

CAUSAL INFERENCES BETWEEN PARTICIPATION IN DECISION MAKING,  
TASK ATTRIBUTES, WORK EFFORT, REWARDS, JOB SATISFACTION AND  
COMMITMENT.

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Note: The authors wish to thank the anonymous reviewers for their constructive feedback and contribution to improving this paper.

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## **Abstract**

### **Purpose**

Regulatory frameworks in Australia encourage employee participation in decision making (PDM) on the basis that participation benefits work effort, job satisfaction and commitment. Although the literature supports this premise, there is little evidence that patterns of causal inference in the relationship are clearly understood. This study examines for structural and causal inference between PDM and the work environment over time

### **Methodology/Approach**

Structural equation modeling was used to examine longitudinal, matched sample data for causal inferences.

### **Findings**

Participation in decision appears to promote job satisfaction and commitment, whereas task variety and work effort foster participation.

### **Research limitations/implications**

The use of quantitative, self report data, small samples and cross industry data as well as possible overlap between commitment foci may limit the transferability of the findings. It is also important to note causality is merely inferred.

### **Practical implications**

Although participation in decision making positively influences work effort, autonomy and commitment, practitioners need to be mindful of keeping a balance between employee and employer needs. Job satisfaction and commitment are at risk in the long term if participation is viewed merely as a survival strategy for coping with work effort and task variety.

**Originality/value of paper**

The paper examines inferred causality within a participative decision making framework and addresses the previously neglected need for multi-site and longitudinal studies.

**Key Words**

participation in decision-making, work effort, task attributes, rewards, job satisfaction, organisational commitment and causality.

**Research Paper**

## CAUSAL INFERENCES BETWEEN PARTICIPATION IN DECISION MAKING, TASK ATTRIBUTES, WORK EFFORT, REWARDS, JOB SATISFACTION AND COMMITMENT.

Modern organizations implement participatory work practices in the belief they will gain more from an educated, technologically-oriented workforce (Connell, 1998). Evidence suggests participation increases employee motivation, job satisfaction and organizational commitment (Witt, Andrews and Kacmar, 2000; Latham, Winters and Locke, 1994; Pearson and Duffy, 1999); however, support for improving job performance is less conclusive (Tjosvold, 1998; Jones, 1997). Nonetheless, organizations proceed with implementing participatory practices. Acknowledging participation should lead to positive outcomes, we also think ambiguous outcomes regarding productivity warrant further investigation. In part, productivity outcomes are confounded by previous researchers using a mixture of single site or cross-sectional studies (Connell, 1998; Jones, 1997) with few longitudinal or multi-site studies. Additionally, various interpretations of participation have been studied. These include, formal versus informal participation (Scully, Kirkpatrick and Locke, 1995), worker predispositions to participation (Ashmos, Duchon, and McDaniel, 1998), levels of involvement (Locke and Schweiger, 1979) and a synthesized multi-dimensional model that included the role and levels of employee participation (Black and Gregersen, 1997).

To shed further light on the participation and productivity relationship, we designed a study with two purposes in mind. The first was to examine the role participation plays in the work environment and its impact on job satisfaction and commitment. The second was to examine these relationships to see if causal links could be identified over time.

## SUPPORT FOR PARTICIPATION IN DECISION-MAKING

Knoop (1995) defines participation in decision-making (PDM) as sharing decision-making with others to achieve organizational objectives. Support in the literature claims participation in decision-making increases employee motivation, job satisfaction and organizational commitment (Pearson and Duffy, 1999) and Kappelman and Prybutoks, (1995) attribute these outcomes to empowerment. Despite less conclusive evidence that participation in decision-making improves job performance, the positive correlations between job satisfaction, commitment and PDM suggest a link (Tjosvold, 1998; Jones, 1997). This is based on the premise that employees who can influence decisions that impact on them are more likely to value the outcomes, which in turn reinforces satisfaction (Black and Gregersen, 1997). The highest satisfaction comes with high level involvement, as occurs when employees are involved in generating alternatives, planning processes and evaluating results.

Research indicates that employee participation across organisations is increasing (Harley, Ramsey and Scholarios, 2000) therefore, it is important to understand when and how workplace participation contributes to gains for both employees and employers. Proponents claim that involving employees in formulating task strategies and goals promotes organizational citizenship behaviour (Van Yperen, van den Berg and Willering, 1999). Information flow and decision-making are enriched (Anderson and McDaniel, 1999) and communications are more open and transparent. In turn, uncertainty, ambiguity and role conflict reduce and teamwork is promoted (Daniels and Bailey, 1999; Shadur et al., 1999). Consequently the workplace seems a fairer place so perceptions of procedural justice increase and political behaviors decrease (Witt et al.,

2000). One caveat is that the level and extent of participation needs to be congruent with employees' knowledge, experiences and environment (Nyhan, 2000) if they are to participate effectively and not be exposed to risk. In practical terms this means the role and level of involvement varies (Drehmer, Belohlav and Coye, 2000) as does the level of satisfaction.

Previous research results support a strong correlation between job satisfaction and commitment (Becker, Billings, Eveleth, and Gilbert, 1996; Meyer and Smith, 2000). Job satisfaction describes how well a person likes their job (Judge, 1993) and is an attitudinal response to perceptions of how well a job provides valued rewards (Locke, 1976). Commitment, on the other hand, is defined as the strength of an individual's "*identification with and involvement in the organization*, (Mowday, Porter and Steers, 1982:27). This type of commitment is defined by Allen and Meyer (1990) as affective commitment and is deemed more positive for performance than normative commitment, which occurs when an individual stays out of obligation, or continuance commitment, which occurs when the cost of leaving out-ways the cost of staying. Commitment foci can also vary; for example, the work environment (Roy and Ghose, 1997), supervisors (Benkoff, 1997), occupation or profession (Pearson and Duffy, 1999; Meyer, Allen and Smith, 1993), career or work ethic (Cohen, 1996). The conclusion is that regardless of foci, affective commitment in any form, will direct an individual's effort toward achieving organisational goals (Becker et al., 1996; Meyer and Smith, 2000).

Previous research suggests that participation in decision-making influences changes in work practices, conditions and rewards and these correlate with job satisfaction and affective commitment. When employees influence the antecedents to work effort, such as

goal setting (Latham et al., 1994), problem solving (Tjosvold, 1998) and locus of knowledge (Scully et al., 1995) satisfaction and performance are enhanced. The cycle is reinforced when individuals whose needs are satisfied put in greater effort toward achieving organizational goals (Ostroff, 1993) and this in turn enhance commitment and satisfaction outcomes (Benkhoff, 1997; Nyhan, 2000).

To work effectively employees need to understand and value the tasks they perform. Hackman and Oldham's (1980) job characteristics model has proven an effective tool for evaluating task attributes such as, task variety, identity, significance, autonomy and feedback (Pearson and Duffy, 1999). This model taps psychological needs that encourage employee motivation and involvement (Brown, 1996). Nonetheless to be meaningful they need to be supported by human resources policies and practices that recognize and reward employee contributions. Benefits can encompass promotional opportunities, improved conditions or benefits, as well as financial rewards (Hackman and Oldham, 1980; Meyer and Smith, 2000).

Knowing which aspects of work life engender commitment and satisfaction outcomes is necessary if they are to be attained (Jernigan, Beggs and Kohut, 2002). Therefore this study aimed to explore the relationships between participation in decision-making, the task characteristics, rewards and performance effort and outcomes of job satisfaction and affective commitment. By exploring these relationships over time we hope to gain a better understanding if specific variables have greater impact over time than others. A conceptual framework of the expected relationships is diagrammatically represented in Figure 1 and presented in the following Hypotheses.

H<sub>1</sub>. Participation will positively influence affective commitment, both directly and indirectly through improved task characteristics, rewards and performance effort.

H<sub>2</sub>. Participation will positively influence job satisfaction, both directly and indirectly through improved task characteristics, rewards and performance effort.

H<sub>3</sub>. Participation will positively influence the individual task characteristics of variety, identity, significance, feedback and autonomy.

H<sub>4</sub>. Participation will positively influence perceptions of performance effort.

H<sub>5</sub>. Participation will positively influence perceptions of rewards.

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Take in Figure 1 about here

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## METHODOLOGY

Two sets of data were collected from three industry sectors 18-months apart. This time lag allowed participants to achieve performance milestones that led to pay increases or other improved benefits so cause and effect could be examined. Data were analyzed with multivariate analysis and latent variable structural equation modeling. Unmatched data collected at Time 1 was used to confirm and validate the model using the accepted Anderson and Gerbing's (1992) two stage approach. The longitudinal matched data were reserved for testing changes over time and for cross-lagged analysis (Bentler, 1995).

### **Subjects and Procedures**

Data were collected from five medium-sized organizations, including one State and three Local Government agencies and a private hospital in Western Australia. In all, 2000 surveys were distributed through internal mail systems, with covering letters

assuring respondents of confidentiality and explaining the purpose of the study. The survey included demographic questions and the scales described in the following section. Respondents were also invited to provide further comments or explanatory notes. The first stage of the study returned 671 usable responses giving a 34% response rate. Of these, 250 respondents gave their contact details and indicated their willingness to take part in a follow-up study. Ultimately 176 responses formed two matched data samples over time. The remaining 495 unmatched responses collected at Time 1 were split randomly into two samples, with one each used to confirm and validate the factorial '*a priori*' model. The processes and stages of data analysis are described in the analytic method section.

Respondent demographics in the matched sample were similar in distribution to those of the unmatched sample. The matched sample contained similar proportions in gender (52% females, 48% males); the majority were permanently employed (88%) and had professional status (37%); 18% were managers, 16% were administrative and clerical staff and 14% were semi-skilled workers. The median age group was 31-42 years, 43% had been with their current employer less than 5 years and 86% had over 10 years work experience.

## **Measures**

Responses were obtained through a self-report survey. Twenty-seven questions were drawn from established instruments and of these 13 had some word modification to suit the prevailing work context. Only relevant high reliability scales were selected for testing so as to conserve degrees of freedom. This was advisable because structural equation modelling simultaneously measures regression coefficients, variances and

covariances, which increases the number of parameters for analysis (Bentler, 1995). Five questions were developed by the researchers to measure changes in rewards over time. Scale item responses were measured on 5-point Likert-type scales with 1 representing “strongly disagree” or “strongly dissatisfied,” to 5 representing “strongly agree” or “strongly satisfied”.

Participation was measured in relation to the individual’s ability to influence a range of work activities associated with their job or work group utilizing scale items proven reliable in previous studies (Pearson and Chong, 1997,  $\alpha \geq .89$ ). For example, PDM Q3 asked if, “*Employees in this workplace have the opportunity to have ‘a say’ in company policies and decisions that affect them*”. Task attributes were measured using the ten item Hackman and Oldham’ (1980) Job Characteristics scale utilizing modifications recommended by Pearson and Duffy (1999), Cordery and Sevastos (1993). These researchers have demonstrated the ten item, 5 scale measures have high validity (Cronbach Alpha reliability of above 0.7) for measuring the core task attributes of autonomy (*I am free to decide how to my work*), skill variety (*I am required to use different skills*), task significance (*my job is important to this organization*), task identity (*I do whole pieces from work from start to finish*) and feedback (*I get useful feedback from others on how I do my job*) (Pearson and Duffy, 1999; five scale items of  $\alpha \geq .84$ ). Five questions, based on a scale by Brown and Leigh (1996,  $\alpha \geq .82$ ), asked about increased work effort to achieve effectiveness. For example, “*As a work group we are finding better ways to work*”. The five questions about rewards targetted the prevailing work context in relation to gains or improvements in pay and conditions experienced between stages of data collection, for example “*working conditions have*

*improved because of enterprise (decentralized) bargaining*". Affective commitment was tested using five items from Allen and Meyers' commitment scale (1990; revised by Meyer, Allen and Smith, 1993). These items have demonstrated high internal consistency in prior use ( $\alpha > .79 - .89$ ; Lam, 1998; Allen and Meyer, 1996); as an example, Q2 asks if employees "...have a strong sense of belonging in this workplace". Facet free satisfaction was measured using three Quinn and Staines' (1979) items previously reported as reliable for investigating the relationship between job satisfaction and commitment (Meyer Allen and Smith, 1993;  $\alpha = .77$ ); for example Q3 asks "*All in all, how satisfied are you with your job?*". Demographic data was reserved for future analysis.

### **Analytic method.**

Multivariate analysis and latent structural equation modeling was conducted using the EQS 5.7 statistical package. This package was preferred because the Satorra-Bentler chi square and Robust Maximum Likelihood (ML Robust) features give improved reliability in small sample analysis (Byrne 1994; Satorra and Bentler, 1994). Multiple measures of good fit were utilized; however only the following key indicators are reported. These include the Comparative Fit Index (CFI) and the Robust CFI (where available); the Root Mean Squared Error of Approximation (RMSEA). Statistical significance was based on *z scores*, (critical values of 1.96 at the .05 and 2.68 at the .01 probability levels respectively) (Ullman, 1996; Bentler, 1995).

Unmatched data from Time 1 of the survey was used to confirm the structural model using Anderson and Gerbing's (1992) accepted two stage approach. This involves adjustments to the data by removing high value residual items to align the data and

*apriori* model (Byrne, 1994). In all 22 items were confirmed as a good fit to the model (CFI .956, Robust CFI .963, RMSEA .050) and this model was validated with the second group of unmatched data (CFI .942, Robust CFI .951, RMSEA .059). To reduce the risk of capitalizing on chance, we tested plausible alternate models as recommended by MacCallum and Austin (2000) and all alternatives were considerably poorer fits to the data.

A multi-group analysis tested both sets of unmatched data against each other to ensure the model was generalisable. This invariance test involves confirming the baseline model across the samples before using an ordered process of applying constraints to simultaneously test for equality of the factor loadings, variances and covariances in increasingly restrictive models (Bentler, 1995). Significant differences will return a poorer model fit (Ullman, 1996). Once the constrained and unconstrained models do not differ significantly, the constrained model is accepted as the more parsimonious (Ullman, 1996) and retained for further testing. Next, this model was tested against both sets of longitudinal data. These tests returned good fits the model (CFI Time 1, .948; Time 2, .929; RMSEA (Time 1, .056, (Time 2; .071) based on the .9 CFI and .05-.08 RMSEA benchmarks recommended by MacCallum and Austin (2000).

T- Tests confirmed no significant differences in response patterns over time or between the industry sectors in the Time 1 and 2 matched data sets. Trends suggested high levels of task variety, with the lowest satisfaction ratings being for rewards and PDM. As the samples were homogeneous the industry sectors were pooled for further testing. Cronbach alpha reliabilities for all constructs at both stages exceeded the

accepted .7 benchmark, and these along with the Means and Standard Deviations of all data sets are presented in Table 1. These results show that attitudes among the longitudinal sample were more positive overall.

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Take in Table 1 about here

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Correlation analysis between the matched data sets identified high correlations between the constructs of job satisfaction and affective commitment (Time 2, .723\*\*) and job satisfaction and participation in decision-making (Time 2, .684\*\*), raising concerns about identification. Although some researchers caution high correlations cause multicollinearity problems (Mathieu and Farr, 1991), Bentler (1995) claims this is less likely to cause problems between independent and dependent variables. Furthermore, Byrne, Shavelson and Muthén (1989) suggest benchmarks are difficult to define because the model is only an approximation. To ensure these correlations were not a problem, we discriminated by using two tests recommended by Bollen (1989). The first is to assess the two constructs as separate items then retest them as single items and compare results. The second test allows the two latent factors to covary and then retests the relationship by fixing the covariance at 1.0. Based on chi-square significance, both tests indicated that retaining separate constructs provided a significantly better explanation of the data. Invariance testing between the longitudinal samples is reported in the next section. Correlation results are presented below in Table 2 and indicate that PDM is significantly related to the independent variables and these correlations are stronger at Time 2.

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Take in Table 2 about here

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*Testing for changes over time:* The two matched samples were examined for invariance, using the process described earlier, before being examined for causal inferences. MacCallum and Austin (2000) and Bentler (1995) stress that testing needs to be conducted using the covariance matrices, so as to maintain information about the variance in the data and this advice was heeded. Testing both sets of data at the same time increases the model size, which can cause instability, particularly in small samples. Therefore we developed single composites for each construct structure to conserve the number of parameters and degrees of freedom (MacCallum and Austin, 2000; West, Finch and Curran, 1995).

The composite measures were fixed to independent reliability estimates taken from the unmatched data sample (Cronbach Alpha.75 -.89) as this approach protects against internal bias (Hair et al., 1998; Kenny, 1979) and acknowledges the error in the observed variables. Specifying both the error term and loading value also aids in identifying the most parsimonious model (Hair et al., 1998). This involves fixing the loading of the observed ( $\lambda$ ) indicator to the square root of the estimated reliability, and calculating the error variance by subtracting the Cronbach's reliability value of the construct from 1 and multiplying this by the variance of the measured variable. The model was then tested for direct and crossed lagged relationships across time. This involves testing for direct relationships by identifying if positive perceptions of participation at Time 1 related to positive perceptions of participation at Time 2;

crossed lagged responses occurred if participation at Time 1 influences satisfaction at Time 2.

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Take in Figure 1 about here

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The EQS package uses the Lagrange Multiplier (LM) and Wald tests to aid modelling relationships over time. The Lagrange Multiplier (LM) test identifies potential improvements in the model if some parameter constraints are released, whereas the Wald test evaluates improvements in the model if free parameters are removed (Bentler, 1995). The first test of the cross-lagged model was a poor fit (CFI 0.903, RMSEA .130). Byrne (1994) advises that covariances in error terms are acceptable because they relate to memory carry-over effects or interpretation differences over time, thus five error terms were allowed to covary (Time 2 job satisfaction and Time 1 participation and job satisfaction; Time 2 task identity and Time 1 autonomy as well as Time 1 participation with Time 2 affective commitment and work effort). This significantly improved the model fit (CFI .978; RMSEA .066) and based on standardised loadings and the formula  $1 - (\text{Disturbance})^2$ , 97% of affective commitment and 88% of job satisfaction were explained. As there were no significant differences in the mean results over time, only Time 2 results and the significant loadings between Times 1 and 2 are reported below in Table 3.

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Take in Table 3 about here

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Table 3 shows that participation in decision making positively correlates with task variety (.43), identity (.25), autonomy (.7), work effort (.75) and rewards (.68), as well as loading directly onto job satisfaction (.81) and affective commitment (.48). It appears that autonomy promotes task identity (.48) and job satisfaction mediates affective commitment (.55). Over time, participation in decision-making has a positive effect on participation over time (1.04) and autonomy promotes both participation (.74) and autonomy (.4). Of less significance was the influence of participation on task identity (.14).

*Testing for causal predominance.* Next we looked for evidence of substantive causal dominance in relationships over time. *“This is accomplished by first estimating a model in which the competing parts are constrained equal and then comparing the fit of this model with one in which the same paths are specified as free”* (Byrne, 1994:277). The direction of the relationship is examined as two competing pathways and the larger parameter estimate is deemed the dominant causal path. The statistical significance test is the difference in chi-square, (p.05, chi sq = 3.84) although, as MacCallum and Austin (2000) stress, this does not indicate the relationship value. Results of the tests for causal dominance are presented in Table 4, and these show that participation in decision-making influences autonomy, job satisfaction, affective commitment. Affective commitment also influences job satisfaction, work effort and satisfaction with rewards. Task variety and rewards influence participation in decision-making. Work effort influences job satisfaction and participation in decision-making and job satisfaction influences autonomy.

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Take in Table 4 about here

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Taken together the results of the cross-lagged and causal analysis provide only limited support for the hypotheses. Participation in decision-making directly influences job satisfaction and affective commitment; however the indirect link through task variety, work effort and rewards to increase satisfaction and commitment was not supported, therefore H<sub>1</sub> and H<sub>2</sub> were only partially supported. There is a positive relationship between participation in decision-making and task variety, work effort and rewards, however the causal analysis suggest that the direction of the relationship is that task variety, work effort and rewards promote participation in decision-making.

#### DISCUSSION

The positive relationship between participation in decision-making and the other constructs in the study lends credence to previous findings that employees value the opportunity to participate in decisions affecting them. Participation positively influences job satisfaction and affective commitment and the increased strength of the correlations at the Time 2 gives credence to Meyer and colleagues' (1993; 1990) contention that these attitudinal responses are reciprocal and mutually reinforcing over time. More surprising was that work effort promotes both job satisfaction and participation, corroborating similar findings by Benkoff (1997) and Nyhan (2000). Aggregate response patterns did not differ significantly over time despite that all workers in the study received gains in either wages or conditions during the time lag between data collection. Of two possible explanations, the first seems the most likely given the additional comments made by

employees. One possibility is that employees perceive any gains or benefits as their due because they derive from performance improvements. The alternative view relates to Stohl and Cheney's (2001) theory of the "paradox of participation", which suggests that expectations grow as gains are achieved.

Another interesting finding was that task variety and work effort appear to foster participation. This suggests participation is a means for coping with the stresses of the modern work environment. Challenges, such as multi-tasking, adapting to new technologies, work intensification, downsizing and increased pressures for higher performance are occurring in an increasingly insecure and demoralized work environment (ACCIRT 1999; Watson, Buchanan, Campbell and Briggs, 2003)! Increased participation at least allows employees the opportunity to influence better outcomes for the organization and ultimately themselves. Written comments from some respondents indicated that increased job span or variety blurred the boundaries of what was expected of them and undermined their effectiveness. Such in-congruency poses a risk to longer term satisfaction and performance outcomes, as has been highlighted in previous studies linking task, employee involvement and performance (Brown, 1996; Nyhan, 2000).

The findings also raise concerns that employees are not being granted the higher levels of involvement recommended by Black and Gregersen, (1997). Given that autonomy was an influential predictor of participation in decision-making over time, it is concerning that this did not influence satisfaction or commitment outcomes. Purser and Cabana (1997) contend that autonomy needs to be supported by sufficient task and outcome related information to successfully impact outcomes. The reality in this instance seems to be reversed; participation provides autonomy so that employees can better

manage the variety in their multiple roles and responsibilities. Nonetheless, it appears that the more satisfied employees are overall, the more likely they are to want and seek autonomy, which matches Kappelman and Prybutok's (1995) assertion that empowerment promotes positive attitudinal outcomes.

Another finding of note was that employee's value the opportunity to influence and gain rewards. Satisfaction with rewards did influence participation and affective commitment, although some comments indicated that rewards were not perceived as equitable given the work effort extended. Although not apparent in this study it does raise concerns that inadequate rewards can erode positive attitudinal and performance outcomes over time; as was found to be the case in study on the impacts of privatization in Britain (Pendleton, 1997). Employers would do well to be mindful of the strong evidence in the American literature that indicates rewards are a substantial employee motivator (Lawler, 1996).

While this study revealed no changes to employee participation, commitment and satisfaction over time, all participating organizations claimed they had initiated strategies to increase participation (as is required under the current legislative framework). The organizations also reported varying degrees of productivity improvements against key performance indicators, even though employees perceived no significant change in work effort over that time. Improvements were reported in terms of reduced operating costs, improved quality, customer service and reduced absenteeism. However, it is difficult to substantiate whether productivity improvements have resulted from employees being more effective through participation in decision making, or technology improvements,

increased workloads and work intensification, or as seems more likely, a combination of these factors.

### **Implications for Practitioners**

This research raises a number of issues for practitioners. Firstly, identifying the relationships between autonomy, participation, job satisfaction and commitment suggests autonomy is a critical variable in the employment relationship. This supports calls from previous researchers that increasing participation creates a stronger sense of ownership or identity with the job (Benkhoff, 1997), provided employees have appropriate levels of job or content knowledge. Employees need information, training, involvement and resources as prerequisites to developing the skills that contribute to positive autonomous outcomes. We endorse Black and Gregersens (1997) recommendations that organizations specify the extent, level and purpose of participation to minimize dissatisfaction and overcome the inherent paradoxical problems of participation.

Secondly, the dominance of affective commitment suggests this remains an important attitudinal response for both employers and employees. The literature suggests affectively committed employees seek to overcome organizational problems, thereby improving performance and satisfaction. This suggests employers are wise to implement strategies to engender affective commitment. Despite a prevailing view that organizational commitment is no longer relevant as employers are demonstrating less commitment to employees, commitment gives employees purpose which they value. A third finding of relevance to practitioners is that positive perceptions of work effort influence job satisfaction. Sufficient task variety motivates employees; however, if the

range of activities constitutes work overload or intensification, the ability to perform effectively is limited and undermines performance and satisfaction.

This means it is critical practitioners ensure that workloads are realistic and staff have the appropriate resources. Commitment enhancing strategies are not a substitute for providing adequate resources and rewards, especially when rewards are linked to performance. Given comments by respondents, employees are well aware that failure to meet performance targets results in lower salary increments, limited advancement opportunities and can threaten job security, all of which places them under greater pressure.

A final comment is that employee and employer perceptions of participation differed. Respondent comments indicated that many employees perceived they had limited influence or opportunities to participate. In contrast, organizations claimed they actively sought participation and some wanted greater employee participation. All organizations had formal participatory processes in place, ranging from consultative committees, team meetings and project teams to autonomous work teams. We mention this because our findings reinforce three points raised by previous researchers if programs are to be successful. The first is that organizational processes, including the role and level of participation must be transparent and well understood to be accepted and acted upon (Black and Gregersen, 1997). The second is that rewards need to be equitable to performance outcomes (Cordery, Sevastos, Mueller and Parker, 1993). The third is that participatory processes and expectations must match the organizational context and employee capabilities (Drehmer et al., 2000). Practitioners need to clarify the role and processes of participation and ensure employees' expectations are realistic and equitable.

Obviously, maintaining a constant dialogue with employees is one way of avoiding misunderstandings and promoting positive outcomes.

As in all research, this study has limitations. The first could be an overlap between organizational and other foci of commitment. Our choice of terminology was based on the recommendations of a number of researchers who suggest commitment has positive outcomes, regardless of the foci (Becker et al., 1996; Meyer et. al., 1993). Second, the research relied on self-report data which we acknowledge could be subject to bias; however, we used longitudinal data and objective feedback from the participating organizations to minimize this risk. A third limitation may be the "broad brush" approach of using quantitative data and the possible exclusion of important variables from such a parsimonious design. Some may consider the SEM methodology, with its use of an *a priori* model and notions of causality, as limitations; although, as Kelloway (1995) stresses, causality is inferred rather than established. Other limitations could be the non-normal data and small sample sizes, although these limitations were addressed through the choice of EQS as the statistical package and a conservative analytic approach.

## CONCLUSION

This study addresses the call for longitudinal and multi-sample studies (Tjosvold, 1998) to investigate the influence of participation in decision-making. It examines the role participation plays within a decentralized employee relations environment that claims to encourage greater employee involvement. However, investigating causal inferences over time over time reveals relationships that are not apparent when analysis occurs at only one point in time. Inferences from this study suggest that participation in decision-making promotes autonomy, job satisfaction and affective commitment; however in this

context at least, it is task variety and rewards that appear to promote participation in decision-making. More positive attitudes to work effort appear to correlate with higher job satisfaction and participation in decision-making. Affectively committed employees also appear to be more positively inclined toward job satisfaction, work effort and their rewards.

These results raise a number of issues deserving attention in future research. Finding no significant changes over time raises questions about the role employee participation actually plays in the current environment. This lack of evidence might merely reflect employee pragmatism about the changes taking place in the broader work environment. Employers in the study reported productivity improvements and to some extent, this appears to have come at a cost to employees. Finding that work effort and variety promote participation in decision-making implies that participation is a coping strategy, especially when considered alongside the finding that employees are less than happy with the rewards received for the effort they put in.

Overall, it appears that employee's value autonomy as a means for improving work effort, quite apart from the benefits it brings in terms of satisfaction and rewards. If, as Black and Gregersen (1997) claim, the philosophical choice for implementing participation is important, we believe more attention needs to be paid to understanding the relationship between mutual gains for the employee as well as the employer. The correlations between PDM, autonomy, work effort, job satisfaction and commitment suggest PDM does have benefits for both employees and employers. The risk for employers is that an unbalanced relationship means employees are not the only losers. Where participation is aimed at productivity gains and employee rewards are not

perceived as commensurate with task expectations and work effort, negative consequences may well arise over the longer term.

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FIGURE 1

**Figure 1: Conceptual schema for participation in decision-making**

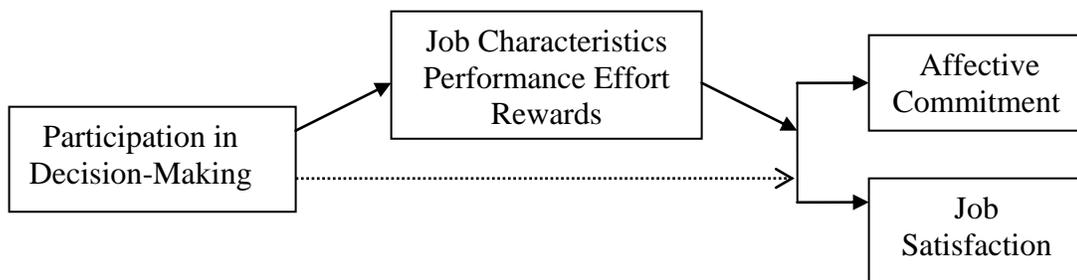


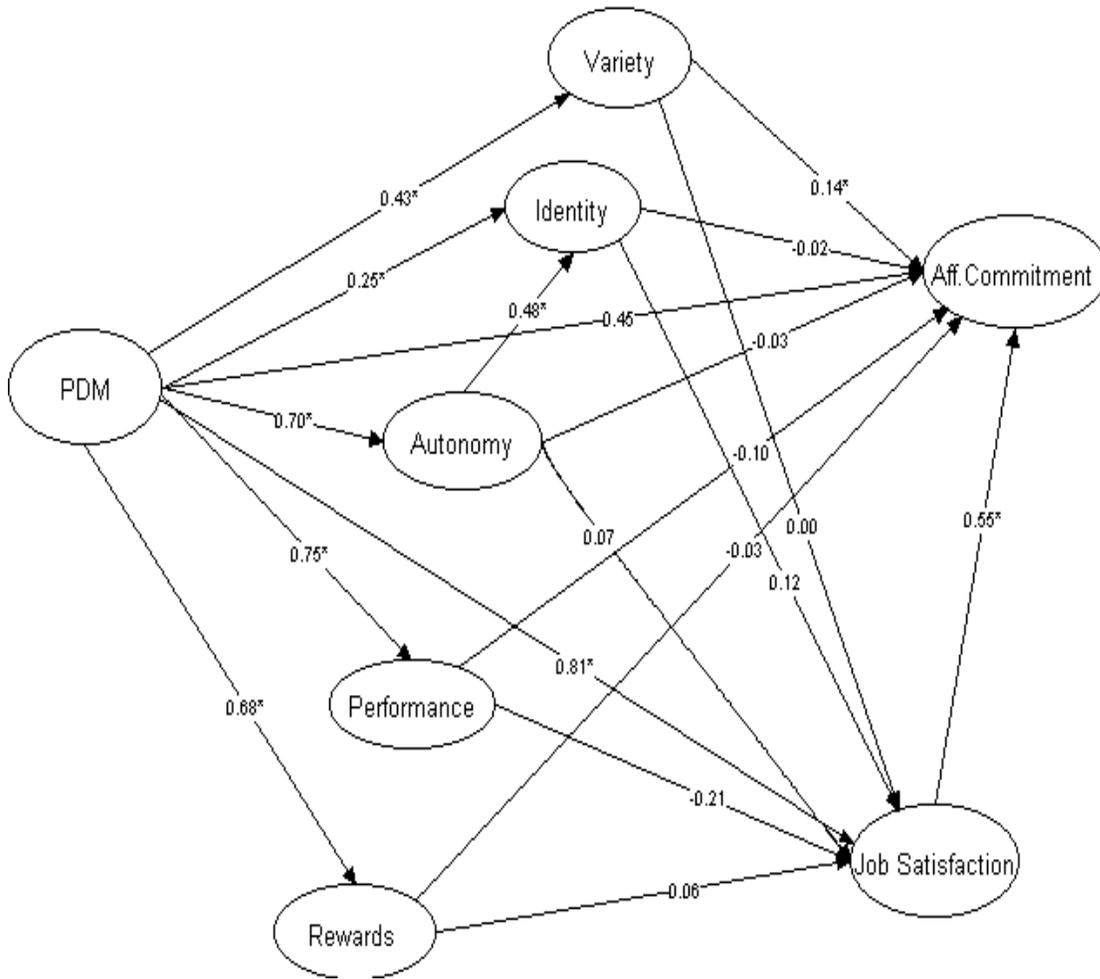
TABLE 1

**Table 1: Means and Standard Deviations for all data and Cronbach's Alpha Reliabilities for the Longitudinal Matched Samples.**

	Time 1 Unmatched Data (n= 495)				Matched Data (n=176)					
	Calibration Sample (n=247)		Validation Sample (n = 248)		Time 1			Time 2		
	Mean	SD	Mean	SD	Mean	SD	Alpha	Mean	SD	Alpha
Task Variety	4.23	.80	4.34	.75	4.48	.63	.74	4.5	.52	.71
Task Identity	3.55	1.04	3.60	1.04	3.71	1.05	.80	3.82	1.02	.85
Autonomy	3.51	1.0	3.50	1.0	3.71	1.03	.87	3.74	1.07	.88
Affective Commitment	3.59	.86	3.54	.84	3.71	.82	.78	3.68	.89	.82
PDM	3.21	.88	3.50	.78	3.35	.85	.81	3.39	.90	.82
Performance Effort	3.47	.84	3.26	.87	3.58	.88	.81	3.54	.85	.84
Rewards	2.80	.84	2.72	.83	2.81	.89	.90	2.71	.99	.88
Job Satisfaction	3.55	.99	3.56	.93	3.66	.93	.78	3.64	1.03	.84

FIGURE 2

Figure 2: The structural relationships within the PDM model at Time 2 (N=176)



Time 2: CFI .921, Rob CFI .941, RMSEA .071  
Path Coefficients are shown as standardised \* = p<.05

TABLE 2

**Table 2: Study 2:Correlations among Latent Constructs for matched sample**

Task Variety		.355**	.393**	.276**	.204**	.106	.119	.027
Task Identity	.270**		.416**	.224**	.188*	.240**	.156*	.048
Autonomy	.326**	.571**		.351**	.231**	.068	.189*	.039
Affective Commitment	.352**	.433**	.524**		.400**	.226**	.128	.064
PDM	.315**	.447**	.575**	.684**		.323**	.105	.089
Performance Effort	.276**	.419**	.470**	.487**	.585**		.269**	.127
Rewards	.212**	.363**	.349**	.537**	.619**	.426**		.212**
Job Satisfaction	.277**	.468**	.536**	.723**	.638**	.420**	.493**	

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

NB: Time 1 Correlations in the Upper Right Quadrant: Time 2 Correlations in the

Lower Left Quadrant

TABLE 3

**Table 3: Significant structural influences at Time 2 and between Time 1 and Time**

**2**

	F1	F2	F3	F4	F5	F6	F7,	F8
1. Task Variety	.61**			<i>.14*</i>	<i>.43**</i>			
2. Task Identity			<i>.48**</i>		<i>.25**</i>			
3. Autonomy		.63**	<i>.74**</i>		<i>.7**</i>			
4. Aff. Commitment			<i>-.25*</i>	<i>.76**</i>	<i>.48**</i>			<i>.55**</i>
5. PDM			.40	<i>.81**</i>	<i>1.03**</i>	<i>.75**</i>	<i>.68**</i>	<i>.81**</i>
6. Performance	<i>.30**</i>			<i>-.40**</i>	<i>.71**</i>	<i>.53*</i>		
7. Rewards				<i>-.20**</i>	<i>.61**</i>		<i>.19*</i>	
8. Job Satisfaction					<i>.84**</i>	<i>-.34*</i>		<i>.36*</i>

**Note:** Values significant at  $p = .05$  ( $z \geq 1.96$ )  $p = .01$  ( $z \geq 2.68$ ).

- Significant Time 2 Correlations are reported in the Upper Right Quadrant in italics.

Model Fit Indices CFI .921, Rob CFI .941, RMSEA .071

- Significant Correlations between Time 1 and Time 2 are reported in the Lower Left

Quadrant. Model Fit Indices CFI .981, RMSEA .058

TABLE 4

**Table 4: Causal Path dominance over time.**

Structural Model Path	Estimate	z-score	$\chi^2$ Change
Participation influences Job Satisfaction	-1.18	8.78	177.4
Work effort influences Job Satisfaction	.63	5.70	60.7
Task variety influences PDM	.55	3.27	17.8
Participation influences Autonomy	1.02	7.5	99.1
Affective Commitment influences Job Satisfaction	1.43	7.7	221.8
Affective Commitment influences Work effort	1.11	11.1	103.5
Affective Commitment influences Rewards.	1.00	5.7	51.9
Work effort influences Participation	.77	7.31	110.9
Job Satisfaction influences Autonomy	.81	6.76	58.2
Participation influences Affective Commitment	1.29	8.4	192.9
Rewards influence Participation.	.94	6.72	60.6

*Note:*  $p.05 \leq \chi^2 = 3.84$ . Standardised estimates and Z-score of dominant pathways reported.