

# THE ORGANIZATIONAL LOSS OF EFFECTIVENESS (LOE) MODEL AND THE LOE INDEX: A QUANTITATIVE MEASUREMENT TOOL FOR IDENTIFYING INDIVIDUAL SYMPTOMATIC RESPONSE TO TECHNOLOGICAL CHANGE

**Victoria M. Grady, DSc**  
Department of Organizational Sciences  
The George Washington University, [grady\\_victoria@yahoo.com](mailto:grady_victoria@yahoo.com)

**Erikka A. Gleckel, Graduate Student**  
Organizational Management Master's Program  
The George Washington University, [egleckel@gmail.com](mailto:egleckel@gmail.com)

**Erin R. Grody, Undergraduate Student**  
Organizational Sciences Program  
The George Washington University, [erin.grody@gmail.com](mailto:erin.grody@gmail.com)

## Abstract

*New technologies are constantly being introduced and implemented to increase the ability of organizations to expand globally. Along with the potential for positive outcomes from technological and organizational changes, unforeseen negative consequences can arise. The Loss of Effectiveness (LOE) Model, originally postulated in 2005, has the potential to allow an organization to “achieve a higher degree of maturity and application interoperability by more effectively managing change.” Fundamentally, the LOE Model examines individual employees’ behavior resulting from a technological change. As a direct result of the LOE Model’s introduction and the realization that a quantitative tool would be necessary to measure the occurrence of and substantiate the existence of the LOE, we herein report the LOE Index, an evolution of the aforementioned Model.*

*Integration topics that would benefit from implementing the LOE Index are: Adoption of new mobile-computing devices; Integrating new business processes with legacy systems; Integration of real-time events with existing data; Adapting to evolving standards; and Impact of emerging Internet technologies and standards on Service-Oriented Architecture (SOA) platforms. Identification and validation of risks involved in technological change must be made to effectively manage such initiatives; thus resulting in the elimination of organizational LOE.*

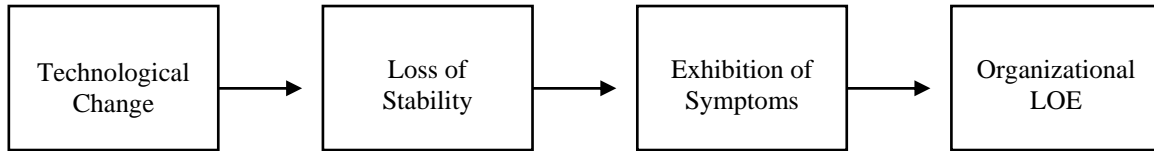
## Keywords

Organizational change, anaclitic depression, technology change, loss of stability, resistance to change, loss of effectiveness, Likert scale

## Introduction

*The rapid innovation endemic to technology can be destabilizing, even for large organizations with copious resources. In well-supported offices, users often look to the next upgrade with much the same relish with which they greet the annual visit of the winter flu. They know it will precipitate crises and shortages, increase the burdens of those still up and running and take weeks for the headaches to pass. They also know that just about the time that things return to balance, another disruptive strain will come through. (Brown & Duguid, 2000)*

Changing technologies and their respective implementation significantly impact the development of organizations. Successful development of the organization is no longer the simple function of acquiring skilled employees and utilizing those employees to meet organizational objectives. Organizations of the 21<sup>st</sup> century are influenced by the technological environment, enhanced by the quality of group interactions, and subject to the continuous learning processes necessary for sustaining growth in the global marketplace. To maximize competitiveness,



Technological Change causes a loss of stability, which results in the development of a predictable and measurable set of symptoms within an organization. When a significant number of these symptoms are present simultaneously, an organizational LOE will occur (Grady, 2005).

*Figure 1: Model of the Organizational LOE*

organizations will have to eliminate, or at least mitigate, factors that may abate their successes.

The Organizational Loss of Effectiveness (LOE) Model (Grady, 2005) distinguishes itself from other change management research by the identification, measurement, and subsequent validation of the symptoms that pose a threat to an organization's overall health and success. Understanding that individual employees may develop a depressive condition (i.e. an organizational LOE) caused by technological change "is significant in terms of projecting the real cost of implementation of the new technology" (Grady & Grady, 2008). Figure 1 is a graphical representation of the Organizational LOE Model.

Organizational leaders—thought leaders, architects, practice leaders, business leaders, product leaders, managers—must recognize and acknowledge the impact of organizational change on the individual employees. Change often causes employees to experience a loss of stability. As workplace stability deteriorates, the development of a predictable and measurable set of symptoms that will have a negative impact on the overall effectiveness of the organization begins to evolve. Recognition of these symptoms ignited the need for a quantitative assessment tool.

The LOE Index focuses on the individual employees and how factors inherent to change affect his/her performance. The benefits of the Index include an increase in organizational awareness of the LOE as well as the information required to potentially mitigate the unacceptable consequences of change, such as decreased productivity, morale and motivation, and increased conflict, absenteeism and turnover. The LOE Index offers a "new language" for all members of an organization to effectively communicate and efficiently adapt to change initiatives. (Grady, 2008)

## Evolution of the LOE Model

### **Historical Accounts of Technology Change**

Throughout history, there is evidence of individuals displaying negative behaviors in response to change.

*In the year 1812...Yorkshire was torn apart by a series of disturbances in which groups of skilled workers came together in a secret organisation dedicated to smashing the new machines being introduced into the woolen industry. (Downing, 1988)*

Between 1811 and 1816 in Regency England, the Luddites initiated an uprising described as an outbreak of violence directed against laborsaving machinery by disgruntled workers who felt that their employment and way of life were threatened by the Industrial Revolution. (Rybczynski, 1983) Other historical accounts of resistance to technology include the Belgian Weavers' attempts to sabotage the automated loom and the Australian Aborigines' response to the introduction of the steel axe.

In each instance, the result of the implementation of new technology was a loss of stability for the individuals in both the organization and society at large. Today, industries, organizations, and cultures are equally as vulnerable.

### **The Influence of Anaclitic Depression**

In 1946, Dr. René Spitz and his associate, Katherine Wolf, classified a condition termed anaclitic depression, as a 'loss of stability' in orphaned infants and children. Dr. Spitz found that when an infant's primary caregiver (nurse or mother figure within the institutional environment) was changed, the child ceased, and often regressed from the natural developmental process. The conclusion was that if infants are deprived of their basic relationship with a primary 'love object', they suffer a loss of stability.

This loss then led to the child’s development of a consistent set of symptoms: frustration, apprehension, rejection of environment, withdrawal, refusal to participate, retardation of development, loss of appetite, and insomnia. (Grady & Grady, 2008) Thus, the common theme presented is the substantiation that a loss of stability will lead to the development of a predictable and measurable set of symptoms.

**Analectic Depression and Adults in the Workplace**

Analectic comes from the Greek work *anaklisis*, which means, ‘to lean upon’. In the psychiatric community, analectic depression is considered to be a disorder that affects only infants, although it is recognized to have a variety of negative consequences later in life. However, much persuasive evidence exists that children, teenagers, adults, and the elderly have the same strong need for emotional bonds with others to survive and thrive. The destruction of these dependent bonds frequently results in essentially the same type of

dysfunctional consequences that befall infants who suffer from analectic depression blues. (Harvey, 1999)

Spitz and Wolf (1946), John Bowlby (1969), James J. Lynch (1977) and Jerry B. Harvey (1999) all theorize the potential impact of loss on an individual’s adult behavior. Grady and Grady (2008) assert the concept of “significant loss in childhood does cross the previously defined age-specific boundaries.” The findings of Spitz and Wolf, Bowlby, Lynch, and Harvey provide the foundation for the initial connection between analectic depression in infants and its role throughout the life cycle.

**Symptom Manifestation**

Symptom is defined as “any event or change in state in a system that tends to occur with another event or change of state and hence can be taken as an indicator or predictor of it” (Reber & Reber, 2001). The symptoms classified in Table 1 are extrapolated from

<b>Symptoms of the Individual</b>	<b>Organizational Behavior Equivalent Summary</b>
<i>Frustration</i>	→ <i>Loss of Productivity</i> -‘Frustrate’, the root word of ‘frustration’, means to prevent someone from doing or achieving something. Therefore, not achieving something, i.e. not being productive, causes a decrease in productivity. (www.m-w.com)
<i>Apprehension/Anxiety</i>	→ <i>Morale</i> - is the mental and emotional condition (as of enthusiasm, confidence, or loyalty) of an individual or group with regard to the function/tasks at hand or as a sense of common purpose with respect to a group. (www.m-w.com)
<i>Rejection of the Environment</i>	→ <i>Conflict</i> -Conflict is commonly defined as the competitive action of incompatibles or opposing needs, drives, or external/internal demands. Some conflict is normal and needed for the functioning of an organization. However when conflict becomes negative, it affects organizational development, resulting in a loss of organizational control. (Virovere, Kooskora & Valler, 2002)
<i>Retardation of Development</i>	→ <i>Motivation</i> -A motive is a conscious or unconscious need or drive that elicits an action or behavior. (www.m-w.com) ‘Retardation of development’ implies a regression of development, the opposite effect of motivation. Therefore, if an individual retardation of development exists, ultimately there would be a retardation or lack of motivation.
<i>Withdrawal</i>	→ <i>Turnover</i> -Gupta and Jenkins (1982) explain employee withdrawal as a “volitional response to perceived aversive conditions designed to increase the physical and/or physiological distance between the employee and the organization.” They also state that turnover is the most commonly studied organizational manifestations of withdrawal.
<i>Refusal to Participate</i>	→ <i>Absenteeism</i> -Absenteeism and turnover are frequently considered part of the same withdrawal process. (Mobley, 1982) However, within this research they are view as separate behaviors with independent consequences that affect the organization.

**Table 1:** Individual Symptoms and Organizational Behavior Equivalents (Grady & Grady, 2008)

the anaclitic depression symptoms defined by Spitz as earlier discussed. Two symptoms, loss of appetite and insomnia, were eliminated from the LOE Model because they are physiological in nature. It is the synergistic combination of these individual symptoms that are manifested as a set of behaviors that can be identified and measured in organizations at the organizational level. (Grady, 2005) These behaviors include: decreased productivity, decreased morale, decreased motivation, increased conflict, increased absenteeism, and increased turnover. Table 1 outlines the correlation between the individual symptoms and their organizational behaviors. Based on similar types of diagnoses for individuals, if a majority of the behaviors are present in the organization's actions, the result will be an organizational LOE.

## **Creation of a Quantitative Measurement Tool: The LOE Index**

Following the original identification of the LOE Model (Grady, 2005), it became apparent that the true value of this model could only be recognized if a quantitative instrument/index/tool that measures the presence of the symptoms prior to the organizational change, during the change, and again following the initial introduction of change, existed. The collective results could then provide management and leadership with the information needed to maximize the individual needs of the employees. The goal of the instrument would be improving the overall success rate of the change initiative, which is struggling to rise above 30%. (Schultze and Boland, 2000)

The LOE Index, based upon the LOE Model, is designed to be a quantitative individual assessment tool, which assists in bridging the unavoidable behavioral disconnect found between individual employees and an organization undergoing change. The index seeks to identify behaviors, perceptions, and attitudes that emerge in organizations as a response to change and that ultimately impact overall effectiveness. The tool enables organizations to anticipate symptoms and to plan and adapt efficiently to the impact of change.

The following sections explore the correlation of previously validated scaled instruments and participant response scoring to the creation of the scale and scoring system the LOE Index uses. The emphasis of this information is an effort to explain the initial foundation for the LOE index.

### ***Frustration → Loss of Productivity***

The goal of the Watson and Greer index, Courtauld Emotional Control Scale (CECS), is to evaluate the extent to which people control their emotional responses to stress. An individual's response to stress affects his/her individual loss of productivity. The index is composed of 21 items and three subscales: anger, depressed mood, and anxiety. The results from two different applications of this index confirm that the CECS is a reliable measure for reporting the extent to which individuals control their emotional responses.

The Spector index measures personal frustration and attempts to correlate an individual's sense of frustration with incidents of his/her aggression against others, sabotage of equipment, time wasting, and other frustration related actions. The index uses 29 items and scores are assessed with a six-point scale from 6 to 1, where a high score represents high frustration. The results of Spector's data collection are statistically significant, which validate the index's function of scoring organizational frustration.

### ***Apprehension/Anxiety → Morale***

The Clinical Anxiety Scale (CAS) measures the amount of anxiety reported by the respondent. The 25-item tool was derived from a large pool of questions used for the diagnostic criteria of anxiety disorders as defined by the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* (American Psychiatric Association, 2000). The statements alternate between positive and negative wording to help eliminate the effects of responder bias. A high CAS score correlates with a high level of anxiety as the score values range from 0 to 100. Results from previous administrations of the index are reliable and support CAS's validity; however it must be noted that the CAS is a self-report measurement and results are subject to respondent-bias.

The (1972) House and Rizzo Anxiety Stress Questionnaire measures the presence of tensions and pressures an individual experiences from their job requirements. The index consists of 17 items classified into three distinct categories: job-induced tension, somatic tension, and general fatigue and uneasiness. Respondents determine if the item is true or false and their answers are then scored as either 1 or 2, summed and averaged. This instrument was validated by consistent correlations between the three sub-scales. These results prove that the instrument was internally reliable.

### ***Rejection of the Environment → Conflict***

The Conflict Resolution Strategies Index (Howat and London) provides a measure of how conflicts are handled within superior-subordinate relations and other dyads. Howat and London identify five strategies of confliction resolution: confrontation, withdrawal, forcing, smoothing, and compromise. Each strategy has five corresponding items for a total of 25 items in the index. The validity of the index proved true from the similar results of two different administrations.

### ***Retardation of Development → Motivation***

The Work Preference Inventory (WPI) measures the degree to which an individual perceives him/herself to be intrinsically and extrinsically motivated. The major elements of intrinsic motivation (i.e. self-determination, competence, task involvement, curiosity, enjoyment, and interest) and extrinsic motivation (i.e. competition, evaluation, recognition, money, tangible incentives, and constraint by others) are captured in the 30-item inventory. Results show most of the WPI scoring scales genuinely identify an individual's primary and secondary factors of motivation.

### ***Withdrawal → Turnover***

Turnover is the organizational manifestation of an individual's withdrawal from his/her environment. Turnover directly correlates with an organization's negative environment. Individuals who have general feelings of lethargy, little creativity and innovation, are satisfied with marginal productivity, have limited communication with coworkers, and express little enthusiasm, are likely to withdraw from his/her environment. This will ultimately lead to higher rates of organizational turnover.

### ***Refusal to Participate → Absenteeism***

The Hamilton Rating Scale for Depression (HRSD) quantifies the symptoms of individual depression and applies them to organizational absenteeism. The HRSD is not to be used as a diagnostic tool, but rather an instrument to help determine the severity of depressive symptoms. It is important to note the value of the HRSD is dependent upon the skills of the interviewer. The HRSD includes 17 items with 50 being the highest severity score. Hamilton suggests two independent raters combine their scores to increase the inter-rater reliability, which solidifies the reliability and validity of the instrument.

### ***The Likert Scale***

The scoring of the LOE Index is based on the Likert Scale. The Likert Scale is a psychometric scale focused on the measurement of attitudes. The Likert Scale is ordinal in nature. This allows the coding of the respondents' answers to be ranked. Ordinal scales allow for quantitative evaluation of qualitative data, which is integral to the application and analysis of the LOE Index ([http://en.wikipedia.org/wiki/Level\\_of\\_measurement#Ordinal\\_scale](http://en.wikipedia.org/wiki/Level_of_measurement#Ordinal_scale)). Respondents specify their level of agreement to a statement, also called a Likert item, based upon a 5-, 7-, or 10-level scale. The LOE Index scale is 5-level:

- 1 = Strongly disagree
- 2 = Disagree
- 3 = Undecided
- 4 = Agree
- 5 = Strongly agree

The numbers are assigned based rankings associated with the verbiage at each level. Respondents' answers may be analyzed individually or summed with their other answers to create a score for a group of items, which is why it is also termed the "summated" scale. Additionally, the LOE Index features reverse items where the meaning of the statement is reversed from the overall direction of the scale, thus the scoring is reversed such that a respondent's 1 is scored as 5, 2 is scored as 4, 3 is scored as 3 (no change in rank), 4 is scored as 2, and 5 is scored as 1. (<http://www.socialresearchmethods.net/kb/scallik.php>, 2006)

### ***Initial Verification***

Three sets of data collection were used to confirm that the questions selected for the LOE Index were in fact measuring the symptoms identified in the LOE Model. The data sets were collected from employees at three organizations located in the United States that were about to undergo a significant organizational change. The organizations were geographically and demographically very different. They include: a federal government agency, a not-for-profit community healthcare facility, and a for-profit medical office. Employees were not required to participate and their scores and comments were completely anonymous.

### ***Measures***

The index contains 54 questions, which address the seven symptoms indicative of a LOE: Global Assessment (G), Frustration (F), Apprehension/Anxiety (A), Retardation of Development (D), Refusal to Participate (P) Withdrawal (W), and Rejection of Environment (R).

The test document includes the questions but also space for participants to make comments on each question as well as an overall comment section to discuss their honesty and feelings toward the index. Table 2 explains the proposed scoring criteria.

Score	Meaning
< 1	Indicates the organization is functioning in a <b>stable</b> environment
1 < 2	Indicates the organization is functioning in a <b>relatively stable</b> environment, however management should be aware of the potential for volatility
2 < 3	Indicates that the organization is beginning to experience <b>volatility</b> and the attention of management is required
3 < 4	Indicates that the organization is <b>relatively unstable</b> , heightened management intervention is required
4 < 5	Indicates that the organization is <b>very unstable</b> and absolute intervention is required

*Table 2: LOE Index Score Descriptions*

### **Results of Federal Government Agency**

The organizational change the government agency experienced was a technological process change of the day-to-day tasks for the employees. The LOE Index was administered twice. The sample size was 62% of the invited participants. There were no statistically significant changes in LOE scores from

the first test to the second test based on the cumulative results. However, there were very significant changes within departments and positions. Table 3 presents these differences. The qualitative component of the analysis provided very specific clarification regarding the challenges within the departments and positions. This information was collected in both verbal and written comments from the participants. The most significant finding is the decrease in LOE scores displayed by the actuarial staff of the organization. The decrease was in response to the realization that the technological process change would remove a component of technology related to the old system that a majority of the actuarial staff had long been citing as outdated and inefficient.

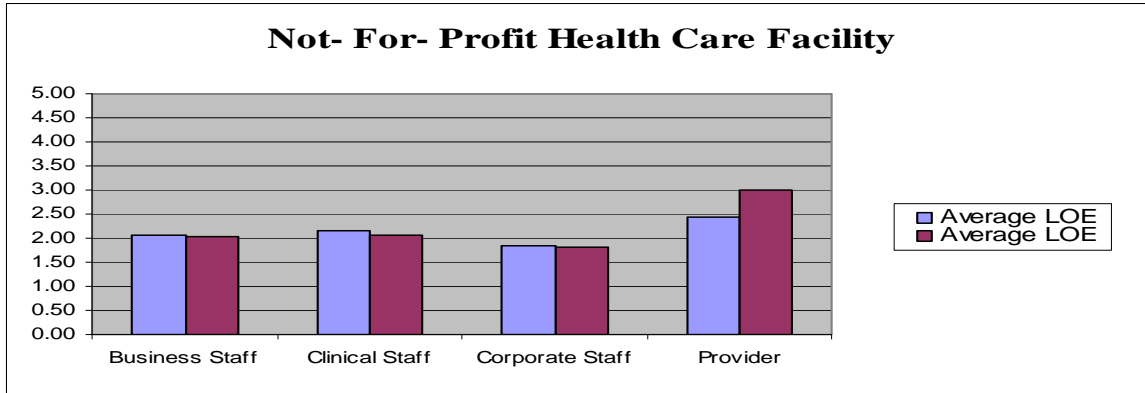
### **Results of Not-For-Profit Community Healthcare Facility**

The organizational change experienced by the healthcare facility was in their organizational structure. The LOE Index was administered twice. The sample size was 95% of the invited participants. Again, there were no statistically significant changes in LOE scores from the first test to the second test from a cumulative perspective. However, differences are apparent in the data specific to the four office locations and employee positions. In analyzing the data it is important to note that these assessments were conducted eleven months apart, and therefore may have measured different phases of the change process than had been anticipated. However, special attention should be paid the Providers; their average LOE score represented an overall 23% increase, which could be due to the fact that the changes affect them the most. Figure 2 represents this data.

Symptom	Actuary		Audit		Non-Marked	
	Baseline Testing	Second Testing	Baseline Testing	Second Testing	Baseline Testing	Second Testing
<i>Global Assessment (G)</i>	2.49	2.33*	2.62	2.76**	1.86	2.32**
<i>Frustration (F)</i>	2.46	2.43	2.37	2.46	1.67	2.38**
<i>Apprehension/Anxiety (A)</i>	2.77	2.65	3.05	2.99	2.25	2.47**
<i>Retardation of Development (D)</i>	2.08	2.10	2.13	2.15	1.83	1.89
<i>Refusal to Participate (P)</i>	2.24	2.18	2.27	2.36	1.83	2.00**
<i>Withdrawal (W)</i>	2.16	2.14	2.25	2.32	1.57	1.96**
<i>Rejection of Environment (R)</i>	2.37	2.32	2.45	2.51	2.33	2.58**
<b>Average LOE</b>	2.36	2.31	2.45	2.51	1.91	2.23**

*Note: \* Denotes decreases of over 5% from baseline. \*\* Denotes increases of over 5% from baseline.*

*Table 3: Federal Government Agency Average LOE Scores by Department*



**Figure 2:** Not-For-Profit Community Healthcare Facility Average LOE Scores

### Results of For-Profit Medical Office

The organizational change experienced by the medical office was in their leadership. The LOE Index was administered four times. The sample size was 100% of the invited participants. The results of the four separate assessment collections were consolidated for each participant for analysis of the average symptom scores and an overall LOE score for the organization (see Table 4). The significance of these test results is the curve created by each respective point. The first testing was administered just prior to the start day of the organization's new leader, the second, approximately six weeks into the change, the third administration was approximately four months into the change and the last, just following the departure of the new leader citing irreconcilable differences between her leadership style and the overall work environment.

### An Unexpected Finding

Due to the large number of government agency employees who completed the assessment, their quantitative and qualitative results were separated

between the staff and the managers. Unbeknownst to the researchers, this separation would demonstrate an incredible effect well known in the social sciences, The Hawthorne Effect.

Between 1924 and 1932, Western Electric Company's Hawthorne Works in Chicago conducted numerous studies to better understand the role of norms in the workplace. The relation between the physical environment, illumination in this specific study, and productivity was to be analyzed. The researchers anticipated an increase or decrease in productivity proportionate to the increase or decrease in the amount of light shed on the workers. Output results varied, however they were not representative of the researchers' hypothesis. An experimental group was introduced, but manipulation of the lighting continued to increase productivity. "In fact, a productivity decrease was observed in the experimental group only when the light intensity had been reduced to that of moonlight" (Robbins & Judge, 2007). The researchers concluded light intensity has minimal effect on the employees' productivity in relation to all other influences in their work environment.

Symptom	Baseline Testing	Second Testing	Third Testing	Fourth Testing
Global Assessment (G)	2.00	2.08	2.19	2.18
Frustration (F)	2.15	2.02	2.24	2.03
Apprehension/Anxiety (A)	2.03	2.24**	2.40**	2.08
Retardation of Development (D)	2.18	1.82*	2.14	2.05
Refusal to Participate (P)	1.89	2.07	2.18**	2.00
Withdrawal (W)	1.69	1.73	1.84	1.78
Rejection of Environment (R)	1.95	2.35**	2.26**	2.37**
<b>Average LOE</b>	1.99	2.04	2.18	2.07

*Note:* \* Denotes decreases of over 10% from baseline. \*\* Denotes increases of over 10% from baseline.

**Table 4:** For-Profit Medical Office Average LOE Scores

An experiment that was conducted as a follow-up to the illumination observations began with isolating a small group of women from the main work group as to allow their behaviors to be observed more intently. A research assistant was in the room at all times recording output, rejects, working conditions, and other daily happenings. This experiment ran for several years and resulted in increased productivity and decreased absenteeism by nearly a third in comparison to the regular production department. It became evident the women in the experimental group felt “that management was concerned with their interest by engaging in such experimentation [and they were] reacting to the increased attention they were receiving” (Robbins & Judge, 2007). The Hawthorne researchers concluded there is a close relation between a worker’s behaviors and their emotions, and an individual’s behavior is significantly influenced by the group of which the individual is a part.

The isolation of the attitudes and reactions to the LOE Index expressed by the staff were an exact replication of the results of the Hawthorne Studies. Their comments were generally positive in regards to being asked to complete the Index and the worth their input might bring to the organization. An overwhelming number of participants reported that completing the index encouraged them to reflect on their role within the organization. Some negative comments were directed toward the organization, expressing their frustration with the state of the organization and the lack of assistance they felt the index would provide. They also expressed some fear of confidentiality. Ignoring the tone of the comments allowed management to ‘hear’ the employees expressing their need to be heard by management and the implementation of the Index, regardless of its assistance with organizational change, was their vice to do so.

## Conclusion

Building upon the work of earlier research—Spitz and Wolf (1946), Bowlby (1969), Lynch (1977), Harvey (1999)—Grady (2005) hypothesized the Organizational LOE Model, which speculates that an organizational change creates a ‘loss of stability’ among employees because a ‘lean on’ object was changed or removed. Employees can exhibit symptoms that are predictable, measurable, and can negatively impact the overall effectiveness of the organization. The six symptoms are: decreased productivity, decreased morale, decreased motivation, increased conflict, increased absenteeism, and increased turnover. If the majority of

these symptoms are present within the organization’s behavior, the result will be an organizational LOE.

Grady’s research shows how and why leadership must remain aware and willing to implement the means to eliminate the possibility of reaching an organizational LOE. Independent of an organization’s industry-business, technology, service, research-attention to the development of a continuous learning process that is intuitive and predictable in dealing with issues of employee acceptance of new technologies and organizational changes is of the utmost importance to the awareness of the LOE Model and usage of the LOE Index.

The LOE Index is in the process of supplying the management science field with solidly validated results. The context and construct validity of the index need to be thoroughly evaluated. Grady supports continued research on the development of a tool that functions as a means for observation, measurement, and evaluation of detailed interactions within the workplace that shape the organizational environment.

*The continued evolution of the research on the Organizational LOE Model and others that are similar, seeks to provide a scientific structure on which to influence the science of management and enhance the integration of successful organizational change initiatives. (Grady & Grady, 2007)*

## References

- Amabile, T.M., Hill, K.G., Hennessey, B.A., & Tighe, E.M. (1994). The Work Preference Inventory: Assessing Intrinsic and Extrinsic Motivational Orientations. *American Psychological Association*, 66(5), pp. 950-967.
- Bowlby, J. (1969). *Attachment and Loss*. Volume I. New York: Basic Books, Inc.
- Bowlby, J. (1980). *Attachment and Loss Volume III: Loss*. New York: Basic Books.
- Brown, J.S. & Duguid, P. (2000). *The Social Life of Information*. Massachusetts: Harvard Business School Press.
- Clinical Anxiety Scale (CAS): 1992, Walmyr Publishing.
- Cook, J.D. (1981). *The Experience of Work: A Compendium and Review of 249 Measures and Their Use*. New York: Academic Press.
- Downing, T. (1988). 'Television's Luddites', *History Today*, 38: 18-23.
- Grady, V. (2005). 'Studying the effect of loss of stability on organizational behavior: a perspective on technological change', unpublished doctoral dissertation, The George Washington University.
- Grady, V.M. & Grady, J.D. (2007). "KM technologies and the organizational LOE: the unintended consequence of constant organizational change" in K. O'Sullivan (ed.), *Strategic Knowledge Management in Multinational Organizations*. Hershey, PA: IGI Global, pp. 104-118.
- Grady, V.M. & Grady, J.D. (2008). Winnicott's Potential Space and Transitional Objects: Implications for the Organizational Change Process and its Previously Defined Relationship to an Organizational Loss of Effectiveness (LOE). *Organisational & Social Dynamics*, 8(2), 278-297.
- Gupta, N. & Jenkins, G.D. (1982). 'Absenteeism and turnover: is there a progression?', *Journal of Management Studies*, 19(4): 395-412.
- Harvey, J.B. (1999). *How Come Every Time I Get Stabbed in the Back My Fingerprints Are on the Knife? And Other Meditations on Management*. San Francisco, CA: Jossey-Bass.
- Hedlung & Vieweg (1979). Hamilton Rating Scale for Depression. *Journal of Operational Psychiatry*, 10(2), 149-165.
- House, R.J. & Rizzo, J.R. (1972). Role conflict and ambiguity as critical variables in a model of organizational behavior. *Organizational Behavior and Human Performance*. 7, 467-505.
- Howat, G. & London, M. (1980). Attributions of conflict management strategies in supervisor-subordinate dyads. *Journal of Applied Psychology*, 65, 172-175.
- Likert, R. (1932). A Technique for the Measurement of Attitudes, *Archives of Psychology*, 65, 172-175.
- Lynch, J.J. (1977). *The Broken Heart: The Medical Consequences of Loneliness*. New York: Basic Books.
- Merriam-Webster Incorporated (M-W) (2005). Merriam-Webster Online Dictionary (Springfield, Massachusetts, accessed November 1, 2006-April 15, 2007); available from [www.m-w.com](http://www.m-w.com).
- Mobley, W.H. (1982). *Employee Turnover: Causes, Consequences, and Control*. Reading, MA: Addison-Wesley.
- Ordinal Scale. (2009, January 21). In Wikipedia, The Free Encyclopedia. Retrieved January 28, 2009, from [http://en.wikipedia.org/wiki/Level\\_of\\_measurement#Ordinal\\_scale](http://en.wikipedia.org/wiki/Level_of_measurement#Ordinal_scale)
- Reber, A.S. & Reber, E.S. (2001). *The Penguin Dictionary of Psychology* (3<sup>rd</sup> ed.). London: Penguin.
- Rizzo, J.R., House, R.J. & Lirtzman, S.I. (1970). Role conflict and ambiguity in complex organizations. *Administrative Science Quarterly*, 15, 150-163.
- Robbins, S.P. & Judge, T.A. (2007). *Organizational Behavior*. Upper Saddle River, NJ: Prentice Hall. pp. 308-310.
- Rybczynski, W. (1983). *Taming the Tiger: The Struggle to Control Technology*. New York: Viking.
- Schultze, U. and Boland Jr., R.J. (2000). Knowledge Management and Reproduction of Knowledge Work Practices. *Journal of Strategic Information Systems*. Vol 9, 193-212.

- Spector, P.E. (1975). Relationships of organizational frustration with reported behavioral reactions of employees. *Journal of Applied Psychology*, 60, 635-637.
- Spitz, R.A. & Wolf, K. (1946). 'Anaclitic depression: an inquiry into the genesis of psychiatric conditions in early childhood, II', *The Psychoanalytic Study of the Child*, 2: 313-342.
- Trochim, W.M.K. (2006). *Research Methods: Knowledge Base* [Online]. Available: [www.socialresearchmethods.net/kb/scallik.php](http://www.socialresearchmethods.net/kb/scallik.php)
- Virovere, A., Kooskora, M. & Valler, M. (2002). 'Conflict as a tool for measuring ethics at workplace', *Journal of Business Ethics*, 39(1-2): 75-81.
- Watson, M. & Greer, S. (1983). Development of a Questionnaire Measure of Emotional Control. *Journal of Psychosomatic Research*, 27(4), 299-305.

## About the Authors

**Dr. Victoria Grady** completed her Doctor of in Management and Technology with a minor area of study in Organizational Behavior at The George Washington University in May 2005. She holds an M.S.M. in the Management of Technology from the University of Alabama in Huntsville and a B.S. in Accounting from Birmingham-Southern College. Dr. Grady is currently an Assistant Professorial Lecturer in the Organizational Science Department at George Washington University in Washington, D.C. Her research focuses on the exploration of the integral relationship between organizational behavior and the impact of continuous change. For additional information about the content of this paper and future research, please contact Dr. Grady at [grady\\_victoria@yahoo.com](mailto:grady_victoria@yahoo.com).

**Erikka Gleckel** is a Master's student in the Department of Organizational Sciences at The George Washington University. She is also the Senior Secretary for the Department of Chemistry at GW. Erikka, a native of Buffalo, NY, earned her B.S. in Psychology from Northeastern University in Boston, MA. Her volunteer involvement as a Project Coordinator with Greater DC Cares fuels her future plans to work with nonprofit organizations.

**Erin Grody** is an Undergraduate student at The George Washington University. She is a candidate for a Bachelor's of Science in Economics with a minor in Organizational Sciences to be awarded May 2009. After graduation, Erin will be working for Accenture as a Systems Integration Technology Analyst in Washington, DC.

## Copyright

Copyright © 2009 Victoria Grady

The author(s) grant a non-exclusive licence to the Integration Consortium to publish this document in full on the World Wide Web (prime sites and mirrors) and in printed form. Any other usage is prohibited without the express permission of the author(s).