy, 1996). Research in the area of innovation suggests that group climate factors influence levels of innovative behavior in health care and top management teams (West & Wallace,

1991; West & Anderson, 1996).

While progress in understanding that dimensions of climate predict outcomes in a variety of studies, knowledge develops haphazardly in this field in a way that appears not to be synergistic or to lead to theory development. This is partly because virtually every study referred to above uses a different measure of climate, each assessing rather different dimensions. The accruing knowledge is not cumulative, hence the study we describe here which seeks to develop an inclusive, robust and theoretically based approach to the measurement of climate. Moreover, many instruments are not validated, are poorly designed, and fail to specify the level of analysis.

Existing measures of climate

The lack of a theoretical basis for many climate instruments has resulted in much of the variation in climate dimensions employed in different measures. For example, Wilderom, Glunk, and Maslowski (2000) located and summarized 10 studies relating climate to organizational performance. They reported that different aspects of climate emerged as important in different studies. This diffuse pattern of results is likely to be due, in part, to the variety of methods of assessment of climate employed in these studies.

The inability to draw clear research conclusions through a lack of theory and subsequent inconsistent operationalization of climate is compounded by the fact that most climate instruments have not been validated. With the exception of some domain-specific climates such as Schneider's service climate (Schneider et al., 1998), there are few measures with demonstrated reliability and validity.

One of the best-known general measures of organizational climate is the Organizational Climate Questionnaire (OCQ) by Litwin and Stringer (1968). It comprises 50 items that assess nine dimensions of climate. A number of studies (e.g., Sims & LaFollette, 1975; Muchinsky, 1976) have suggested that a six-factor structure is more appropriate and pointed out that the existing nine scales showed poor split-half reliabilities. A review by Rogers, Miles, and Biggs (1980) showed that most studies had found six factors and that there was virtually no agreement among researchers regarding which items loaded best on the different factors. They concluded that the OCQ lacked validity and was not a consistent measurement device. Such measurement problems are not unusual in this area of research and prompted the development of the measure described here.

A number of culture questionnaires have been published over the last 25 years, but they can also be seen as measures of climate as they tap the surface manifestations of underlying cultural assumptions (Schein, 2000). Again, these instruments suffer from a number of problems including a lack of a theoretical basis, little validity information (Ashkanasy et al., 2000), little or no confirmatory studies and/ or small sample sizes used for their development.

A further methodological weakness of climate research is the vague or poorly specified descriptive level of items in many climate measures. Each climate questionnaire item should clearly focus on the specific collective unit which corresponds to the climate being studied (team,

department, or organization). Unfortunately, in many studies respondents have not been instructed to focus on a specific organizational unit, but rather to provide descriptions relating to their 'work environments' (Howe, 1977; Schneider & Reichers, 1983). This ambiguity in the frame of reference of climate items can lead to individuals describing perceptions of different parts of the organization, some assuming the questionnaire asks them to describe their department and others assuming the referent is the organization (Rousseau, 1988).

A related issue concerns the type of respondents included in studies of organizational climate. Organizational climate is a characteristic of an entire organization and, as Wilderom et al. (2000) argue, 'it seems crucial that researchers investigate all sorts of organizational members, representative of all the various hierarchical, departmental, divisional and/or professional entities' (p. 207). However, investigations often focus only on managerial employees (Gordon & DiTomaso, 1992; Kotter & Heskett, 1992; Sheridan, 1992; Denison, 2001; Denison & Mishra, 1995; Weber, 1996). Clearly, for inclusiveness, we need measures of organizational climate that assess the experiences of employees throughout the workforce. The content and wording of such measures should therefore be relevant and comprehensible
to all organizational members.

This paper describes the development of a global multidimensional measure of organizational climate intended to address the conceptual and methodological issues outlined above. The measure is designed to be theoretically grounded, to explicitly and consistently specify the appropriate frame of reference, and to be applicable across a range of work settings and to target all employee levels (lower level as well as managerial employees). We report data, from a large sample of employees and organizations, describing its factor structure and internal reliability, and assessing the measure's discriminant and consensual validity and (using separate source data) concurrent and predictive validity. First, we describe the Competing Values framework, which underpins our measure.