

Embracing Change: leader openness to change



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- Background:

During the economic recession of 2008-10 LHD directors were challenged to move their LHDs to state of financial sustainability.

Innovative approaches included pursuing new funding streams, charging fees for service, billing insurance, hiring contractors, using technology, contracting or sharing staff or equipment with other non-LHD agencies¹.

Openness to change is one of the ways leaders can respond to the historical cycles of action and inaction in public health funding observed by Holsinger².

2002 IOM report on educating public health professionals for the 21st century indicates that communities most successful in producing desired health and social outcomes tend to have important leadership capacities²⁹.

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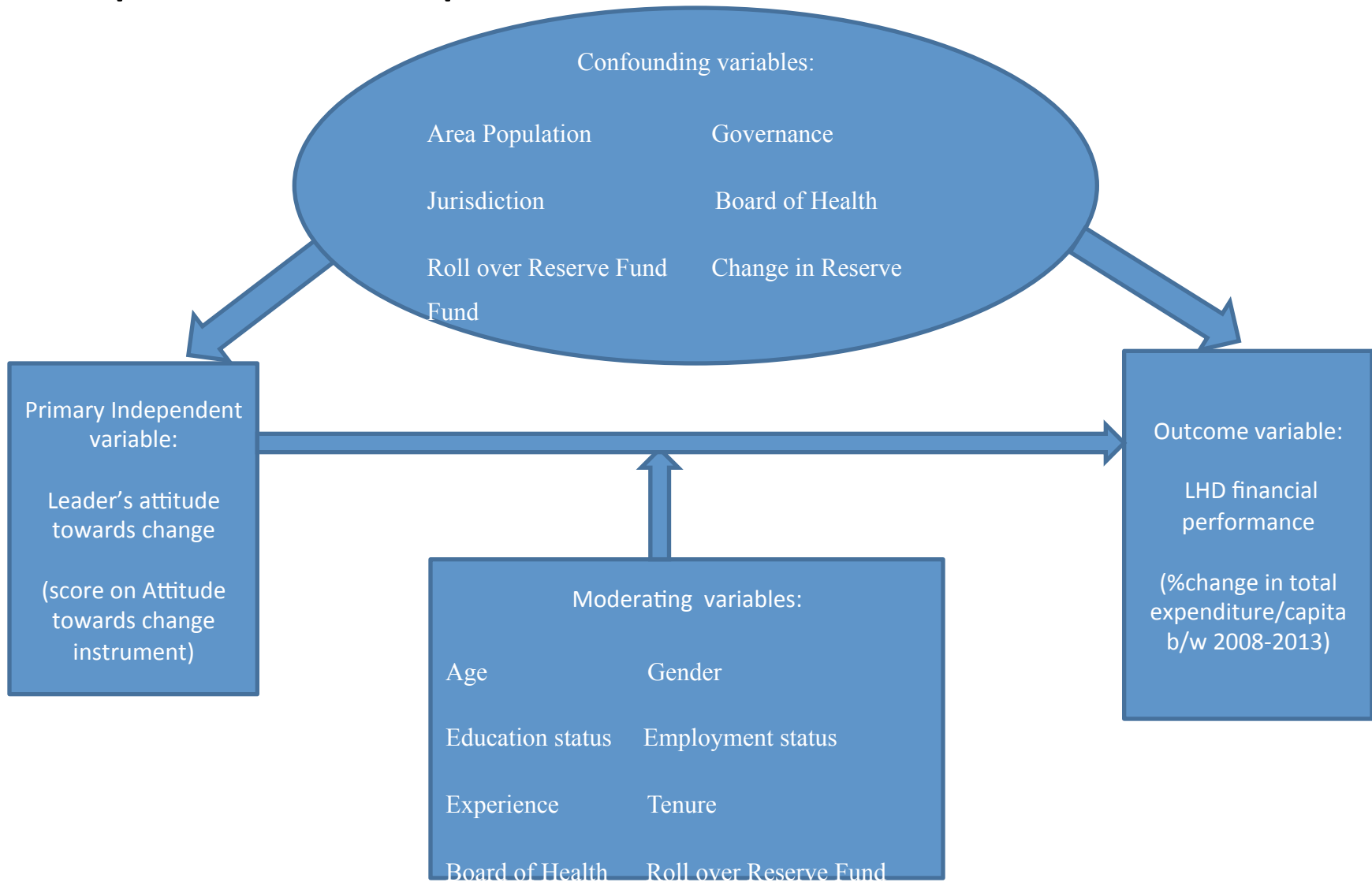
- Theory:

Upper Echelon theory: leader actions are a function of their experience, values and personality which are shaped by (a) their personal interpretation of the situation and (b) their personalized construals³⁷.

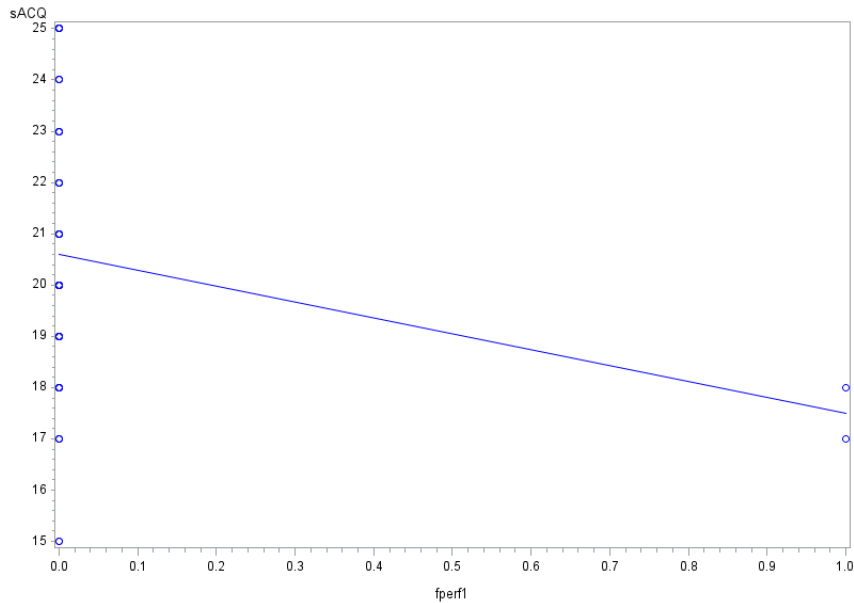
Flexible Leadership theory: leader actions and decisions which influence agency performance are affected by resource availability, intensity of competition, economic, political, or technological change⁴⁰.

Theory of planned behavior: the intention to act, which is a function of individual attitude toward behavior, subjective norm, and perceived behavioral control, is the antecedent of behavior⁴².

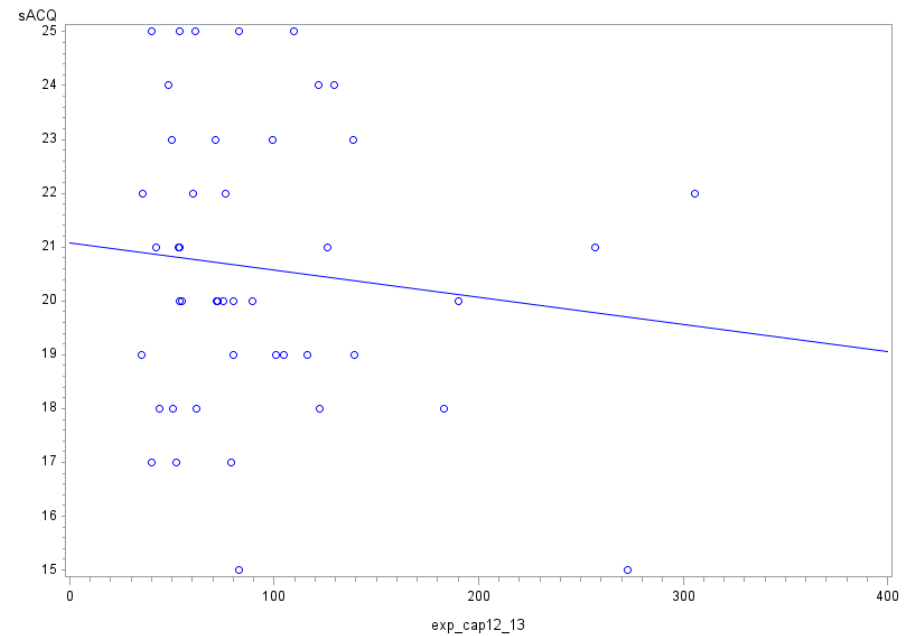
Proposed Conceptual Framework



Scatter plots of ACQ and LHD Financial performance



Financial performance = change in exp/cap between 2013-2008



Expenditure/capita 2012-2013

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- Objectives:
 - a. Classify socio-demographic characteristics of LHD leaders by examining the variation in openness to change score.
 - b. Characterize the association between demographic and experiential leader attributes along with LHD characteristics on individual leader's openness to change.

- Methods:
 - a. Cross sectional survey of KY LHD leaders: Don A. Dillman's Tailored design of 5 varied contact strategies
 - b. Spearman rank correlations test to determine correlations between leaders' openness to change score and leader and LHD characteristics.
 - c. To identify differences in mean ACQ score by leader and LHD characteristics we used Wilcoxon-Mann-Whitney and Kruskal Wallis non-parametric test.

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- Data :
 - a. LHD leaders in the Commonwealth of Kentucky are the unit of analysis.
 - b. Outcome variable: Openness to change; measured by Hage and Dewar's instrument developed for non-profit agencies.

Definition: degree to which respondents view change favorably and are inclined to produce change in their organizations.

5 items asking participants to rate the extent to which they agree with each item on a five-point scale ranging from strongly disagree (1) to strongly agree (5).

Openness to change score is the sum of rated responses.

Lower scores reflect a low openness to change.

Cronbach's alpha, a measure of the instruments validity, for the five items was 0.76.

ACQ Instrument

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
There is really something refreshing about enthusiasm for change.	1	2	3	4	5
If I were to follow my deep convictions, I would devote more time to change movements. This seems to me to be a primary need today.	1	2	3	4	5
The current situation in the community calls for change; we should do something now (we must respond at once).	1	2	3	4	5
If you want to get anywhere, it's the policy of the system as a whole that needs to be changed, not just the behavior of isolated individuals.	1	2	3	4	5
Any organizational structure becomes a deadening weight in time and needs to be revitalized.	1	2	3	4	5

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Data:

c. Predictor variables:

Primary data was collected on LHD leader's observable demographic attributes relating to age, gender, race, educational background, leadership experience

leader tenure: self-reported time respondents have been in current leadership position. Tenure was transformed for fairly normal distribution.

Population counts were available from the annual U. S. Census Bureau county population estimates.

Changes in county level populations for the preceding year were included for analysis

Actual 2012-13 revenues and expenditures for each LHD were obtained from the Kentucky Department of Public Health from which 2012-13 expenditure per capita was obtained.

Results

Table 1: Leader and Local Health Department Characteristics

Variable	Descriptive statistics				Intercorrelation Matrix				
	Mean	SD	Min	Max	1	2	3	4	5
Leader Age (1)	51.17	9.39	30.48	73.72					
Leader Tenure (2)	6.00	5.89	0.15	21.75	0.21				
2011-12 Revenues (3)	5953032	7240793	830100	38205411	-0.24	-0.05			
2012-13 Population change (4)	259.67	1050	-1662	4456	0.26	-0.10	-0.25		
2012-13 Expenditure /capita (5)	94.78	62.06	34.85	305.97	0.22	0.26	0.01	-0.27	
N=46									

Results

Table 2: Relative frequency and Spearman correlation matrix of openness to change

Question#	Strongly Disagree N, %	Disagree N, %	Neutral N, %	Agree N, %	Strongly Agree N, %	1	2	3	4	5
Q1.			6, 13	24, 51.1	17, 36.2					
Q2.	1, 2.1		8, 17	27, 57.4	11, 23.4	0.54***				
Q3.		1, 2.1	1, 2.1	34, 72.3	11, 23.4	0.53***	0.39**			
Q4.		1, 2.1	5, 10.6	20, 42.6	21, 44.7	0.42**	0.51**	0.39**		
Q5.	1, 2.1	3, 6.4	12, 25.5	21, 44.7	10, 21.3	0.44**	0.55***	0.31	0.47**	

*p<0.5 **p<0.01 ***P<0.001

Results

Table 3: ACQ score by leader and Local Health Department Characteristics

Variable	Frequency	Relative Frequency	Mean Ranks
T Gender:		36.17	
Male	17	61.70	18.41*
Female	29	2.13	26.48
Unknown	1		
A Race:			
White	42	89.36	21.92**
African American	2	4.26	40.00
Others	2	4.26	
Unknown	1	2.13	
A Highest Degree Obtained			
Doctoral	8	17.02	29.31**
Master's	21	44.68	25.45**
Bachelors	13	27.66	13.31**
Associate Degrees	2	4.26	24.00**
Unknown	3	6.38	
T Leadership experience:			
First timers	40	85.11	22.75
Experienced	7	14.89	31.14
A Governance Structure:			
State government	2	4.26	28.5
Local government	11	23.40	25.77
Both state and local	32	68.09	21.70
Unknown	2	4.26	
T Board of Health:			
Yes, present	44	93.62	23.38
No, absent	2	4.26	26.00
Unknown	1	2.13	
T Roll over reserve fund:			
Yes, present	37	78.72	24.35
No, absent	6	12.77	20.00
Do not know	3	6.38	
Unknown	1	2.13	
T Separate Medical Director:			
Yes	25	53.19	22.26
No	22	46.81	25.96

N=47; continuity correction included; Mann-Whitney U - tests for gender, race, leadership experience, board of health, roll over reserve fund, and having a separate medical director under Ho: there is no difference in ACQ between samples; Kruskal-Wallis ANOVA test for highest degree obtained and governance structure under Ho: there is no difference in ACQ between samples. All numbers rounded to two decimal places. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

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- Results:
 - a. The spearman correlation test for the LHD characteristic, preceding year revenue has a statistically significant, negative relationship with ACQ.
 - b. The Mann-Whitney U - tests for gender and race, and the Kruskal-Wallis test for highest degree obtained were statistically significant.
- Conclusion:

There are strong underlying relationships between openness to change and leader and LHD characteristics .

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- Limitations:
 - a. Reliability of ACQ score (timing of the survey, Likert scale).
 - b. No linear relationship between ACQ and leader and LHD characteristics:
Findings align with other openness to change studies ^{50, 51}
 - c. Agency revenues and expenditures may not accurately capture true program and functional values.
 - d. Masking of relationships between openness to change and LHD attributes
 - e. Reviewing only preceding year's revenue, expenditures and change in local population might be insufficient for complete effects, consequently leader's openness to change may be overestimated.

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- Future research:
 - a. Using longitudinal study design to examine panel of ACQ scores and LHD financial performance
 - b. Examining causal relationships between individual leader and LHD attributes for openness to change.