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訓練與發展程序公平量表之發展

Procedural Justice in Training and Development: Development of a Scale

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摘要

雖然組織公平的概念廣為學者們所重視，但探討重點大多還是聚焦在遴選、薪資以及績效評估等情境，隨著環境的改變與生涯發展開始受到重視，員工開始警覺到訓練與發展活動的重要。因此，本研究以組織公平的觀點來檢視訓練與發展活動的程序問題，透過理論推演與實務訪談為基礎，首先釐清訓練與發展程序公平的構面，配合量表發展程序，採用演繹法與歸納法，並以兩組樣本共 374 位銀行業與證券業的員工為施測對象，經由探索性與驗證性因素分析，建構出訓練與發展程序公平的量表 (Training and Development Procedural Justice Scale；TDPJS)。本論文認為訓練與發展程序公平的概念包含二個構面，即「制度因素」與「互動因素」。所發展出的 TDPJS 量表共包含 15 題，除了具有良好的效度證據，另外對於工作滿意、情感性組織承諾、專業承諾、信任、知覺組織支持與訓練與發展分配公平均有顯著解釋力。TDPJS 量表的出現，可作為後續相關研究學者之參考。

【關鍵字】訓練與發展、程序公平、組織公平

Abstract

Despite the considerable amount of organizational justice literature, the application in the domain of training and development was neglected. This study explores the concept of procedural justice in training and development, and uses psychometric procedures for scale development, called the Training and Development Procedural Justice Scale (TDPJS). Items were initially developed following deductive and inductive approaches. Content analysis was applied to delete items, and data was collected, from the bank and security industries. Exploratory factor and confirmatory factor analyses were applied for development the scale. Additionally, the validity information was provided in this study. TDPJS includes two dimensions, system factor and interactional factor, totally in 15 items. In addition to the convergent and divergent validity, TDPJS explains variance in job satisfaction, affective organizational commitment, normative organizational commitment, trust, perceived organizational support, and distributive justice.

【Keywords】training and development, procedural justice, organizational justice

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I. Introduction

Traditional employment contracts provide worker security in exchange for commitment that is no longer valid in most case. In new employment contracts, employees are expected to be loyal, hard work, and added value to an organization (Tansky & Cohen, 2001). Training and development helps employees achieve employment security. When employees become aware that job security is no longer entrenched in the employment contract, development and learning opportunities become determinants of the desirability of working in an organization. Employees can prefer training and development to rewards. No longer able to ensure employee job security, organizations may offer opportunities for promotion, continual growth, skill enhancement, and personal and professional development. Organizations generally expect some degree of employee loyalty in return. Consequently, training and development have become more and more important.

Noe (2005) defined training as a planned effort by a company to facilitate employees' learning of job-related competencies. These competencies include knowledge, skills, or behaviors critical to successful job performance. Development refers to formal education, job experiences, relationships, and assessments of personality and abilities that assist employees in preparing for the future.

Empirical evidence indicates that employee training and development practices have many benefits (Tsai, 2006; Fey & Bjorkman, 2001; Harel & Tzafrir, 1999). Organizations can improve the quality of employees by providing extensive training and employee development activities, and expect improved organizational performance in return for their investment. However, training programs require the allocation of organizational resources, making limited resources is an important issue. To date, no previous study has discussed the issue of perceived justice in the context of training and development.

Organizational justice describes individual and group perceptions of fair treatment and the behavioral reactions to such perceptions (James, 1993; Aryee, Budhwar, & Chen, 2002). Some models of justice are based on Aristotelian notions of comparative justice. It means that a person determines whether he/she has been fairly treated by reference to the treatment or outcomes of other people. Others are based on principles of noncomparative justice. It means that a person can determine whether he/she has been fairly treated, independent of the outcomes or treatment of other people. In other words, people may rely on objective and absolute standards to judge the fairness of some actions (Bies, 1987). Besides, studies of organizational justice remain mired in a debate regarding dimensions of justice. Notably, most studies view organizational justice as encompassing two dimensions, distributive and

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procedural justice. Distributive justice refers to perceived fairness in resource distribution. Meanwhile, procedural justice is concerned with perceived procedural fairness in decisions-making processes (Folger & Greenberg, 1985; Gilliland, 1993). Lind and Tyler (1988) asserted that procedural justice should be more strongly associated with attitudes toward authority and organizations than distributive justice. Conversely, distributive justice, which is driven by self-interest, should be more strongly associated with attitudes regarding a decisions (Korsgaard & Roberson, 1995). Hence, although early justice frameworks frequently focus on distributive justice, since the early 1980s the focus has shifted to examinations of procedural justice (McDowall & Fletcher, 2004; Bauer, Truxillo, Sanchez, Craig, Ferrara, & Campion, 2001).

Many scholars of organizational justice, in examining specific human resource management functions, have focused on selection, compensation, performance appraisal, etc. (Bauer et al., 2001; Folger & Konovsky, 1989; Tremblay, Sire, & Pelchat, 1998; Korsgaard & Roberson, 1995). Recently researchers become increasingly interested in employee development using an organizational justice perspective (Wooten & Cobb, 1999; McDowall & Fletcher, 2004). This study proposes that exploring the concept of organizational justice in training and development is important. Justice in training and development is at the forefront of career development and has mostly been neglected. Employees often expect firms to subsidize tuition because firms themselves benefit from having educated and skilled employees. Thus employees tend to be sensitive to fairness of training and development.

In sum, the purposes and importance of this research are as follows. First, this study uses some rules to help researchers/practitioners to understand employees perceptions of justice of training and development in organization. Training and development is associated with many human resource practices. For example, training is closely associated with employee compensation, especially when remuneration is skill-based. More highly trained employees may receive increased payment due to special skills or licenses. Training is strongly related with performance appraisal as trained employees may have skills that enable them to outperform their untrained colleagues. Thus, training and development is at the forefront of human resource functions. However, the application of procedural justice to training and development has been neglected. This study applies organizational justice theories to training and development to advance organization justice theory and clarify training and development fairness in process.

Second, studies of organizational justice remain marked by a debate regarding the

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dimension of organizational justice; this study thus examined procedural justice in training and development.

Finally, the generic scales of procedural justice are too vague to focus on a specific context. According to Greenberg (1996), in specific judicial contexts tailored measurements can be adopted based on theory. Generic items tend to be less informative since they have difficulty in conveying the specific of the work situation the respondents envisioned when reporting their fairness perceptions. If respondents envision different contexts when answering generic items, and if fairness perceptions do vary in an important way across contexts, then the fairness scores obtained from generic items could be misleading (Gilliland & Chan, 2001). To our knowledge, no previous study has discussed the issue of perceived justice in the context of training and development. This study applied standard psychometric procedures to construct a basic scale for assessing procedural justice in training and development contexts.

II. Literature Review

A. Procedural Justice in Training and Development

Procedural justice in training and development is defined as "the perception of individuals and groups within an organization of fairness in the decision-making processes relating to facilitating employee acquisition of job-related competencies (knowledge, skills, or behaviors) or assisting employees in preparing for future positions". Justice is a multidimensional concept (Leventhal, 1980). Nevertheless, organizational justice literature is marked by a debate over whether the domain includes one, two, three, or four dimensions (Colquitt, Conlon, Wesson, Porter, & Ng, 2001). Initially, researchers focused on justice in decision outcomes; this is called distributive justice. Recent work, research focused on justice in the processes that lead to decision outcomes, termed procedural justice (Leventhal, 1980; Thibaut & Walker, 1975; Colquitt, 2001). Bies and Moag (1986), who introduced the most recent advancement in justice literature, focused their attention on the importance and quality of interpersonal treatment generated by implementing procedures; this is termed interactional justice. More recently, interactional justice has been deconstructed into two interpersonal treatment types (eg., Greenberg, 1993): interpersonal justice and informational justice. Interpersonal justice addresses the extent to which people are treated with politeness, dignity, and respect by those with authority or third parties involved in executing procedures or determining outcomes. Informational justice focuses on explanations that explain why procedures are implemented in a certain way or why outcomes were distributed in a

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particular fashion (Colquitt et al., 2001).

Some researchers regarded the organizational justice as a two-dimensional construct, (McFarlin & Sweeney, 1992; Gilliland, 1993) comprising distributive justice and procedural justice. It has been debated whether these social aspects are separate constructs, or whether procedural justice might not best conceived as two sub-components that are both fair formal procedures and international justice (Greenberg, 1990; McDowall & Fletcher, 2004). Contemporary scholars believed that organizational justice should be subdivided into three dimensions. In other words, the main debate is about whether interactional justice is distinct from procedural justice. Specifically, some research viewed interactional justice as part of procedural justice; whereas other studies renewed the debate surrounding the distinctiveness of procedural and interactional justice. Studies that have examined the two constructs--procedural and interactional justice--separately have shown that they have different correlates or independent effects, or both. For example, Blader and Tyler (2000) identified that system-originating procedural factors and leader-originating procedural factors remained separate during confirmatory factor analysis. Masterson, Lewis, Goldman, and Taylor (2000), in applying social exchange theory, suggested that procedural and interactional justice affected variables via different intervening mechanisms. However, scholars have regarded organizational justice as comprised of four constructs (i.e., distributive, procedural, informational, and interpersonal justice) and developed measures for each construct (Colquitt, 2001). However, a meta-analysis found that the interpersonal justice was highly related to informational justice. Hence, organizational justice can be regarded as comprised of three constructs: distribution, procedural and interactional justice. Whether one regards interactional justice as a social form of procedural justice or as distinct from procedural justice, it is distinguishable to two dimensions when discussing the fairness in a decision-making process. Namely, this study infers the procedural justice construct in training and development is multidimensional and that procedural justice in training and development includes two constructs--structural procedure and interactional procedure.

B. The Rules

In procedural justice, the two major perspectives or models, proposed by Thibaut and Walker (1975) and Leventhal (1980) have spawned most current research. Thibaut and Walker (1975) proposed a legal perspective focusing on the role of "voice"or "process control." They proposed that individuals see decisions as fair when they perceive that there was sufficient opportunity to participate in the decision-making process. Leventhal (1980)

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emphasized cognitive processes and how violation or fulfillment of procedural rules affects perceptions of overall fairness. That is, procedural justice was considered as a function of the extent to which procedural rules are satisfied or violated.

Leventhal (1980) proposed the following six procedural justice rules: the consistency rule; the bias-suppression rule; the accuracy rule; the correctability rule; the representativeness rule; and, the ethicality rule. Gilliland (1993), who suggested a theoretical model for applicants reactions to employment selection systems and adapted procedural justice research of Leventhal (1980), Sheppard and Lewicki (1987), Greenberg (1986), Bies and Moag (1986), and Tyler and Bies (1990), in proposing the following ten procedural justice rules for the domain of employee selection: job relatedness; opportunity to perform; reconsideration opportunity; consistency; feedback; selection information; honest; interpersonal effectiveness; two-way communication; and, propriety of questions. Based on these rules, Bauer et al. (2001) constructed a selection procedural justice scale. Furthermore, McDowall and Fletcher (2004) applied these ten rules to the employee development domain, and constructed appropriate measures. Hoy and Tarter (2004) generated ten principles related to the school context. Some of these ten principles are related to procedures -- the voice principle; the interpersonal justice principle; the consistency principle; the egalitarian principle; the correction principle; the accuracy principle; the representative principle; and, the ethical principle.

This study adapted these previous procedural justice rules and grouped into two categories: structural procedure, and interactional procedure. All of these rules are adapted from procedural rules discussed in organizational justice research on decisions allocation, (Leventhal, 1980), selection system (Gilliland, 1993; Bauer et al., 2001; McDowall & Fletcher, 2004), organizational justice in schools (Hoy & Tarter, 2004), and organizational justice in the context of career development (Wooten & Cobb, 1999).

(A) Structural Procedure

Structural procedure is similar to procedural justice when organizational justice is thought of as three constructs, and is concerned with the perceived fairness of procedures used in making decisions (Folger & Greenberg, 1985; Gilliland, 1993). In this study, four rules -- training information posting, consistency, voice, and correction -- are included in the dimension of structural procedure.

1. Training information posting

Training information posting is the practice of posting upcoming training and development opportunities. This rule means that an organization uses one-way

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communication to announce information about policy and decisions. Notably, Gilliland (1993) and McDowall and Fletcher (2004) also mentioned an information rule, a rule that differs from the rule of training information posting in this study. Because the information rule in Gilliland (1993) and McDowall and Fletcher (2004) comprehended communication and explanations, such as justifications for the review/development process. However, employees typically have difficulty determining whether training information was posted at once. The procedure for posting training information can play an important role in judgments of procedural fairness in training.

2. Consistency

The consistency is defined as clear and understandable policy and decision procedures that are followed without bias. For example, qualifications and experience required to apply for a training opportunity should be an understandable and standardized criteria, and should be stable over time. This rule is similar to consistency of administration proposed by Gilliland (1993) and McDowall and Fletcher (2004), and the consistency rule developed by Leventhal (1980). Consistency of administration of Gilliland (1993), and McDowall and Fletcher (2004) is the way in which procedures are applied consistently across time and candidates. Additionally, consistency in this study proposes that policies and procedures are not biased by self-interest. Hence, this rule is also similar to the bias-suppression rule in Leventhal (1980) in which self-interest and blind allegiance should be prevented at all points throughout the allocative process. The consistency rule in this study is also similar to the ground rules used by Wooten and Cobb (1999), in which policies and procedures to be followed are communicated as policies and procedures that lead to clear and understandable results.

3. Voice

The voice rule in the context of training and development is defined as employees can express themselves regarding training and development. Research has indicated that voice affects perceptions of procedural and distributive justice, as well as subsequent attitudes, in numerous organizational decision contexts and is particularly relevant to performance evaluation (Korsgaard & Roberson, 1995). In McDowall and Fletcher (2004), procedures are perceived as fair when candidates have the opportunity to express themselves. It is appropriate for employees to express their career plans, and opinions in training programs because voice will result in acceptable outcome of decision and consistence with the needs rule in distribution justice. Many scholars have proposed similar rule, such as representativeness rule (Wooten & Cobb, 1999), which means that equal opportunity exists

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for voice or input. Furthermore, in the application of the representativeness rule in Leventhal (1980), all phases during the allocative process must reflect the basic concerns, values, and outlook of important subgroups in the population of individuals affected by the allocative process. Applying the representativeness rule to the practice of organization refers to the participation in decision making. In accordance with this rule, employees generally believe that a system is fair when they have some control over it (Leventhal, 1980). Moreover, this rule is similar to the opportunity to perform applied by Gilliland (1993) and McDowall and Fletcher (2004) to the selection system and employee development, respectively.

4. Correction

The correction rule is defined as faulty or poor decisions should be corrected. It is necessary to correct faulty and poor decision in response to employee concerns regarding a training program. If there is no chance to correct, the perceived fairness of the decision process will be reduced. Other researches have similar rule, such as the recourse rule in Wooten and Cobb (1999), which means there is opportunity to seek redress for unfair outcomes. Leventhal (1980) argued the correctability rule, which refers to the opportunities exist for modifying and reversing decisions made at various points throughout the allocative process. Reconsideration opportunity (Gilliland, 1993; McDowall & Fletcher, 2004) means that opportunity exists to correct or challenge decisions made prior to or during a review process.

(B) Interactional Procedure

Interactional procedure addresses the social aspects in a procedure. Interactional procedure focused on perceptions of how fairly formal agents in an organization treat those who are subject to their authority, decisions, and actions, and how subordinates react to actors, with particular emphasis on the explanations or justifications provided by these agents. Briefly, interactional procedure refers to the quality of interaction between agents in an organization. Because training and development programs are related to career management, employees need to know about the policies, and philosophies, high-order values, superordinate goals, etc. This study argues that three rules herein that are communicating information regarding decisions, communicating information about ideology, and referential.

1. Communicating information regarding decisions

Communicating information regarding decisions refers to that information should be provided to employees about the impact of business needs, policies, and strategies as they pertain to employee training and development. Justification of a decision is important in the

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organizational justice literature (Greenberg, 1990; Leventhal, 1980). Numerous studies have used similar rules: for example, Wooten and Cobb (1999), who discussed the organizational justice in the context of the development domain, argued that a rule called causal means explanation to compel a decision is based on contextual factors. The accuracy rule (Leventhal, 1980) means that it is necessary to base allocative processes on as much good information and informed opinion as possible. Such information includes pre- and post-information. Pre-information includes the designed purpose in training and development programs, qualifications and experience required to apply for a training opportunity, the reasons why these qualifications and experience are needs, determinants for evaluating training, etc. Post-information includes the reasons why he/she can not be trained in a training program. The rule differs from the voice rule, which allows employees to express their concerns, whereas communicating information regarding decisions focuses on communication and explanation. This rule is similar to the information rule in the Gilliland (1993), which included information on scoring and the process in which scores are used in decision making, and for justifying a particular selection decision.

2. Communicating information about ideology

Communicating information about ideology refers to whether an organization offers their philosophy and values regarding training programs, which in turn assists staff in meeting an organization's future career and development policies. Organizations may offer opportunities for training and development based on a strategy for upgrading employees, and thereby upgrades the organization's performance. Employee development falls under the umbrella of human resource development in most organizations. Useful information about company ideology helps employee in planning their career development aims for personal growth in line with human resource development policies of the organization. Hence this rule is proper to the issue of development. This rule is similar to the ideological rule in Wooten and Cobb (1999), which refers to explanations based on high-order values and superordinate goals.

3. Referential

The referential rule refers to communicating information to employees concerning training and development practices, programs, and procedures used by other groups or organizations. From the interpersonal networks, employees can compare their training and development experiences with those of the friends. Information about training and development helps employees judge the fairness of training. Moreover, this rule changes can formalize opinions and rumors. This rule is adapted from the referential rule (Wooten &

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Cobb, 1999), which indicates that explanations are based on a frame of reference via comparison with others.

In summary, therefore, this study uses a number of procedural rules that are either satisfied or violated to judge individual cognitive perception about the fairness of training and development (Bauer et al., 2001; McDowall & Fletcher, 2004).

III. Methods

A. Overview

This study used the organizational justice literature to explore the context of procedural justice of training and development and applied psychometric procedures for scale development (Hinkin, 1998). Potential items were initially developed following a deductive approach from an understanding of the organizational justice literature, and inductive from interviews with subject matter experts. Next, content analysis was applied to delete those items that cannot readily distinguish between structural and interactional procedure dimensions. Furthermore, data was collected from a broad sample of employees (Sample 1) in the banking and security industries for preliminary analysis. Finally, the items surviving these analyses were then administered to employees representing two organizations (Sample 2) for the further analysis. The following details the process undertaken.

B. Item Generalization and Content Validity

Based on dimensions of procedure identified in organizational justice literature, an initial set of 30 items was generated. These items based on justice theory focused on procedural justice and interactional justice rules proposed by Bauer et al. (2001), Wooten and Cobb (1999), and Hoy and Tarter (2004). Additionally, interviews were conducted with six subject matter experts (four of the six are HR managers, and the average seniority is 6.5 years; the others are managers, and the average seniority is 8 years). They all have the master's degree. They were reasonably diverse in terms of gender (5 males and 1 female), age (age range, 28-40 years), and represented public, private, manufacturing, service, and professional organizations. After these interviews, 15 additional items (e.g., Organization can listen to the employee's opinion while training course of developing in planning.) were generated with the interview responses, and the initial items were revised based on feedback from these 6 subject matter experts.

Content validation for the 45 generated items was performed in three phases. First, two authors determined whether each item is appropriate and sentence meanings are clear, and

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deleted the unsuitable items. The criteria for deleting items in this phase were as follows: (1) whether the degree of agreement for each item reflects the degree of the concept on procedural justice; and, (2) whether each item reflects the corresponding rule for procedural justice. In this phase, 6 items were dropped from the item pool.

Six Ph. D. students studying organizational behavior and human resources management at a university business school in Taiwan served as a second set of expert judges and were asked to identify which of the two defined dimensions -- structural procedure and interactional procedure -- each of the 39 items was intended to capture. Items which there are over two of six Ph. D. students classified into the incorrect dimension were dropped. This process helped ensure that the items retained for empirical analysis clearly reflected justice theory and the underlying theoretical dimensions. Notably, a decision was made to retain the items in consistency rule temporarily even when items in the consistency rule initially were not readily categorized into the correct dimensions. Although it was difficult to drop items temporarily for the consistency rule as they were derived from justice theory, 19 items were dropped through this process. Finally, two practitioners were invited to review the sentences of items before data collection for empirical analysis. All procedural justice items responses were scaled from strongly disagree=1 to strongly agree=7.

C. Participants

Data were collected from two samples in this study. The first (Sample 1) was a convenience sample of employees in the banking and security industries in Taiwan. After eliminating incomplete and indiscriminate questionnaires, a total of 161 valid questionnaires remained. Of the 161 participants 35.2% were male, 64.8% were female. Average age was 32.8 years (range, 20-58 years). In total, 83.8% were employed in the banking industry, and 16.3% were employed in the security industry. Participants in second sample (Sample 2) were employees at a commercial bank and a security firm in Taiwan. The security firm is the largest firm in the security industries in Taiwan. In total, 213 valid questionnaires were collected for Sample 2. Of these, 27.6% were male, and had an average age of 32.6 years (range from 22 to 58 years). Of all respondents in Sample 2, 36.6% were employed by the bank and 63.4% by the security firm.

D. Measures

Participants responded to the TDPJS items. Additionally, to explore the criterion-related validity of the TDPJS scale, this study reviewed literature on justice and asked

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participants to answer a series of questions about their attitude and behavior, including job satisfaction, affective organization commitment, normative organization commitment, trust perceived organizational support, and distributive justice (Colquitt et al., 2001; Cohen-Charash & Spector, 2001; Bauer et al., 2001).

(A) Job satisfaction. A 5-item abbreviated version of Smith, Kendall, and Hulin (1969) 30-item scale with 1 additional item -- asking participants to indicate their overall level of satisfaction with the job -- that was used to measure job satisfaction. Each item used a five-point Likert-type scale ranging from 1 (strongly dissatisfied) to 5 (strongly satisfied) that indicated the level of satisfaction with the following aspects of their present job: (1) job content; (2) supervisor; (3) co-worker relations; (4) opportunities for promotion; (5) pay; and (6) their overall level of satisfaction with their organization.

(B) Affective organizational commitment. A 6-item scale developed by Meyer, Allen, and Smith (1993) was used to measure affective organizational commitment to the organization. Each item used a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). An example item is 'I do not feel emotionally attached to this organization.'

(C) Normative organizational commitment. A 6-item scale developed by Meyer et al. (1993) was used to measure normative organizational commitment to the organization. Each item used a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). An example item is 'I would feel guilty if I left my organization now.'

(D) trust A 7-item scale adapted from Robinson (1996) to measure trust. Each item used a seven-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). An example item is 'In general, I believe my company's motives and intentions are good'.

(E) Perceived organizational support. A 6-item scale by Eisenberger, Armeli, Rexwinkel, Lynch, and Rhoades (2001) was used to measure perceived organizational support. Each item used a seven-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). An example item is 'The organization really cares about my well-being.'

(F) Distributive justice. 2 items were used to assess the distributive justice in training and development. Each item used a seven-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). An example item is 'I think that the training activity in my company usually have a fair outcome.'

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E. Procedures

The main purpose of this study is to explore the content of perceived procedural justice in training and development, and develop a scale to measure the concept. Exploratory factor analysis is typically useful in the early stages of scale development for data reduction and determining the items that load best on each factor (Kelloway, 1995). Initially, poor performing items were eliminated using exploratory factor analysis, and then reliability was examined using reliability analysis with sample 1. Moreover, the factor structure was confirmed using confirmatory factor analysis with Sample 2. Prior to merging the data for the two firms in Sample 2 for confirmatory factor analyses, no significant differences were found in the intercorrelations between the dimensions in the two samples (Liden & Maslyn, 1998; Neter, Kutner, Nachtsheim, & Wasserman, 1996). Finally, the factor analysis and hierarchical regression analysis were used for convergent, divergent, and criterion-related validity.

IV. Results

A. Item Reduction Through Exploratory Factor Analysis and Reliability Analysis

In order to ensure that two industries in sample 1 were not significantly different from the other in terms of gender, age, educational background or seniority, t-test were conducted between subsamples. Results revealed no difference. Therefore we combined the two subsamples for use in the exploratory factor analysis.

Exploratory factor analysis was used to identify underlying constructs. This study used Sample 1 for an exploratory factor analysis using principal axis factoring with oblique rotation. Oblique rotation was used because the procedural justice rules are hypothesized as nonorthogonal (Gilliland, 1993; Bauer et al., 2001). Moreover, five items were deleted because of cross loading or because they were theoretically inconsistent about factor by exploratory factor analysis. Notably, the consistency rule comprises 3 items. Three of the five deleted items came from the consistency rule, such as "All training programs were implemented according to a practice/condition of training and development." With these items deleted, a second factor analysis was run for the remaining 15 items. Principal axis factoring with oblique rotation was used, and a 2-factor solution was again found based on the criteria of eigenvalues larger than one. These 2 factors accounted for 60.58% of variance in the items. The first factor was named as "System factor" comprising 7 items. The other factor was named as "Interactional factor" comprising 8 items. Analytical results showed congruence with the view of Masterson et al. (2000), suggesting that interactional justice can

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and should be distinguished from procedural justice. Table 1 presents the rotated factor loadings for these 15 items.

Two subscales showed adequate reliability for a new scale with alpha coefficients of 0.88 (System factor) and 0.93 (Interactional actor). These alpha coefficients meet or surpass the acceptable level of 0.7 for newly developed scales (Nunnally, 1978). These analytical results provide evidence for the two-factor structure and internal consistency of the subscales. Next the scale was tested using confirmatory factor analysis and further analysis for validity.

Table 1. Exploratory Factor Analysis Results of The TDPJS Items

Item	System Factor	Interactional Factor	Justice Rule
Employees can express their opinions regarding the training program provided by the firm.	**0.512**	0.175	Voice
My company listens to employee opinions when planning the training and development classes.	**0.556**	0.290	
There was an opportunity to discuss training and development practices when needed.	**0.817**	0.034	Correction
There was a suitable opportunity to amend the program when disputes developed.	**0.726**	0.103	
Training evaluation can be discussed, when needed.	**0.912**	-0.120	
I can acquire information about employee training or how to get the tuition fee subsidized.	**0.623**	0.043	Training information posting
The company posts information about training programs.	**0.612**	-0.049	
If I want to know, my company will tell me the reasons why I was not accepted into the training program or my tuition was not subsidized.	0.309	**0.514**	Communicating information regarding decisions
The company tells me about the purpose of training and development.	0.314	**0.540**	
The company tells employees that why the company provides the training program.	0.293	**0.524**	

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Item	System Factor	Interactional Factor	Justice Rule
There was sufficient information to help employee in meeting the organization's future career and development policies.	0.229	**0.674**	Communicating information about ideology
Employees can understand of top managers' expectations of training and development activities.	0.150	**0.745**	
I understand the goals of training and development at the firm in the future.	0.075	**0.808**	
I have sufficient information to compare my company with training and development practice at other companies.	-0.118	**0.944**	Referential
My company offers information about training and development methods in our industry.	-0.173	**0.936**	

Note. Items for the consistency rules were deleted.

B. Confirmatory Factor Analysis

This study used Sample 2 for further analysis. Sample 2 comprised employees at a bank and a security firm. Prior to merging the two organizational sample of firms for confirmatory factor analyses, differences between the two organizations were tested for the two factors that emerged from the exploratory factor analyses. Means, standard deviations, and intercorrelations of two dimensions are shown as Table 2. Applying the formula for testing the difference between correlations in independent samples showed that this difference in correlations was insignificant (z=1.23, ns). Given these results, the two samples were combined for further analysis.

Table 2. Means, Standard Deviations, and Intercorrelations of TDPJS: Security Sample and Bank Sample

Dimension	Mean	SD	1	2	Mean	SD
System factor	5.14	0.92		0.702**	4.43	1.25
Interactional factor	4.91	1.08	0.784**		4.05	1.27

Note 1: Mean values range from 1 to 7.
Note 2: Values left and below the diagonal represent the Security sample; N=137. Values right and above the diagonal represent the bank sample, N=76.
Note 3: **P< .01

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Differing from exploratory factor analysis, confirmatory factor analysis facilitates better integration of theory and measurements (Hughes, Price, & Marrs, 1986; Liden & Maslyn, 1998). Second-order confirmatory factor analysis was performed on the revised TDPJS using structural equation modeling with SAS statistical software to confirm factor structure. The first-order factor included the following rules: voice; correction; training information posting; communicating information regarding decisions; communicating information about ideology; and, referential. The higher-order common factors are system factor and interactional factor. The two factor model of training and development procedural justice, our suggested model, reflected the two dimensions of system factor and interactional factor.

The goodness-of-fit of the two-factor model was tested in comparison with competing models. Mulaik, James, Van Alstine, Bennett, Lind, and Stilwell (1989) noted that even good fitting models can have misspecification, suggesting that alternative models be considered when using structural equation modeling. The competing models were: 1) the null model in which no factors are related; 2) a single factor model is one in which all items represent in a single dimension. That is, the single factor model regards procedural justice as a unidimensional construct; 3) a two-factor model in which one factor is structural procedural justice and the other factor is interaction justice.

Goodness-of-fit statistics (Table 3) indicate that this study's two-factor model provides a good fit (CFI=0.955，GFI=0.886，NNI=0.943), and a better fit than the alternative models tested.

As noted, alternative models may also adequately fit observed relationships. The fit of the two-factor model relative to the competing models was also assessed by examining the significance of $\Delta\chi^2$ for adjacent models based on their degrees of freedom. That is, differences between the null and single-factor models and between single factor and two-factor models. Each of the $\Delta\chi^2$ tests was significant, demonstrating the superiority of the two-factor model over all competing models (Table 3).

However, since Schmitt and Klimoski's (1991) argued that validity is best assessed using multiple approaches, the scale was examined with respect to convergent validity, discriminant validity, and criterion-related validity.

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Table 3. Goodness-of-Fit Indices for Model Comparisons

Model	X^2	X^2/df	ΔX^2	CFI	GFI	AGFI	RMR	NNI
Null	374.520*	4.459	-	0.883	0.831	0.758	0.708	0.854
1-factor	248.397*	2.957	126.123	0.934	0.865	0.807	0.108	0.918
2 -factor	196.290*	2.365	52.107	0.955	0.886	0.836	0.080	0.943

Note 1: * P< .05 , **P< .01

Note 2: CFI=Comparative Fit Index, GFI=Goodness-of-Fit Index; AGFI=Adjusted Goodness-of-Fit Index; RMSR=Root Mean Square Residual, NNI= Non-Normed Index.

C. Validity Information

(A) Convergent and Divergent Validity

If the TDPJS measures meaningful and useful constructs, it should demonstrate convergent validity and discriminant validity, and a predictable pattern of relationships should exist with other variables. The convergent validity of the measurement scales was examined through confirmatory factor analysis. The factor loadings ranged from 0.73 to 0.95 and all factor loadings were significant (minimum t-value =3.50, $p < 0.01$). These results suggest the convergent validity of the measurement scales were acceptable. The discriminant validity was accessed by a confidence interval test (Anderson & Gerbing, 1988). The confidence interval for the relationship between system factor and interactional factor ranges from 0.80 to 0.91. This confidence interval does not include the value of 1.0, thereby providing evidence of discriminant validity. The TDPJS had the expected convergent and discriminant validity.

(B) Criterion-related Validity

Previous studies indicated that procedural justice is related to job satisfaction (Masterson et al., 2000; Colquitt et al., 2001), affective organization commitment (Cohen-Charash & Spector, 2001; Colquitt et al., 2001), normative organization commitment (Cohen-Charash & Spector, 2001; Colquitt et al., 2001), trust (Aryee, Budhwar, & Chen, 2002), perceived organizational support (Masterson et al., 2000) and distributive justice (Bauer et al., 2001). To assess the criterion-related validity of the TDPJS scale, hierarchical regression analysis was performed using two dimensions of TDPJS (i.e., system factor and interactional factor) as independent variables, and job satisfaction, affective organization commitment, normative organizational commitment, trust, perceived organizational support, and distributive justice as dependent variables. Furthermore, three variables, age, gender, and seniority, were measured and controlled in the original regression equation.

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The results of hierarchical regression analysis are appeared in Table 4. Perceived procedural justice in training and development explained 17.7% of the variance of job satisfaction, 14.3% of the variance of affective organization commitment, 14.9% of the variance of normative organization commitment, 30.1% of the variance of trust, 24.8% of the variance of perceived organizational support, 45.1% of the variance of distributive justice after controlling for the three control variables (Model II in Table 4). In the two dimensions (i.e., system factor and interactional factor), system factor was positively related to trust. Interactional factor made a significant contribution to job satisfaction, affective organizational commitment, normative organizational commitment, perceived organizational support, and distributive justice. The results indicated that TDPJS has good criterion-related validity.

Table 4. Results of Hierarchical Regression Analysis

	Job Satisfaction		Affective Organization Commitment		Normative Organization Commitment	
Variables	**Model I**	**Model II**	**Model I**	**Model II**	**Model I**	**Model II**
Gender	0.019	-0.014	0.218*	0.210*	0.201*	0.211*
Age	0.134	0.022	0.214+	0.147	0.177+	0.109
Seniority	-0.008	0.042	0.020	0.072	-0.070	-0.037
TDPJS						
factor 1		0.070		-0.059		0.145
factor 2		0.375**		0.462**		0.270*
Overall model	0.981	8.175**	2.842*	5.372**	2.109	5.811**
R^2	0.017	0.194	0.083	0.226	0.050	0.199
$\triangle R^2$		0.177**		0.143**		0.149**

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Table 4. Continued

	Trust		Perceived Organizational Support		Distributive Justice	
Variables	Model I	Model II	Model I	Model II	Model I	Model II
Gender	0.152+	0.101	0.124	0.053	0.100	0.054
Age	0.282	0.115	0.166	0.002	0.230+	0.053
Seniority	-0.114	-0.037	-0.070	0.001	-0.218+	-0.139*
TDPJS						
factor 1		0.410**		0.171		0.011
factor 2		0.184		0.384**		0.679**
Overall model	2.926*	13.896**	1.127	8.784**	2.966	34.498**
R^2	0.068	0.369	0.028	0.276	0.048	0.499
$\triangle R^2$		0.301**		0.248**		0.451**

Note 1: TDPJS refers to training and development procedural justice scale
Factor 1: system factor
Factor 2: interactional factor
Note 2: + P< .10, * P< .05, **P< .01

V. Discussion and Conclusions

The concept of generic procedural justice is 'context-free', but it is less informative. Justice in context provides new insights and address practical concerns related to organizational phenomena in the specific contexts (Greenberg, 1996). This study extends theories of organizational justice to the training and development context to advance organization justice theory and understand training and development fairness in process.

According to the previous literatures (Leventhal, 1980; Gilliland, 1993; Bauer et al., 2001; McDowall & Fletcher, 2004; Hoy & Tarter, 2004; Wooten & Cobb, 1999), this study explored the procedural justice in the training and development context, and proposed the following seven rules: training information posting, consistency, voice, correction, communicating information regarding decisions, communicating information about ideology, and referential. These rules essentially differ from the rules used in other HR decision contexts such as the selection context (Gilliland, 1993). Justice in other HR decision settings, such as compensation and performance appraisal, is different from in the

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context of training and development. Employees may strive to get higher compensation or performance. However, in the training and development context, information and communication rules may be more important. Employees need to know the information about the ideology and policy of career and development of the organization, because every employee has their own future career plan, and they will decide which kind of training and development opportunities they need to strive.

This study applied the psychometric procedure to develop a scale, called the Training and Development Procedural Justice Scale (TDPJS). First, items were generalized from the deductive approach based on the procedural justice literature and induced from interview results. Next, the present study used exploratory factor analysis of data collected from Sample 1 for item reduction. A second sample, sample 2, was then used to confirm the factor structure. Empirical evidence suggests that TDPJS included two dimensions: system factor and interactional factor. The results are congruent with the view of researchers regarding the justice of process as procedural and interactional justice. Finally, this study provided validity evidence for the scale.

Regarding criterion-related validity, six variables were selected as criterion in this study: job satisfaction, affective organization commitment, normative organization commitment, trust, perceived organizational support, and distributive justice. These criteria, based on a justice literature review, can be affected by perceived procedural justice.

Moreover, this study determined whether the two dimensions (i.e., system factor and interactional factor) are differentially related to various outcomes. The results showed that system factor was positively related to trust. The interactional factor contributed significantly to job satisfaction, affective organizational commitment, normative organizational commitment, perceived organizational support, and distributive justice. This finding conflicts with that obtained by the result of Masterson et al. (2000).

Masterson et al. (2000) showed that both procedural justice and interactional justice affected job satisfaction; however this study found that only system factor affected organizational commitment. This difference may result from Masterson et al. (2000) measuring job satisfaction using two job focused items, whereas this study measured job satisfaction not only in terms of the job, but also in terms of supervisors, coworkers, opportunities for promotion, and pay. Furthermore, the measure of procedural justice in Masterson et al. (2000) was fairness of organizational performance appraisal procedures, whereas this study focused on the setting of procedural training and development.

Although this study found the relationship between perceived procedural justice and

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the attitude and behavior of employees that is consistent with the previous studies. However, in the context of training and development, the most influential factor is come from the interactional factor. One possible cause is that the rule in the interactional factor in the present study emphasizes two-way communication of various information regarding training and development. Employees need to know the information about the ideology and policy of career and development of the organization, because every employee has their own future career plan, and they will decide which kind of training and development opportunities they need to strive. Communicate information plays an important role in the perceived procedural justice in the training and development context.

A. Implications and Application

Training and development procedural justice is a field overlooked by justice literature. However, due to changes in workplace environments, employees now pay attention to organizational justice in development. This study discussed the concept of perceived procedural justice and addressed seven rules for procedural justice in training and development context for the theorist of justice. Moreover, the present study developed a scale in an effort to remind practitioners to pay attention to this issue.

The applications of TDPJS include the following: (1) TDPJS can help practitioners to understand employee perceptions of procedural justice of training and development in an organization. (2) Organizations may use TDPJS to evaluate their current training and development systems to discover potential problems. When practitioners care about employee perceptions during training and development activities, this human resource function (i.e., training and development) can be performed smoothly. (3) TDPJS provides validity evidence that the perceived fairness of the training and development process can explain employee attitudes and behavior. Further studies can use the scale to measure the concept of procedural justice in training and development. TDPJS thus has the wide applications in human resource management.

B. Limitations and Future Research

Despite its notable contributions, this study is not without limitations. One limitation is the restricted generalizability. This study collected data from the banking and security industries, both of which are service sectors. Since scale validation is a continuous process, (Churchill, 1979) to further validate the TDPJS, future studies should examine the TDPJS using samples from other industries. The results of such studies can increase the utility and

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generalizability of the TDPJS. Additionally, such research should assist in assessments of training and development in relation to procedural justice in other industries.

A second limitation of this study related to the chosen of the criterion. The study provides some evidence that procedural justice in training and development context can explain general attitudes and behavior of the employees. These attitude and behavior outcomes were confirmed by the generic procedural justice, but not in the specific setting (i.e. training and development). This study did not explore the relationship between the procedural justice in training and development context and its reactions. Further studies thus can concentrate on the consequence of procedural justice for training and development.

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