# Active Adaptation of Municipal Government An Action Research Report

Donald W. de Guerre Henry Hornstein

Department of Applied Human Sciences,

Concordia University,

Montreal, Canada

E-mail: don.deguerre@sympatico.ca

E-mail: hornstein@sympatico.ca

## Active Adaptation of Municipal Government An Action Research Report

#### Donald W. de Guerre and Henry Hornstein

#### **Abstract:**

In the context of complex socio-ecological action research, there are multiple hypotheses that emerge retroductively. After a brief discussion of the multiple objectives and opportunities in such rich field projects, this paper presents a holistic quantitative methodology that can be used to complement qualitative data analysis in such complex action research projects. In the context of the ongoing active adaptation of municipal governance in a Canadian city, the paper describes the emergence of a laissez-faire form of organization characterized by pseudo-empowerment that results in low negative affect and differentiates this form of organization from more democratic forms. The relation between organization structure, human affect, and health is discussed.

#### Introduction

There are many variants of action research. Gloster (2000) outlines the socioecological systems action research model developed by Fred Emery (1981, reprinted in Trist, 1997). He differentiates between action research (ar) which improves the practical affairs of a particular social system and Action Research (AR) that in addition contributes to social scientific knowledge. In this model, inquiry begins with a surprising phenomena or a problematic situation. Such AR often begins as 'ar' with a pragmatic real world situation rather than the hypothetical pursuit of theory (de Guerre, 2002). One cannot quite know in advance whether or not ar will become AR or simply become another case study. In this sense, we agree that AR is like traversing an epigenetic landscape (van Beinum, Faucheux, & van der Vlist, 1996). This paper discusses an ongoing action research project and some preliminary findings.

The opportunity for this study was occasioned by an invitation from the City of Brandon, Manitoba to assist the organization to improve effectiveness. Using Open Systems Theory (OST) (Emery, 2000), the researchers described a socio-ecological systems perspective of organizational change and expanded the project potential to include organization-inenvironments change (de Guerre, 2000). While there are examples of reinventing local government, the literature does not seem to contain any examples of active adaptive municipal governments specifically utilizing OST as a theoretical base. One question of interest then is how participative redesign towards a democratic organization (Emery, 1993) applies to municipal government. Also of interest is whether or not active adaptation of municipal government by building a directive correlation or alignment between the City and the community can result in a form of direct democracy and whether or not this can contribute to regional socio-economic development. One author has previously hypothesized that for sustainable organizational change, one needs to create a directive correlation with societal change (de Guerre, 2000). Finally, this research affords the researchers the opportunity to test hypotheses in the literature with regards to human affect and health in the workplace and this links to other ongoing research initiatives (Hornstein & de Guerre, under review).

#### History of the Project

Since June 2001, the City of Brandon has been involved in an organizational change process to democratize the organization structure, to develop partnerships with education, health, local industry, and to engage citizens in pro-actively developing Brandon's future. More than an organizational development process, this regional action research project took on the characteristic of cultural change (de Guerre, 2000). The theoretical grounding for this work is Open Systems Theory as developed by Fred and Merrelyn Emery (Emery, 2000). The organization change process used has been described as consisting of three iterative phases (Rankin & Mansell, 1983). First is an exploration and learning phase in which organization members learn about organization choice by exploring Open Systems Theory (Emery, M. 1999) and the design principles (Emery, F. 1967). In Brandon, this was achieved through information sessions, educational participative design workshops in several departments and search conferences in both the organization and the community. The second stage, which is one of formal organization redesign, begins with the development of an umbrella policy framework and legal agreement with trade unions involved. The City of Brandon is now entering this phase of the change process. The third stage has to do with adapting support systems and learning to live within a democratized organization structure.

Redesign of the organization is advantageous not only to improve organizational functioning and the quality of work life but also because it is City employees who will take leadership in this region to forge a directive correlation with the community through the formation of alliances and partnerships that align the region towards active adaptation. The parallel community development process will not be discussed in this report. Another paper will describe the details of the directive correlation between the organizational change process and the community development process. Further, the role of Executive Leadership Coaching (Berquist, Merritt, & Phillips, 1999) in the context of active adaptive change will be discussed elsewhere. This paper will focus on the results of a survey of employees in the organization. Thus, it demonstrates the interdisciplinary and multi-method nature of AR. The analytical methodology used is systemic and fits well with AR's often emergent and multiple hypotheses.

When Brandon had completed the exploration and learning phase, it was considered timely to develop a picture of the state of the system at this time. This baseline data will allow a comparison after implementation and provide guidance to City employees with regards to further development toward their objectives. To this end, a questionnaire containing thirty-nine variables was designed that was comprehensive of all relevant concepts found in previous documentation. The questionnaire was distributed to all employees with a cover letter guaranteeing anonymity and confidentiality along with a self-addressed stamped envelope to the researchers. There was a forty-two per cent response rate.

#### Methodology

All data were entered into SPSS. The few missing data were re-coded to the mean. Variable 37, department, is not in the matrix because it is only used as a filter variable to understand differences in type of work, male/female balances, and socio-economic influences on the data. All frequencies and percentages were checked for adequacy of distribution. The coherence of concepts constructs were checked by correlating all variables expected to be included in the concept. The criterion for inclusion of a variable in the concept was that it correlated with at least one other variable in the concept at p<. 05. All thirty-nine variables in the questionnaire (see Appendix I) met this criterion and most conceptual clusters were much tighter

at p<. 001 or beyond. Variable 27, Satisfaction was discarded, as it was redundant with variable 17 (Questions 6 and 7 in Appendix I). Scales for each concept were then created within SPSS. All constructed variables plus the remaining single item variables were entered into a Pearson's correlation matrix. This yielded a master matrix with 26 variables. This master matrix was subjected to causal path analysis (Emery, F., 1976) to the fourth iteration. This is described below. But first, it is important for the reader to understand the design of the questionnaire and the theoretical grounding utilized in both the practice of AR and the survey design and analysis. The use of a common theoretical grounding by both the researchers and the researched contributes to the immediate application of knowledge generated in the research process and thus meets one of the objectives of AR.

#### Open Systems Theory Concepts in Questionnaire

Ackoff and Emery (1972: 31) defined people as *open, purposeful systems* who "can produce (1) the same functional type of outcome in different structural ways in the same structural environment and (2) functionally different outcomes in the same and different structural environments." They display *will*. By constantly acting as active, responsible agents (Chein 1972: 6), they change the environment. Included within this is the concept of open, jointly optimized, sociotechnical (and sociop-sychological) systems, optimizing human purposefulness, and the best options afforded by changing technologies.

Concomitantly, nobody is an island. Mental health is "the capacity both for *autonomous expansion AND* for *homonomous integration*" with others (Angyal, 1965: 254). 'Autonomous' means governed from inside, purposeful activity with a systemic direction towards expansion through coherence. But "life is an autonomous dynamic event which takes place *between* the organism and the environment" (Angyal, 1965: 48, my emphasis). Autonomy without corresponding homonomy or interdependence with others inhibits growth. Humans are social or group animals constantly seeking the best balance between these two vectors. Workplaces organized to respect purposeful people-in-environments will be more productive and will contribute to human health.

People also have the *potential for ideal seeking*. They can confront choices between purposes and choose outcomes called ideals that are endlessly approachable but unattainable (Emery, 1977, 69). The ideals spring from our capacity for potential directive correlation (Sommerhoff, 1969), to *imagine* and *expect*. While ideals were left out of this study, the reader is referred to Alvarez & Emery (2000) for a discussion of the emergent ideals and mal-adaptations in a study of the U.S. Forest Service.

The relations between people at work are governed by *the two geno-typical design principles* (Emery, 1967; Emery, 1999). The first design principle is called 'redundancy of parts' because there are more parts (people) than are required to perform a task at any one given time. The key characteristic of this bureaucratic form of organization is that responsibility for control and coordination is at least one level above where the work is done. This yields a supervisory or dominant hierarchy. The second design principle is called 'redundancy of functions' because more skills and functions are built into every person than that person can use at any one given point in time. The key characteristic of this democratic form of organization is that responsibility for control and coordination is located with the people performing the task. Self-managing groups work to a comprehensive set of agreed goals and measures. This yields a non-dominant hierarchy of functions.

OST has identified a set of job characteristics that significantly influence a range of human behaviors and have been correlated with productivity and quality (Emery, 1993). Called *the six criteria for productive human activity* they are:

- 1. Elbow room or the autonomy to make decisions about one's own work or activity.
- 2. Opportunity to learn on the job and to keep on learning has two components. The first is that purposeful people learn best when they are able to set their own learning goals. The second is timely and accurate feedback is necessary to effective learning.
- 3. An optimal level of variety so that people can gain the best advantage from a satisfying rhythm and avoid boredom and fatigue.
- 4. Mutual support and respect in the workplace creates conditions in which people help each other and avoids destructive competition in which people do not assist each other but stay within narrowly defined boundaries.
- 5. Meaningful work has two parts. The first is the value that society places on the work one is doing and the second is that each person can see the whole task through to a desired outcome. It is from such meaningful work that people can feel proud of what they do each day and develop a strong identity.
- 6. The extent to which the organization provides for a desirable future or career path in which the individual can grow as a person and develop new skills.

The core of OST suggests that purposeful people as holistic open systems learn ecologically (Gibson, 1965) and actively adapt within social ecosystems within causally textured environments (Emery, 1999). Democratic organization structures, which are themselves a learning ecosystem, should produce an emotional tone similar to Bion's (1962) dual system of mental functioning. Bion suggests that, left to their own accord, it is natural for human beings to from a creative work group with a good deal of positive affect whereas bureaucratic forms inhibit the creative working mode and elicit basic assumption groups with more negative affect: guilt and depression in the dependent group, anger and hate in the fight/flight group, and hope and joy in the pairing group (Bion, 1962). Bion made it quite clear that it is only in the creative work group mode that a genuinely cooperative and positive emotional situation can develop. When the group becomes self-managing, the emotional tone changes.

"Bion's dual system of mental functioning is almost identical to that proposed by Angyal (1965)" (Emery, 1999; 116). One pattern or organized process pushes toward health. Arising from a view of the world as positive, it features self-confidence, hope, and trust. The other pushes towards neurosis. It arises from a view of the world as foreign, threatening, and unpredictable. Since nobody ever has only positive experiences of the world, the two tendencies will operate in each individual. Angyal's dual function springs from individual experience and the orientation toward health is relatively stable whereas the neurotic pattern is not. There is a relationship between organization structure and the individual experience of the workplace. Democratic structures tend towards health whereas bureaucratic structures tend towards neurosis.

Emery (1999, 115-119) established the relation between group dynamics and organization structure. Structure affects emotional tone, which in turn affects human communication, energy, and learning in the workplace. A bureaucratic structure designed according to the principles of scientific management (Taylor, 1911) or redundancy of parts, creates a culture that is characterized by dependency and fragmentation. In such a work climate, one would expect the basic assumption group of dependency and all employees would develop accordingly. On the other hand, in a laissez-faire, or loosely managed bureaucracy, one would expect the basic assumption group of fight/flight. In this group climate, the leader is perceived to be inimical to the group and must be either killed in battle or ignored (Bion, 1962). In a democratic organization structure, people are required to be actively involved in the decision making process affecting their work. Risk taking and learning are common features and the human resources develop accordingly. This is Bion's creative working mode in which there is a built-in capacity for active adaptation or the management of change.

Emery (1999) further established a relationship between taking responsibility, positive affect, and ideal seeking.

"Equality that arises from shared responsibility for outcome creates the conditions for the experience of positive affect, and in particular joy. Only when people engage with each other firstly and foremost as people, can the joy of face-to-face interaction be felt and the possibility of ideal seeking emerge. As joy is the carrier and motivator of an expanding objective world, so the opportunities to exercise control are increased. The experience of positive affect allows people to become more truly free, as they enlarge their sphere of control. Thus the democratic form with its foundations in the concept of shared control can give rise to a dimension of human freedom through creativity which the bureaucratic and laissez-faire forms cannot (Emery, 1999: 158-159)."

Tomkins (1963) established that the affect system is the primary human motivational system and that productive work is related to maximizing positive affect. More recently, positive affect has also been related to self-efficacy and health, which is today a major workplace and societal issue (Marmot & Wilkinson, 2000; Hornstein & de Guerre, 2003). The new knowledge generated in this research has begun to establish an empirical link between organization structure and affect, which is in turn related to responsibility taking, motivation, productivity and performance, self-efficacy and health. Positive affect increases energy and learning and it fuels innovation and active adaptation.

Thus, there is a relationship between purposeful people-in-environment, organizational structure, group dynamics, and emotional tone in the workplace that are related to productivity, quality, and human health.

#### Total Variables Analyzed in the Study

Table 1 lists the master matrix constructed and other variables with the original variable numbers from the questionnaire. The questionnaire is in Appendix I. Once the master matrix was developed, it was subjected to causal path analysis.

**Table 1: Constructed and Original Variables in Master Matrix** 

Master Matrix Variables	Original or Constructed Variables
1. Get Money	1
2. Achieve	2+3
3. Socioduty	4 + 5
4. Motivation	6
5. Supervision	7
6. Elbow Room	8
7. Room to set own goals	9
8. Feedback	10
9. Variety in your work	11
10. Mutual support and respect	12
11. Value to society	13
12. Seeing whole thing to outcome	14
13. Desirable Future	15
14. Control over work	16
15. Satisfaction with work	17
16. Posaff	18 + 22 + 32
17. Depress	19 + 34
18. Alone	20 + 21
19. Captive	23 + 26 + 32
20. Highneg	24 + 29
21. Lowneg	25 + 30
22. Anxious	28
23. Impulsive	31
24. Sex	35
25. Age	38
26. SES	36 + 39

#### Causal Path Analysis

This form of causal path analysis follows the logic of producer-product relations in that correlations by themselves do not constitute evidence of producer-product relations. Correlations must constitute *possible* (rather than impossible) and also *probable* relations indicated by correlations observed to be greater than occurring by chance (usually taken to be p<. 05). If these conditions are met, they are considered sufficient conditions for x to be a probable producer of y regardless of whether there is another variable that is also a probable producer of y. By iteration, the method successively identifies clusters of probable producers.

This is not traditional causal path analysis that looks to test the "good fit" of a theoretical model (Kelloway, 1995). In contrast, this method makes no *a priori* assumptions. It is a systemic method where *all* variables in the matrix, regardless of actual number, are used to develop a graph to which causality through the path of linkages may be assigned. The analysis is

performed in a step-by-step manner to graph matrices according to their ordinal properties. This is called "elementary linkage analysis" (McQuitty, 1964). Starting from the matrix of first order correlations (master matrix,  $M_0$ ), each variable is separately examined to identify which other variable is most highly and positively correlated with that variable. If two variables have their highest correlation with each other, they are called a reciprocal pair. If the highest correlation is negative in sign, one of the variables is reversed in sign. The reciprocal pairs are then treated as a single variable and entered together with all remaining variables into a second matrix ( $M_1$ ). In  $M_1$ , the new correlations between the reciprocal pair and other remaining variables are calculated. Items are thus integrated into clusters "such that every item in a cluster is more like some other items in that cluster than it is like any item in any other cluster (McQuitty, 1964, 141). The  $M_0$  is therefore gradually reduced by successively combining variables most highly correlated with each other (Emery, 1976; reprinted in Trist, 1997).

Causal linkages are "separated out as a stage that comes after the non-subjective stage of ordering variables simply according to the observed values of the correlations ... If there are causal relations between the variables then they will have to correspond to the graph yielded by McQuitty Elementary Linkage Analysis" (Emery, 1976, 296). This method allows the data to speak for themselves rather than having to conform to some preconceived theory. It also yields a unique solution, the only arguable part of which is the interpretation of causality. It is a way of generating new knowledge and further hypotheses. Causality is normally assigned on the basis of independent and dependent variables such that causality runs from the independent to the dependent. For example, higher productivity cannot cause older age, but older age may cause higher productivity (Adapted from Alvarez & Emery, 2000).

Use of causal path analysis has three major advantages over similar methods;

- it can deal with any number of variables making it appropriate for large studies,
- because it provides a unique solution it can generate valid new knowledge, and
- graphing that unique solution can show a strategy for approaching future work and identify most appropriate starting points.

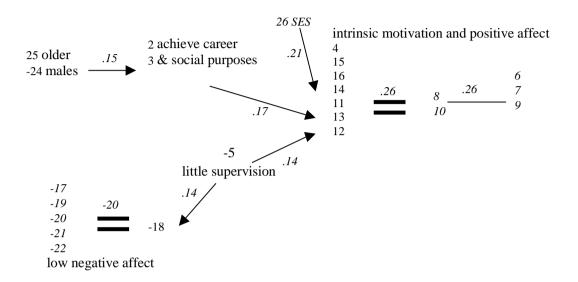
#### Results from Causal Path Analysis

The causal path analysis produced a picture of two major outcome clusters of variables influenced by three factors. We have called the two output clusters *intrinsic motivation and positive affect* and *low negative affect*. Intrinsic motivation as measured by the six criteria for productive human activity clustered with the positive affect variables. Negative affect variables clustered and were reversed during the causal path analysis meaning that negative affect is low.

There are three factors contributing to the major outcome cluster called *intrinsic motivation and positive affect*. Two of these are demographic and the picture shown in Figure 1 is for older higher socio-economic status males. Checking back to demographics in the data file confirms that this is the largest percentage of respondents, and the largest population in the organization. Older males apparently come to work in order to be with other people, to do their duty, and to achieve their career. Getting money as a purpose for coming to work dropped out as non-significant on the second iteration.

The third factor, *little supervision* is also linked to the other major outcome cluster *low negative affect*. In other words, the relative lack of close supervision is the main workplace factor contributing to this generally positive appraisal of the organization.

Figure 1: M<sub>4</sub> Causal Path



r=.14 at p<.05; r=.19 at p<.01; r=.24 at p<.001

Within the cluster *intrinsic motivation and positive affect*, mutual support and respect from one's peers, which is a characteristic of the human ecosystem or social climate, links with the three individual variables in the six criteria for productive human activity, particularly feedback from one's peers. The mean for mutual support and respect was 6.06 and 42% of respondents said they get just the right amount of feedback from their peers. This would indicate that many employees are giving each other accurate and timely feedback, but that there is room for improvement.

The other climate variables in the six criteria combine with the intrinsic motivation and positive affect cluster. This suggests that Brandon employees feel that they have work that is moderately socially useful (X = 5.8, s.d. = 2.5), that they may see the result of their work (X = 6.5, s.d. = 2.2), and some can see that they have a desirable future career (mean = 5.4, s.d. = 2.4). However, with a maximum score of ten, the social climate and emotional tone can be significantly improved.

Little supervision connects to the low negative affect cluster through *not being alone* which is reciprocal with a cluster of negative affect variables. Within this cluster, the number of times per week one feels depressed (X = 2.4, s.d. = 1.4) links with feeling trapped, or no room for escape (X = 2.3, s.d. = 1.5). Significantly perhaps, 26.6% of the respondents feel anxious several times a week (X = 3.1, s.d. = 1.3) while 5.4% feel anxious several times a day or more. High levels of stress are related to various diseases, but people in a laissez-faire organization are seldom feeling stress in relation to the work itself. Rather, the stress is in relation to the human dynamics caused by the organization structure with all its confusions. Bion's (1962) basic assumption group of fight/flight seems to be expressed in the relatively low negative affect and

the relatively positive affect and intrinsic motivation cluster of variables. Supervision day by day seems to be the dominant workplace variable that engenders fight/flight behavior.

Left alone to do their wor85k, employees have worked out ways to get support from their peers and create a relatively positive work environment. When supervision intercedes in their work, they are not alone and experience low negative affect. This is a normal state of affairs without an agreed upon comprehensive set of goals and measures covering all aspects of the work. While employees are empowered to do their work, supervisors are still responsible for the work being done and must intervene to communicate changes in the work to be done or to give feedback on work performance. Without clarity about goals and measures, employees must necessarily experience these interventions as negative. Thus in laissez-faire organization both supervisors and employees are often satisfied some of the time while still experiencing negative affect.

Qualitative data reported in Question 8 such as "reduce office politics and reduce pointing blame; increase team work" supports this conclusion. Anger is expressed toward management who employees passively hold responsible in such statements as: "have people forget about themselves and contribute – selfishness greatly impairs any attempts at teamwork; don't focus on why things won't/can't work and focus on solutions/alternatives- keep trying to improve," or "clearer direction; better understanding and appreciation for self-managed teams and democratic workplace."

Since the picture produced is for older higher socio-economic status males, it is quite possible that females experience significantly higher negative affect in the workplace. While males feel *in despair* almost never (X = 2.5, s.d. = 1.3), females feel *in despair* almost once a week (X = 2.9, s.d. = 1.4).

#### Conclusion

In total, this is a picture of a laissez-faire organization in which people have worked out ways to be relatively positive together. Lewin, Lippitt & White (1938) discovered the laissezfaire social climate and described the human affects in this climate as negative. Emery and Emery (1976:109 - 114) described the destructive effects of a laissez-faire organization. Laissezfaire is a term used to describe the absence of structure, of leadership, rules and procedures and it should not be confused with democratic organization structures. This study confirms the hypothesis (de Guerre, 2000) that laissez-faire is currently becoming more predominant as a kind of pseudo-empowerment or false populism (Saul, 2001). It is co-opted human relations ideology (Purser & Cabana, 1998). In such a form of organization, individuals can do what they want and often 'anything goes' as long as the core mission of the organization is not put in jeopardy. People can feel lost, without anchorage and direction (Emery, 1999) and when the formal bureaucratic hierarchy takes over they can experience depression, guilt, shame, humiliation, and feelings of being held captive. A collective feeling of hopelessness and despair can result with all its significant consequences for human health (Marmot & Wilkinson, 2000). A laissez-faire form of organization is not sustainable. It will either return to a more traditional bureaucratic form or if the members of the organization consciously choose, they can push further the principles, notions and values to become a democratic organization. To do this means formally and legally changing the design principle to redundancy of functions so that the control and coordination of work is done at the level at which the work is performed, not one level above.

The patterns identified within the data in this analysis make good sense based on the qualitative data collected in the questionnaire as well as field conversations and observations. Toward the end of an exploration and learning period, and with some informal implementation of the second design principle, Brandon employees report being empowered than previously and for the most part, they feel relatively positive about their work. Some negative affect is apparent at least once a week for the majority of employees and the major workplace factor influencing both positive and negative affect is low supervision. One might hypothesize that the reason 53.3% of respondents who rated variable 5, supervision as supervised, but not closely at all or less (X = 2.6, s.d. = 1.1) is partly because of the change process underway to empower employees. However what has been achieved to date can only be described as a kind of false empowerment since in most areas supervisors are still responsible for work done by other people. In a democratic organization, self-managing groups accept and commit to a comprehensive set of goals and measures that they are accountable to achieve. To be truly empowered is to have the information, tools and resources necessary within the work team to complete the whole job from beginning to end. A real time feedback system to let the team know when they are off track against the goals, and negotiated procedures in the event that goals are not achieved is required to allow for self-management. It is this taking of responsibility with others that evokes the feeling of joy and excitement which is the common emotional tone in creative work groups found in democratic organization structures.

This paper has presented a holistic analytical methodology that can be used to complement qualitative data analysis in AR projects. Future papers will discuss further implications and seek to generate additional hypotheses in a complex ongoing AR project.

#### About the authors

**Don de Guerre** is an Assistant Professor in the Department of Applied Human Sciences at Concordia University where he teaches Human Systems Intervention at the graduate and undergraduate levels. don.deguerre@sympatico.ca

**Dr. Henry Hornstein** is an Assistant Professor in the Department of Applied Human Sciences at Concordia University where he teaches Human Systems Intervention at both the graduate and undergraduate levels. He may be contacted at hornstein@sympatico.ca

#### References

Ackoff, R. L., & Emery, F. E. (1972). On purposeful systems. London: Tavistock Publications.

Alvarez, R. A., & Emery, M. (2000). From Action Research to System in Environments: A Method. *Systemic Practice and Action Research, In Press*.

Angyal, A. (1965). Neurosis and Treatment: a holistic theory. New York: Wiley.

Berquist, W., Merritt, K., & Phillips, S. (1999). *Executive Coaching: An Appreciative Approach*. Sacremento: Pacific Soundings Press.

Bion, W. R. (1962). Experiences in groups and other papers. New York:

#### **Basic Books**

de Guerre, D. W. (2000). The co-determination of cultural change over time. *Systemic Practice and Action Research*, 13(5), 645-663.

Emery, F. E. (1967). The democratization of the workplace. *Manpower and Applied Psyhology*, 1(2), 118-130.

Emery, F. E. (1976). Causal Path Analysis. In F. E. Emery & C. Phillips (Eds.), *Living at Work*. Canberra: Australian Government Publishing Service.

Emery, M. (1999). Searching: The theory and practice of making cultural change. Philadelphia: John Benjamins.

Emery, M. (2000). The Current Version of Emery's Open Systems Theory. *Systemic Practice and Action Research*, 13(5), 685-703.

Emery, M. (Ed.). (1993). Participative Design for Participative Democracy. Canberra: ANU/CCE.

Hornstein, H., & de Guerre, D. W. (under review). The Human Health Costs of Bureaucratic Organization Design. *International Journal of Stress Management*.

Kelloway, E. K. (1995). Structural Equation Modeling in Perspective. *Journal of Organizational Behavior*. 16(3), 215-224.

Marmot, M., & Wilkinson, R. G. (Eds.). (2000). *Social Determinants of Health*. New York: Oxford University Press.

McQuitty, L. L. (1964). Capabilities and improvement of linkage analysis as a clustering method. *Educational and Psychological Measurement*, 24, 441-456.

Purser, R. E., & Cabana, S. (1998). The Self Managing Organization: How leading companies are transforming the work of teams for real impact. New York: The Free Press.

Rankin, T., & Mansell, J. (1983). *Changing Organizations: the quality of working life process*. (Vol. Occassional Paper # 4). Toronto: The Ontario Quality of Working Life Centre, Ontario Ministry of Labour.

Saul, John Ralston (2001). On Equilibrium. Toronto: Penguin.

Tomkins, S. S. (1962). Affect, Imagery, and Conciousness. New York: Springer.

Sommerhoff, G. (1969). The abstract characteristics of living systems. In F. E. Emery (Ed.), *Systems Thinking*. Harmondsworth: Penguin.

Taylor, F. W. (1911). Scientific Management. New York: Harper Row.

Trist, E., Murray, H., & Emery, F. E. (Eds.). (1997). *The Socio-Ecological* Perspective. (Vol. III). Philadelphia: University of Pennsylvania Press.

van Beinum, H., Faucheux, C., & van der Vlist, R. (1996). Reflections on the Epigenetic Significance of Action Research. In S. Toulmin & B. Gustavsen (Eds.), *Beyond Theory: Changing organizations through participation* (Vol. 2). Philadelphia: John Benjamins.

### Appendix I

#### **Concordia University Workplace Questionnaire**

Answer every question as best you can! Answer each question as it applies to you.

Put a cross in the box that best sums up your assessment of the question.

1 2 3 5

1. Referring to "your job" what are the main reasons you work?

	Not at all important (none at all)	A little important (a little)	Important (quite a bit)	Very important (very much)	Extremely important (a huge amount)
V1 Get money	1	2	3	4	5
V2 Pursue career	1	2	3	4	5
V3 Personal satisfaction or sense of achievement	1	2	3	4	5
V4 Sense of being together with others	1	2	3	4	5
V5 Sense of duty	1	2	3	4	5

2. How keen are you to get to work each day?

V6 Not at all keen	A little keen	Quite keen	Very keen	Extremely keen
1	2	3	4	5

3. In your work, are you formally supervised? If not circle number 1. If yes, how closely supervised are you?

V7 I am not supervised	Supervised but not closely at all	A little closely	A little closely Reasonably closely		Extremely closely
1	2	3	4	5	6

- 4. When you think about your work, how do you feel about the following two sets of factors?
  - a. This first set consists of things you can have too much of as well as too little. If for example, you have too much freedom to make decisions about your work/activity you will put a positive score somewhere from 1 to 5. If you get too little feedback on how you were going, you will put a negative score somewhere from -1 to -5. If something is just right for you, you will score it zero.

	Far too little				A little too little	Just right	A little too much				Far too much
V8 Elbow room, autonomy to make decisions about your work/ activity	-5	-4	-3	-2	-1	0	1	2	3	4	5
V9 Room to set your own goals	-5	-4	-3	-2	-1	0	1	2	3	4	5
V10 Getting Feedback from your peers	-5	-4	-3	-2	-1	0	1	2	3	4	5
V11 Variety in your work	-5	-4	-3	-2	-1	0	1	2	3	4	5

b. This second set consists of things you can never have too much of and they score from 0 to 10. If for example, your work or activity adds greatly to your desirable future, you will give it a high core. If you do not find a lot of mutual support and respect, you will give it a low score.?

	None 0	1	2	3	4	5	6	7	8	9	Heaps 10
V12 Mutual support & respect from your peers	0	1	2	3	4	5	6	7	8	9	10
V13 The value society places on the work you do	0	1	2	3	4	5	6	7	8	9	10
V14 Seeing a whole thing through to an outcome	0	1	2	3	4	5	6	7	8	9	10
V15 Extent to which that organization is contributing to your desirable future or career path	0	1	2	3	4	5	6	7	8	9	10

5. To what extent do you feel you have control over your work, when you are doing it?

V16 No	Almost no	A little control	Quite a bit of	A lot of	Almost total	Total
control	control		control	control	control	control
1	2	3	4	5	6	7

6. Generally how satisfied do you feel with your work?

V17 Not at all satisfied	Not very satisfied	Somewhat satisfied	Satisfied	Very satisfied
1	2	3	4	5

7. About how often on average in a week do you have the following feelings?

	Never	Almost	About once a	A few times	About	Several	Almost
		never	week	a week	once a day	times a day	constantly
V18 Excited	1	2	3	4	5	6	7
V19 In despair	1	2	3	4	5	6	7
V20 Bored	1	2	3	4	5	6	7
V21 Lonely	1	2	3	4	5	6	7
V22 Joyful	1	2	3	4	5	6	7
V23 Powerless	1	2	3	4	5	6	7
V24 Angry	1	2	3	4	5	6	7
V25 Tired	1	2	3	4	5	6	7
V26 Humiliated	1	2	3	4	5	6	7
V27 Satisfied	1	2	3	4	5	6	7
V28 Anxious	1	2	3	4	5	6	7
V29 Contemptuous / scornful	1	2	3	4	5	6	7
V30 Indecisive	1	2	3	4	5	6	7
V31 Impulsive	1	2	3	4	5	6	7
V32 Trapped	1	2	3	4	5	6	7
V33 Interested	1	2	3	4	5	6	7
V34 Depressed	1	2	3	4	5	6	7

8.	If you could cha	nge only 2 things to	make '	The City	a bett	er place to v	vork,	what wou	ıld the	ey be & why?	
9.	V35 Are you a			Male	1			Female	2		
10.	V36 Are you a			Worker	1		Su	pervisor	2	Manager	3
11.	V37 Which are you in?	Engineering / Wat	er/ Was	ste Water e Waist			Sp	ortsplex	7	Transportation	13
	(Check 1 box only	ly)	Publ	ic	2			Parks	8		
	Works					Clerks & Records			9		
		Cor	morate.	Services	4	Community Action Programming Social Services			10		
			.porace	Police	5				11		
	Fire					Information Technology			12		
				1110						I	
12.	V38 How old are	you?	1	Less tha	an 20			6	40 -	- 44	
			2	20 - 24				7	45 -	- 49	
			3	25 – 29				8	50 -	- 54	
			4	30 – 34				9	55 -	- 59	
			5	35 - 39				10	60 p	olus	
13.	V39 What is you	r highest education	al achie	vement?		1 Some h	igh sc	hool			
						_		graduate o	r equ	ivalent	
					-	3 Trade ti		s)			
					-	4 College		D.C.			
						<ul><li>5 Degree</li><li>6 Higher</li></ul>					
						o   mgner	ucgie				