

Theory X/Y in the Health Care Setting

Employee Perceptions, Attitudes, and Behaviors

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Douglas McGregor's conceptualization of Theory X and Theory Y has influenced management practices for almost six decades, despite the relative paucity of empirical support. This empirical study examined the relationships between health care employees' perceptions of (1) manager Theory Y and Theory X orientations; (2) work unit psychological safety, organizational citizenship behavior, and service quality; and (3) the employing entity. The study used survey data from more than 3500 employees of a large US health care system and analyzed them using confirmatory factor and hierarchical regression analyses. Results indicate that McGregor's conceptualization is best considered as two separate constructs—Theory Y and Theory X—rather than as one-dimensional X/Y construct. This study's three dependent variables were positively related to Theory Y and negatively related to Theory X, with larger Theory Y effect sizes. Psychological safety partially mediated the relationship between Theory Y and the dependent variables Y. Practical implications are presented. Key words: *leadership, organizational citizenship behavior, psychological safety, theory X/Y*

DOUGLAS MCGREGOR'S^{1,2} THEORY X/Y is one of the most recognized and influential 20th century management theories, featured in management and organizational behavior textbooks, practitioner-oriented press, and popular topical Web sites.^{3,4} McGregor's theory appears ubiquitously in textbooks read by health care employees enrolled in management courses^{5,6} and in industry-related periodicals and is often cited in academic journals.^{7,8} McGregor's theorizing lacked empirical support, whereas his early research found no evidence that Theory X/Y mindsets were related

to performance.⁴ Theory X/Y's popularity was then likely related to its simplicity; it made intuitive "sense" emerged during positive psychology's ascendance. Initial academic research on relationships between Theory X/Y and performance failed to provide empirical support; further research languished after these initial attempts. Lacking theoretical or practical value, McGregor's theory was an important contribution to the development of other theories and disciplines, such as organization development, until the development of new measures of key constructs^{4,9,10} created renewed interest and empirical testing of McGregor's theory.

This research is based on the view that subordinates' attitudes and behaviors will be affected primarily by their perceptions of their managers' belief systems, as demonstrated by their managers' behavior. The current research contributes to our theoretical understanding of McGregor by exploring relationships between health care workers' perceptions of their managers' assumptions about subordinates (ie, their Theory Y and Theory X orientations), sense of

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psychological safety, unit organizational citizenship behavior (OCB), unit service, and overall rating of their employer.

Subordinates infer their managers' belief systems by observing and interpreting behaviors, including decision-making, actions, body language, and statements. Although subordinates may draw unintended conclusions based on manager behavior and subordinate belief systems, perceptions are indeed the perceiver's reality and therefore drive subordinate views of the managers' belief in Theory X versus Theory Y.

THEORY X/Y

McGregor^{1,2} asserted that managers generally have two distinct views of the nature of workers. Theory X managers believe that employees are generally lazy, untrustworthy, and disinclined to work, and possess neither the ability nor the desire to contribute ideas and creativity toward organizational success. Theory Y managers view employees as generally industrious, honest, hardworking, able, and desirous of contributing ideas and creativity to the organization. Theory X and Theory Y managers will engage in different types of managerial behaviors. Theory X managers will be more directive and controlling by closely monitoring employees, relying on extrinsic factors and coercion as motivational tools. Theory Y managers will seek ideas and input from subordinates by providing resources and help to facilitate subordinates' work, relying on intrinsic factors as motivational tools. Theory X/Y also proposes that managers' behavior transforms subordinates' attitudes in congruence with manager beliefs. In essence, a manager who believes employees to be lazy and unproductive will become victim to a self-fulfilling prophecy; he or she will end up with unmotivated and unproductive subordinates.

Likely because of early empirical researchers' failures to identify relationships between Theory X/Y attitudes and behaviors of managers and performance,^{11,12} subsequent researchers explored relationships between Theory X/Y with a variety of other outcomes such as compliance gaining strategies, creativity, technological

adaptation, trust and cooperation, organizational ethical behavior, satisfaction with leaders, transformational leadership, decision-making propensities, communication styles, affective commitment, OCB, and organizational health outcomes.^{4,13} Studies at the group level have found positive relationships between managers' Theory X/Y assumptions/behaviors and unit performance/group level performance.^{13,14}

PSYCHOLOGICAL SAFETY

Edmondson¹⁵ proposed team psychological safety as an important construct in understanding how people working in groups or teams are able to learn from each other and from their collective experiences. She argued that, for a team to learn (ie, change its behaviors to correct errors or improve performance), group members must share unique information, admit their own errors, point out systematic errors or problems, and seek help and feedback; individuals are less likely to engage in such potentially beneficial behaviors if they perceive there are relational risks, such as embarrassment or loss of face, or more tangible threats such as the terms and conditions of employment. Edmondson defined team psychological safety "as the shared belief that the team is safe for interpersonal risk taking" and "a sense of confidence that the team will not embarrass, reject, or punish someone for speaking up."^{15(p354)}

Subsequent empirical work has found that psychological safety is related to a variety of desirable organizational outcomes such as knowledge sharing, learning, and creativity.¹⁶⁻¹⁸ Google's recent analysis of data on the effectiveness of its own work teams concluded that the most important success factor was psychological safety.¹⁹ This research also demonstrated the importance of leader behaviors in determining the level of psychological safety.

ORGANIZATIONAL CITIZENSHIP BEHAVIOR

Work performance has been divided into two types: (1) in-role or task-related performance

and (2) extra-role, contextual performance (OCB becoming the commonly applied term).²⁰ Organizational citizenship behaviors are behaviors that are not formally identified or required by the organization; the demonstration of such behaviors is neither directly rewarded nor punished. Yet, these discretionary behaviors are vital to organizational performance. Unit level OCB has been positively related to desirable outcomes (unit performance, efficiency, profitability, and customer satisfaction) and negatively related to undesirable results (unit costs and turnover). Individual level OCB is positively related to desirable outcomes (performance ratings, reward allocation decisions, actual rewards, and reward decisions) and negatively related to undesirable results (turnover intentions, turnover, and absenteeism).^{21,22}

SERVICE QUALITY AND PATIENT SATISFACTION

Health care organizations face rapidly increasing levels of competition in a dynamic, unpredictable, and underresourced environment.²³ Health care professionals have always been concerned with service quality with respect to clinical outcomes but are increasingly concerned with how consumers evaluate the patient experience. The Affordable Care Act's imposition of the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) as a uniform instrument to assess patient and family perceptions of the quality of service led that to be a focal metric for many organizations because HCAHPS scores could have a double impact on a provider's resources. The Hospital Consumer Assessment of Healthcare Providers and Systems scores influence providers' revenues by driving consumer choice and by determining Medicare reimbursement levels.²⁴ Whether those aspects of the Affordable Care Act and the importance of HCAHPS as a specific measure will remain, providers will continue to be concerned with perceptions of service. The attitudes of employees who directly interact with patients may, subconsciously and inadvertently, influence patients' evaluations.²⁵ Employee perceptions of service quality delivered in their own work units and by their

employing entity (in this study, the hospital in which they work) as a whole can provide senior managers with a leading assessment of service quality (whereas patient perceptions are a lagging assessment).

METHOD

Sample

Participants were full- and part-time employees of 10 different entities of a nonprofit, religiously affiliated integrated health care organization located in a US Middle Atlantic state. The system included hospitals, skilled nursing facilities, and home care and hospice services. Data were collected on a voluntary and anonymous basis through self-report surveys, accessible through online or paper-and-pencil formats. Given the sensitive nature of the information and to encourage employees to participate, all were informed of actions being taken to ensure confidentiality (eg, participants' returning of paper-and-pencil surveys directly to the university principal investigator [PI], the online survey hosted by the university PI, and the agreement that individual level data would remain under the sole control of the university PI).

Measures

Demographics

Among other information, participants were asked to provide information on their sex, years working for their organization, and the amount of time they spent with patients and managing the work of others. We did not ask for additional details such as title because we wanted to minimize participant concern that they could be deductively identified.

Perceived Theory Y orientation of the manager was assessed by five items adapted from Kopelman et al⁹ such as "My manager believes people naturally like to work." Participants were provided a 5-point Likert-type response scale (1, strongly disagree, to 5, strongly agree), with responses being averaged. The Cronbach α coefficient in this study was .90.

Perceived Theory X orientation of the manager was assessed by five items adapted from Kopelman et al⁹ such as "My manager believes

most employees lack the ability to help their organizations," with the same response options as previously mentioned and with responses averaged. The Cronbach α was .90.

Psychological safety was assessed by seven items adapted from Edmondson,¹⁵ such as "Members of my unit are able to bring up problems and tough issues," with the same response options as previously mentioned and with responses averaged. The Cronbach α was .80.

Organizational citizenship behavior of the participant's work unit as perceived by the participants was assessed by 15 items adapted from Podsakoff et al.²⁰ Participants were asked to rate behaviors of people in their unit rather than their own behaviors. Five items were adapted from each of three subscales: conscientiousness (eg, "They do not take extra breaks."), altruism (eg, "They help others who have heavy workloads."), and courtesy (eg, "They consider the impact of their actions on coworkers.'). Participants were provided a 6-point Likert-type response scale from "strongly disagree" (0) to "strongly agree" (6), and responses were averaged. The Cronbach α was .97.

Service quality of their work unit was assessed by two items adapted from Schneider et al²⁵: "How would you rate the overall quality of service provided by your unit?" and "How would you rate the performance of your unit with respect to the quality of its work and service?" A 5-point Likert-type response scale was given (poor [1], fair, good, very good, and excellent [5]), and responses were averaged. The Cronbach α was .90.

RESULTS

Useable information was provided by 3605 individuals, approximately 20% of eligible full- and part-time employees. Most were full-time employees (81%) and female (80%). Most (70%) said that they often or always spent time with patients or their families, whereas only 9% said never. A significant minority (34%) said that they often or always managed the work of others, whereas another 28% said that they never did. Half had been with their employing entity for more than 10 years.

The large sample size provided statistical power such that even trivial effect sizes could be found to be statistically significant at traditional P levels. Accordingly, effects that are both statistically significant and at least meet Cohen²⁶ cutoff for small are discussed (his benchmarks were as follows: $r = 0.10$, small; $r = 0.30$, medium; $r = 0.50$, large; $d = 0.20$, small; $d = 0.50$, medium; $d = 0.80$, large; $f = 0.02$, small; $f = 0.15$, medium; $f = 0.35$, large).

A number of the previous studies and the empirical assessments assumed a unidimensional continuum of Theory X/Y,^{4,9,11-13} with X items reverse coded and summed or averaged with the Y items. However, McGregor suggested that rejection of Theory Y did not necessarily mean endorsement of Theory X, and other empirical studies calculated distinct Theory X and Theory Y measures.

We first conducted a series of confirmatory factor analyses using Lisrel version 8.80²⁷ to assess whether the data fit our measurement models. We compared the fit of the one-factor X/Y model to the two-dimensional X and Y model. The results appear in Table 1 and show that the data did not fit the more parsimonious one-dimensional model but did fit the two-dimensional model (we fit the model allowing the error variances of pairs of similar X and Y items to covary as well as the model where they did not covary). Mean factor loadings for Theory Y items were 0.80, and mean loadings for Theory X items were 0.81. We also conducted a confirmatory factor analysis on all of the variables and fitted it against our measurement model. As shown in Table 1, the fit of the full measurement model was good. Perceived Theory X and Theory Y orientations were, as expected, negatively correlated ($r = -0.56$). The mean Theory Y score was markedly higher than the mean Theory X score ($d = 1.39$, $t = 45.89$, $P < .001$).

Table 2 presents basic statistics and correlations. The more participants were involved in managerial activities, the more positive were their reports of their managers' Theory Y orientation, psychological safety, OCB, and service quality. The mean r of 12.6 suggests that managers have a rosier view of their

Table 1. CFA Fit Statistics

# Latent Variables	df	χ^2	RMSEA	NFI	RMSR	GFI	AGFI
X and Y observed variables only							
2 ^a	27	1,737	0.15	0.96	0.05	0.89	0.77
2 ^b	34	2,499	0.16	0.95	0.05	0.85	0.75
1	35	9,427	0.31	0.83	0.12	0.59	0.36
All observed variables							
7 ^c	499	6,884	0.07	0.98	0.04	0.87	0.85
5 ^d	510	9,248	0.08	0.98	0.04	0.83	0.81
1 ^e	527	44,33850	0.18	0.93	0.11	0.51	0.45

Abbreviations: AGFI, adjusted goodness-of-fit; CFA, confirmatory factor analysis; GFI, goodness-of-fit; NFI, normed fit index; RMSEA, root mean square error of approximation; RMSR, root mean square residual.

$\chi^2, P < .001$.

^aError covariances of X and Y observed variables allowed to covary.

^bError covariances of X and Y observed variables not allowed to covary.

^cTheory X, Theory Y, psychological safety, quality, and three subscales of OCB, with X and Y items' error covariances allowed to covary.

^dTheory X, Theory Y, psychological safety, quality, and three subscales of OCB, with X and Y items' error covariances allowed to covary.

^eOne latent with X and Y items' error covariances not allowed to covary.

work environment than do other employees. Other demographic variables had no significant relationships.

To evaluate the relationships between employee perceptions of their managers' attitudes, we conducted a series of two-step hierarchical regressions in which demographic variables of sex, tenure, patient time, and management time were entered in step 1 as controls. For each dependent variable, three different models were run: (a) Theory Y entered alone in the second step, (b) Theory X entered alone in the second step, and (c) Theory Y and Theory X together in the second step. As expected,

Theory Y was positively related to and Theory X was negatively related to psychological safety (Table 3, models 2a and 2b), service quality (Table 3, models 2a and 2b), and OCB (Table 4, models 2a and 2b).

We also found that the relationships between Theory Y and the dependent variables were stronger than the relationships with Theory X. The mean of the Theory Y correlations with the four other variables was 0.55 (slightly more than a large effect) versus -0.39 (a medium-large effect) for Theory X, and the mean ΔR^2 for the models b and c in the hierarchical regressions was 0.30 versus 0.16 (virtually

Table 2. Basic Statistics and Correlations

Variable	Mean	SD	N	1	2	3	4	5	6	7	8	9
1. Sex	0.80	0.40	2912	-								
2. Tenure	2.75	1.46	3015	0.05	-							
3. Management	2.82	1.49	3086	-0.02	0.17	-						
4. Patient	3.96	1.36	3114	0.06	-0.04	0.11	-					
5. Theory Y	3.62	0.83	3250	0.01	-0.01	0.14	0.01	(0.90)				
6. Theory X	2.34	0.98	3251	-0.06	0.00	-0.03	-0.00	-0.56	(0.90)			
7. Psychological safety	3.50	0.76	3241	0.02	0.01	0.15	-0.03	0.67	-0.55	(0.80)		
8. OCB	4.07	1.41	3467	0.03	-0.00	0.13	0.07	0.57	-0.38	0.68	(0.97)	
9. Service quality	3.91	1.00	3387	0.03	0.05	0.11	0.06	0.52	-0.36	0.58	0.64	(0.90)

Sex: 1, female; 0, male. "Tenure" indicates number of years working for the employer: 1, <5 years; 2, between 5 and <10 years; 3, between 10 and <15 years; 4, between 15 and <20 years; and 5, ≥20 years. "Management" indicates frequency of managing work of others: 1, never; 2, rarely; 3, sometimes; 4, often; and 5, always. "Patient" indicates frequency of interactions with patients or family with the same response options. Cronbach α coefficients of internal reliability are shown diagonally. Correlations ≥ 0.10, significant at $P < .001$, two-tailed; 0.06 and 0.07, $P < .01$, two-tailed; 0.05, $P < .01$, two-tailed.

Table 3. Hierarchical Regression: Theory Y and Theory X on Psychological Safety and Service Quality

Independent Variables	Psychological Safety				Service Quality			
	Model 1	Model 2a	Model 2b	Model 2c	Model 1	Model 2a	Model 2b	Model 2c
Step 1								
Sex	0.03	0.02	-0.01	0.00	0.02	0.02	0.00	0.01
Tenure	-0.01	0.02	-0.01	0.01	0.05 ^a	0.07 ^b	0.05 ^a	0.07 ^b
Management	0.16 ^b	0.07 ^b	0.14 ^b	0.08 ^b	0.10 ^b	0.02	0.09 ^b	0.03
Patient	-0.04 ^c	-0.04 ^a	-0.04 ^a	-0.04 ^a	0.05 ^c	0.05 ^a	0.05 ^a	0.05 ^a
Step 2								
Theory Y		0.65 ^b		0.50 ^b		0.52 ^b		0.46 ^b
Theory X			-0.54 ^b	-0.27 ^b			-0.35 ^b	-0.11 ^b
R ²	0.03	0.44	0.31	0.49	0.02	0.28	0.14	0.29
F	18.90	431.18	250.40	442.18	11.89	211.93	88.22	183.64
df	4, 2767	5, 2766	5, 2766	6, 2765	4, 2777	5, 2764	5, 2764	6, 2763
ΔR ²	-	0.41	0.29	0.46	-	0.26	0.12	0.27
Δf	-	0.69	0.41	0.85	-	0.35	0.14	0.37
ΔF	-	2024.88	1145.10	1254.47	-	993.35	385.52	517.41

Sex: 1, female; 0, male. In each model, blocks of variables were entered in successive order. All *F* and ΔF statistics were significant at $P < .001$, two-tailed.

^a $P < .01$, two-tailed.

^b $P < .001$, two-tailed.

^c $P < .05$, two-tailed.

identical to the coefficients of determination of the correlations). Furthermore, an examination of the results of the hierarchical regressions in which Theory Y and Theory X were entered

together (Tables 3 and 4, models c) showed relatively modest or no increases in the amount of variance explained vis-à-vis the model when only Theory Y was entered. In recognition of

Table 4. Hierarchical Regression: Theory Y, Theory X, and Psychological Safety on OCB

Independent Variables	Organizational Citizenship Behavior						
	Model 1	Model 2a	Model 2b	Model 2c	Model 2d	Model 2e	Model 2f
Step 1							
Sex	0.03	0.02	0.03	0.03	0.01	0.02	0.01
Tenure	-0.02	0.00	-0.02	-0.02	-0.01	-0.02	-0.01
Management	0.14 ^a	0.05 ^b	0.14 ^a	0.14 ^a	0.02	0.03 ^c	0.02
Patient	0.06 ^b	0.06 ^a	0.06 ^b	0.06 ^b	0.08 ^a	0.09 ^a	0.08 ^a
Step 2							
Theory Y		0.56 ^a		0.50 ^a	0.21 ^a		0.22 ^a
Theory X			-0.37 ^a	-0.11 ^a		-0.02	0.04 ^c
Psychological safety					0.54 ^a	0.66 ^a	0.55 ^a
R ²	0.02	0.33	0.16	0.34	0.49	0.46	0.49
F	16.58	268.77	1105.21	232.22	436.93	395.88	375.97
df	4, 2764	5, 2763	5, 2763	6, 2762	6, 2760	6, 2760	7, 2759
ΔR ²	-	0.30	0.14	0.31	0.46	0.44	0.46
Δf	-	0.43	0.16	0.45	0.85	0.79	0.85
ΔF	-	1247.67	448.97	647.98	1246.34	1126.15	834.23

Sex: 1, female; 0, male. In each model, blocks of variables were entered in successive order. All *F* and ΔF statistics were significant at $P < .001$, two-tailed.

^a $P < .001$, two-tailed.

^b $P < .01$, two-tailed.

^c $P < .05$, two-tailed.

the critiques of such approaches to assessing the importance of different correlated predictors,²⁸ relative weight analysis was conducted using a Web-based program.²⁹ The rescaled relative weights (estimates of the percentage of predicted variance attributed to each variable) confirmed the greater impact of Theory Y versus Theory X: psychological safety, 62.76 vs 35.34; OCB, 75.97 vs 22.58; service quality, 74.53 vs 23.95; and rating, 78.20 vs 16.94.

Attitudes and beliefs are likely to mediate the relationship between employees' perceptions and behaviors. In addition to feeling some form of reciprocal obligation to the Theory Y manager, other factors related to psychological safety are likely to come into play. The willingness to exert discretionary effort is likely to be influenced by subordinate expectations about manager reactions to their doing more than required because there can sometimes be a risk in taking the initiative. It would therefore seem logical that psychological safety would mediate the relationship between employee assumptions about managers and OCB. Indeed, psychological safety has been found to mediate numerous relationships: leader coaching and context support and team learning behavior,¹⁵ quality relationships, and learning from failures.³⁰

To better understand the possible mechanism through which Theory Y and Theory X might influence OCB, we tested how psychological safety might act as a mediator following the procedures proposed by Baron and Kenny.³¹ As indicated previously, both Theory Y and Theory X were related to psychological safety. When entered in the second step (after control variables), psychological safety was also related to OCB ($\beta = 0.63$, $P < .001$, $\Delta R^2 = 0.46$). Preacher and Leonardelli's³² online program was used to calculate the Sobel statistic. For the regressions with Theory Y, the Sobel statistic was 22.44, $P < .001$, whereas for Theory X, the statistic was 18.08, $P < .001$, so mediation was supported in both cases. As shown in Table 4, the coefficient for Theory Y remained significant when psychological safety was entered with it (model 2d), indicating partial mediation. In contrast, the coefficient

for Theory X ceased to be significant when psychological safety was entered with it in the second step (model 2e), indicating full mediation.

DISCUSSION

Health care providers are increasingly challenged, in a resource-scarce environment, to provide high-quality patient care, with respect to both clinical outcomes and subjective patient experiences. It is widely acknowledged that "leadership matters," meaning that managers have a crucial and direct impact on their subordinates' attitudes and performance. However, this may have become a truism or even a bromide, providing little guidance as to what should be done to help it "matter." McGregor's theorizing posited strong relationships between highly desirable employee attitudes and behaviors and how they were treated by their manager. Whereas McGregor did not suggest that Theory Y management assumptions and behaviors would result in superior performance under all situational contingencies, the current research provides empirical support for these relationships in the health care setting and with respect to especially relevant variables such as psychological safety and OCB.

McGregor's theory, despite the lack of early empirical support, remains widely known and accepted on an intuitive basis. Accordingly, the validated measures of Theory X and Theory Y assumptions and behaviors^{4,9} may be useful tools for managerial and organizational development purposes. Managers might benefit from using these instruments to assess their assumptions and behaviors. As said earlier, perception is the perceiver's reality; managers therefore surely benefit from learning how they are perceived by direct reports, peers, and their own superiors through carefully implemented 360-degree feedback.^{33,34} Furthermore, even without specific assessments, the familiar and intuitively appealing concepts of Theory Y and Theory X can guide conversations with managers to help them understand how their own mindsets influence their reality through self-fulfilling prophecy.

LIMITATIONS

The study has limitations inherent in the design: a cross-sectional study with all of the data being self-reported from employees of a single organization (albeit with that organization consisting of 10 distinct entities) and with the individual participant treated as the unit of analysis. In addition, the setting was a large and complex nonprofit, religiously affiliated mission-oriented health care system with a traditional hierarchical structure. The findings may be less generalizable to the for-profit and non-mission-driven sectors.

Further research should use information from multiple sources, specifically with respect to OCB, service quality, or other performance metrics. In addition, research should be conducted with the work unit itself as the unit of analysis. Lawler et al¹³ argued that Theory X and Theory Y likely operated more strongly on the group level rather than on the individual level. Further research might also address the processes by which employees evaluate managerial behaviors and attribute certain mindsets to their managers, as well as the extent to which these attributions are accurate.

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