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## **McGregor's Theory X/Y and Job Performance: A Multilevel, Multi-source Analysis**

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"[A new theory] is discovered, explored for a while, and then usually abandoned when the going gets rough or uninteresting." (Ring, 1967: 120)

McGregor's ideas about Theory X and Theory Y were first articulated in his article, "The Human Side of Enterprise," (McGregor, 1957) and were expanded upon in his book with the same title (McGregor, 1960). More than forty years later, Miner (2003) surveyed subject matter experts (past presidents of the Academy of Management and editors and journal review board members of two prominent publications, AMJ and AMR), to ascertain their familiarity with and their rated importance (theoretical utility and practical relevance) of 73 organizational behavior (broadly defined) theories. Miner (2003) found that McGregor's (1957; 1960/1985; 1966; 1967) (hereafter, for brevity, cited as McGregor, 1960) Theory X and Theory Y was tied for second place as the most well-known theory in organizational behavior out of the universe of 73 theories. However, the impact between X/Y attitudes and job performance has never been empirically substantiated. Yet, McGregor's (1960) assumption that employees perform

better under managers who advance self-direction and self-motivation is widely-accepted and espoused by managers in organizations and management writers.

There are two highly plausible reasons why prior research has not empirically supported McGregor's (1960) Theory X and Theory Y (or, for brevity, Theory X/Y) with regard to job performance. First, there has been a failure to distinguish between Theory X/Y attitudes and Theory X/Y behaviors. The three prior studies that have made this distinction were recently conducted solely to develop construct-valid measures of both X/Y attitudes and X/Y behaviors (Kopelman *et al.*, 2008; Kopelman *et al.*, 2010; Kopelman *et al.*, 2012). Second, the methodological approach employed in previous substantive studies examined the incorrect unit of analysis: rather than using an across-individual correlational design, a multilevel, multi-source individual/workgroup analysis was needed. The current research is the first inquiry to establish an empirical relationship between McGregor's (1960) Theory X/Y assumptions and job performance using a multilevel, multi-sourced methodology which controls for within-group variance by employing hierarchical linear modeling.

In one of the two prior, unsuccessful attempts to link Theory X/Y attitudes to job performance, Fiman (1973) did not distinguish between X/Y attitudes and X/Y behaviors, and upon examining across-individual data, found a correlation with individual job performance of  $r = -0.01$ . Similarly, Michaelsen (1973) reported across-individual level correlations of co-mingled X/Y attitudes and behaviors and found a correlation of  $r = -0.07$ . As a result of these two initial non-supportive studies, researchers subsequently turned their attention to testing Theory X/Y as it pertained to various non-performance-related variables, such as leader satisfaction (Brown and Ladawan, 1979a), ethical perceptions (Neuliep, 1996), decision-making style (Russ, 2011), and leader-member exchange (Sahin, 2012), to name just a few correlates. More recently, Thomas and Bostrom (2010) examined the relationship between X/Y behaviors and team ratings of performance. The sample, however, was comprised solely of virtual teams with no group, or face-to-face interactions. X- and Y-type behaviors were conveyed electronically via emails and faxes (providing no opportunity for managerial X/Y attitudinal and behavioral information to be conveyed nonverbally). Results were not significant and indicated that X-type verbal statements (including commands and confrontations) were *positively* associated with performance ( $r = 0.23$ ) as were Y-type verbal statements ( $r = 0.15$ ), yielding a net result of  $r = -0.04$ . Using virtual "teams" eliminates face-to-face interactions between manager and subordinates and consequently the development of relationships among group members and group leader.

The present research examines relationships among X/Y attitudes, X/Y behaviors, and job performance. It is postulated that the relationship between X/Y attitudes and job performance is mediated by X/Y behaviors. The contribution of the present research to both theory and practice is two-fold: (1) to advance the distinction between Theory X/Y attitudes and Theory X/Y behaviors and (2) to demonstrate that the theory is empirically supported using a methodologically appropriate research design—viz., one that employs a multilevel, multi-source analysis that examines individual and—importantly—workgroup data obtained from multiple organizations. The use of hierarchical linear regressions in a multilevel analysis permits controlling for within-group variance.

## LITERATURE REVIEW AND HYPOTHESES

### Theory X/Y Described

Briefly put, McGregor (1960) advanced three ideas. First, all managers have a theory of human work motivation. He noted, though, that whether a manager could explicate his/her theory was unimportant, because a manager's theory (attitudes) could be inferred from enacted work behaviors. Thus, managerial work behaviors (or practices) ultimately reflect a manager's fundamental assumptions about people—which McGregor (1960) referred to as a cosmology. Second, McGregor (1960) asserted that there were two diametrically different views about the nature of people at work, which he called Theory X and Theory Y—labels deliberately chosen to be unlike any prior concepts or theories. According to McGregor (1960), the more pessimistic view of human nature—Theory X—which he claimed was the predominant perspective in the 1950s, was based on three assumptions: (a) people are naturally lazy and try to avoid work whenever possible; (b) people are inherently irresponsible and, thus, it is necessary to closely monitor work behavior; and (c) most workers have little to contribute intellectually to the operation of an enterprise. This latter incapacity necessitates providing detailed instructions and reducing the scope of work to match the limited abilities of “hired hands.” McGregor (1960) argued that a more positive view of human nature was generally more accurate: (a) people can find work enjoyable, and under suitable conditions, experience motivation and fulfillment; (b) people are not inherently irresponsible; rather they are capable of self-direction and self-control; and (c) people have the potential to make important intellectual contributions to the work they perform.

Based on McGregor's (1960) theorizing, managers possessing Y-type managerial X/Y attitudes will enact more Y-type managerial behaviors. More specifically, managers with a positive view of human nature will act in accordance with these beliefs, and will show higher levels of Y-type behaviors, providing higher levels of encouragement, delegation, autonomy, responsibility, and more general rather than close supervision. Per McGregor's (1960) cosmology, managers with more Y-type attitudes would enact behaviors which reflect these fundamental assumptions. Accordingly it is posited:

*Hypothesis 1: Manager X/Y attitudes are positively related to manager X/Y behaviors.*

McGregor's (1960) third assertion was the most powerful one. In essence, he argued that a manager's cosmology (i.e., assumptions about people at work) was potentially a self-fulfilling prophecy. Thus, the manager who adopted practices consistent with Theory X would find that employees had little motivation or interest in the work performed—caring only about their (typically meager) paychecks. The manager would then turn to a colleague and complain that “you cannot get good help nowadays”—completely unaware that the lamented low level of employee motivation was engineered by the manager him/herself. This supreme irony made Theory X/Y intriguing, if not compelling. If a manager's cosmology is positive and rooted in assumptions that employees can enjoy work and make meaningful contributions, then employees would fulfill these assumptions. Thus, it is predicted:

*Hypothesis 2: Manager X/Y attitudes are positively related to subordinate performance.*

Importantly, McGregor (1957; 1960) concluded that there was a vast untapped potential for employee motivation and achievement which managers could obtain with more accurate assumptions about people at work. In his words: "We are becoming quite certain that, under proper conditions, unimagined resources of creative human energy could be available in the organizational setting" (McGregor, 1957: 22). McGregor (1960) postulated that if managers enacted practices consistent with Theory Y behaviors, employee motivation would increase, thereby increasing employee job performance. Hence it is predicted:

*Hypothesis 3: Manager X/Y behaviors are positively related to subordinate performance.*

A manager's X/Y attitudes should be a precursor of and be aligned with X/Y behaviors which, in turn, should directly affect subordinate performance. Thus, manager X/Y behaviors should mediate the relationship between manager X/Y attitudes and subordinate performance. Therefore, it is predicted:

*Hypothesis 4: Manager X/Y behaviors mediate the relationship between manager X/Y attitudes and subordinate performance.*

Performance is both an individual- and group-level phenomenon, the two facets being interdependent. From McGregor's (1960) perspective, managerial attitudes will affect the larger organization by influencing shared norms and knowledge bases that affect workgroup performance. The manager's attitudes toward work will set the overall climate for the work group (Chen *et al.*, 2007). Therefore it is posited:

*Hypothesis 5: Manager X/Y attitudes are positively related to an overall assessment of workgroup performance as provided by the manager.*

Consistent with McGregor's (1960) cosmology, a manager of a workgroup will behave in a similar fashion toward most workers and thereby influence overall workgroup performance. Group performance can be attributed to group factors including shared group behaviors and the norms of team members regarding work (DeChurch and Mesmer-Magnus, 2010). Therefore, it would be expected that the manager's X/Y behaviors would positively affect the group's shared behavioral processes and lead to higher levels of group performance. Accordingly, it is predicted:

*Hypothesis 6: Manager X/Y behaviors are positively related to an overall assessment of workgroup performance as assessed by the manager.*

Likewise, manager X/Y attitudes should lead to the enactment of aligned manager X/Y behaviors, which directly affect workgroup performance. Therefore, it is posited

that manager X/Y behaviors will mediate the relationship between manager X/Y attitudes and workgroup performance. More formally stated:

*Hypothesis 7: Manager X/Y behaviors mediate the relationship between manager X/Y attitudes and an overall assessment of workgroup performance as assessed by the manager.*

However, despite the appeal of McGregor's (1960) Theory X/Y, as noted above, no evidentiary support has been found pertinent to McGregor's (1960) theorizing and job performance. The present research seeks to make that connection by using multi-sourced data and employing a multilevel design which incorporates the three requisite elements—manager X/Y attitudes, manager X/Y behaviors, and individual level and workgroup level measures of performance. Additionally, employee attitudes regarding work need to be considered part of a meso-organizational model (cf., Ostroff and Bowen, 2000). Employee attitudes toward work affect how managers' behaviors are perceived by the employee (Fiman, 1973) along with the quality of the relationship between the manager and the employee (Sahin, 2012). In the present research, employee attitudes towards work were controlled for, thereby isolating the effects of manager X/Y behaviors on performance.

### **Research on the Substantive Validity of McGregor's (1960) Theory X/Y**

Unfortunately, McGregor (1960) made no attempt to measure his constructs nor did he conduct any research to test the validity of his theorizing (Miner, 2003). With regard to the crucial dependent variable—job performance—to date, only three attempts have been made to ascertain the relationship between managerial X/Y attitudes/behaviors and job performance: Fiman (1973), Michaelsen (1973), and Thomas and Bostrom (2010). The results of all three studies were non-supportive.

In order to ascertain substantive validity, it is essential to establish the construct validity of the measures employed. Accordingly, with regard to the measurement of Theory X/Y attitudes and behaviors, three studies have been conducted (Kopelman *et al.*, 2008; 2010; 2012) for the sole purpose of developing construct-valid measures. These studies have, in brief, laid the groundwork for the fundamental (and more interesting) question: Are managerial Theory X/Y attitudes related to performance?

Two additional issues pertinent to establishing the substantive validity of McGregor's (1960) theorizing relate to the unit of analysis and the level of analysis. In two of the prior performance-related studies, Fiman (1973) and Michaelsen (1973), individual-level measures of job performance were examined using an across-individual correlation research design. Neither Fiman (1973) nor Michaelsen (1973) reported workgroup- or cross-level results, although both recognized the possibility of workgroup-level effects resulting from supervisors' X/Y attitudes and behaviors. Thomas and Bostrom (2010) analyzed team ratings of performance at the individual level, but without taking into account nonverbal managerial attitudes or behaviors. Interaction was manufactured through electronic commands and instructions as opposed to face-to-face, nonverbal interactions between managers and their work teams. It is the authors' contention that the results of these three prior performance-related studies were constrained by: (1) their failure to distinguish X/Y attitudes from X/Y behaviors on the

part of Fiman (1973) and Michaelsen (1973); (2) their use of the individual rather than the workgroup as the unit of analysis, and (3) their failure to use a multilevel analysis which controls for within-group variance via hierarchical linear modeling.

After 1973, empirical research turned from examining X/Y attitudes/ behaviors and job performance to examining X/Y attitudes/behaviors as a single construct and multiple non-performance criteria to substantiate the validity of McGregor's (1960) theorizing. Jacoby and Terborg (1975) found a positive relationship between X/Y attitudes/ behaviors and employee creativity. X/Y attitudes/behaviors were also found to be positively related to subordinate-leader satisfaction (Brown and Ladawan, 1979b) and high-quality leader-member exchange (Sahin, 2012). Neuliep found that supervisor X/Y attitudes positively impacted the ethical perceptions of subordinates (1996) and increased the likelihood of adhering to compliance strategies (1987). In total, there have been twenty-five attempts using thirteen different scales to measure X/Y attitudes and/or behaviors with many studies conflating the two constructs.

However, to date, no published research has found support for the relationship between X/Y attitudes, X/Y behaviors, and job performance. Yet it is important to note that in numerous organizational behavior and management textbooks (twenty-four at the authors' count), theory X/Y is included as an important theory in motivation. Theory X/Y is actively used in consulting practices which offer management training for organizations. Thus, McGregor's (1960) theory remains highly relevant today and warrants investigation as to the relationship between X/Y attitudes, X/Y behaviors, and job performance.

### **Using Multilevel Analysis to Test Theory X/Y**

McGregor (1957; 1960) posited that a manager's mindset would be reflected in the behaviors displayed toward all (or almost all) group members. Thus, per McGregor's (1960) theorizing, managers who held a Theory Y assumptive world view (cosmology) should lead higher performing workgroups with, on average, higher levels of individual job performance in comparison to managers who held a Theory X perspective. Thus, an assessment of the substantive validity of McGregor's (1960) theorizing should entail examining a nomological network where managerial X/Y attitudes lead to the enactment of managerial X/Y behaviors, which in turn, affect both individual- and workgroup-level performance.

The present research, by employing a multilevel design, enables incorporating the interdependent effects embedded within workgroups. All workgroup members have dyadic relationships with the manager which affects individual-level performance. The individual in a workgroup is influenced by relationships with the other team members who, in turn, affect group-level performance. Thus, by employing a multilevel design and using hierarchical linear modeling to analyze the effects of manager X/Y attitudes and behaviors on individual and workgroup performance, the present research controls for the interdependence of individual's X/Y attitudes within the work group while recognizing the variation across workgroups (Kenny *et al.*, 2002; Castro, 2002).

Clearly, a test of the substantive validity of McGregor's (1960) Theory X/Y requires, at minimum, measurement of three central constructs: (1) managerial Theory X/Y

assumptions/attitudes;<sup>1</sup> (2) managerial Theory X/Y behaviors; and (3) performance measured at both the individual and workgroup levels. Yet, two of the three requisite elements: McGregor's (1960) theory X/Y behaviors and workgroup level measures of performance have not been examined to date. The present research incorporates all three necessary elements and uses a multilevel, multi-source analytical approach that examines differences in performance both across individuals and within and across workgroups and controlling for variation in subordinate attitudes towards work. A schematic presentation of the aforementioned nomological network is presented in Figure 1. From this model, five hypotheses pertinent to direct effects have been derived along with two that pertain to mediated effects based on the theoretical constructs of McGregor's (1960) Theory X/Y.

## METHOD

Data reported in the present research were collected as part of a study of patterns and similarities in dyadic manager-subordinate attitudes and behaviors. A sample of 80 dyads was obtained, there being sufficient cases to make statistically sound inferences. The statistical power of the present research with regard to the ability to detect a medium-sized effect was 0.48 (Raudenbush and Liu, 2002). Because the questionnaire instrument also elicited information about subordinates' and managers' X/Y attitudes and managers' X/Y behaviors as well as performance at individual and workgroup levels, it was possible to conduct the present research. Despite the small number of workgroups (21) and limited statistical power, the current results yielded significant results with small to medium effect sizes. Of course, finding a medium effect size is insufficient for making inferences about validity; rather, statistically significant results need be obtained, the small sample size notwithstanding. Over and beyond the issue of statistical power, the fundamental quest remains important—viz., to ascertain if McGregor's (1960) theorizing is supported when using appropriate measures and an appropriate research design.

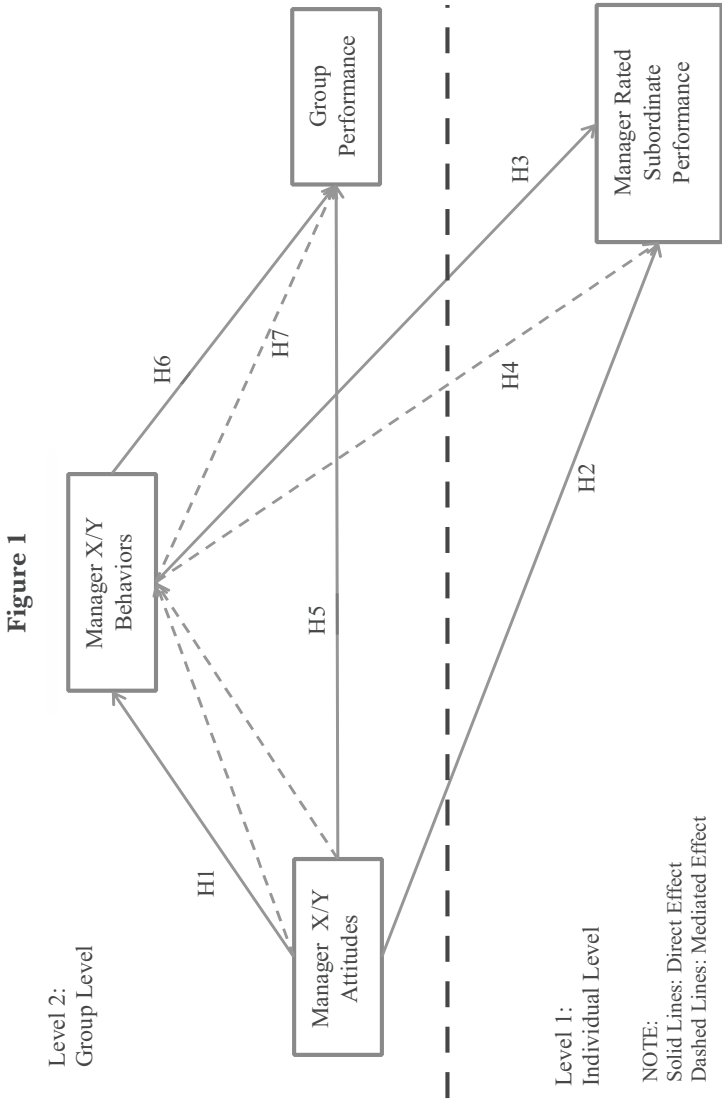
### Sample and Procedure

A survey was completed by 21 managers and 80 subordinates from four for-profit companies located in the northeastern United States. Most participants held professional positions (52.2%), were female (87.5%), and many had a college degree (48.8%) or attended some college (46.3%). Managers were asked to assess the performance of each workgroup member as well as the overall performance of the workgroup. Additionally, managers provided data regarding their X/Y attitudes and X/Y behaviors and demographic variables. All subordinates in the workgroups were asked about their X/Y attitudes. In order to obtain participation, the four organizations required that the entire questionnaire be limited to two pages (four sides) and take no longer than ten minutes to complete. Consequently, this necessitated the use of abbreviated versions of all scales. The procedure recommended by Stanton *et al.* (2002) was employed to shorten each scale.

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<sup>1</sup> The present research distinguishes between assumptions (which are latent variables) and attitudes which are formative (i.e., measured) indicators.





## Measures

**Manager X/Y Attitudes.** Manager X/Y attitudes were assessed using a four-item version of a previously validated scale (Kopelman *et al.*, 2012) comprised of ten items. Sample items were: “Most employees are willing to work more than the minimum required” and “Most employees lack the ability to help the organizations where they work” (reverse scored). A five-point Likert-type response scale (from *strongly disagree* to *strongly agree*) was used. Responses were averaged and scored such that higher scores represented a more Theory Y orientation. Indicative of the similarity in psychometric properties of the abbreviated and original measures, Cronbach alpha was 0.68 in the present research versus 0.75 for the ten items in the original study. Per the Spearman-Brown prophecy formula, had the full ten-item scale been used in the present research, the predicted level of alpha would have been 0.84.

**Manager X/Y Behaviors.** Manager X/Y behaviors were assessed using a six-item version of a previously validated scale (Kopelman *et al.*, 2012) comprised of 13 items which measured both X and Y behaviors of the manager. Sample items were: “Employees should be encouraged to share their ideas and suggestions” and “You need to constantly check up on employees to ensure they are working as required” (reverse scored). The same response options were provided as per X/Y attitudes. Indicative of the similarity in internal consistency reliabilities of the abbreviated and original measures, Cronbach alpha in the present research was 0.68 versus 0.77 with the 13 items in the original study. Had the 13-item scale been used, the Spearman-Brown prophecy formula predicts a level of alpha of 0.82.

**Individual and Group Performance.** Behavior-based performance ratings were obtained from the manager for each subordinate. Individual performance was assessed using three individual-level items from a multilevel validated behavior-based performance scale (Griffin *et al.*, 2007). Sample items were: “In the past month to what extent has this employee: carried out the core parts of his/her job well” and “Learned new skills to help you adapt to changes in his/her core tasks.” Group performance was assessed using five workgroup-level items from a multilevel validated behavior-based performance scale for teams and workgroups. Sample items were: “In the past month to what extent has your work group: initiated better ways of doing core tasks” and “improved collaboration in the workgroup.” Cronbach alphas for individual-level performance in the present research and in the original study were 0.82 and 0.87, respectively. With respect to group performance, Cronbach alphas for the five-item group-level performance measure in the present research was 0.87 versus 0.81 in the original study.

**Control Variables.** Subordinate X/Y attitudes were measured using the same scale as manager X/Y attitudes (Kopelman *et al.*, 2012) with similar levels of reliability. Subordinate X/Y attitudes were entered in as a control variable for all analyses. Three demographic variables were measured for the subordinate—age, gender, and education—and were used as control variables in the analysis. Additionally, work group size and company were examined as possible control variables. Neither was significant in any of the hypothesized models, and, as a result, were excluded from the analysis in order to retain more degrees of freedom at the group level.

Table 1  
Basic Statistics and Correlations – Individual and Group Level Variables

Variable	m	sd	1	2	3	4	5	6	7	8
1. Manager X/Y Attitude <sup>1</sup>	3.92	0.47	(0.68)							
2. Manager X/Y Behavior <sup>1</sup>	3.99	0.43	0.26*	(0.68)						
3. Subordinate Performance <sup>2</sup>	3.08	0.91	0.23*	0.26*	(0.82)					
4. Overall Workgroup Performance <sup>1</sup>	3.85	0.91	0.20 <sup>†</sup>	0.30**	0.22*	(0.87)				
5. Subordinate Age <sup>2</sup>	44.48	9.61	0.07	0.00	-0.12	-0.15	-			
6. Subordinate Gender <sup>2</sup>	0.87	0.33	0.05	0.01	-0.12	-0.14	-0.15	-		
7. Subordinate Education <sup>2</sup>	15.63	2.85	0.05	0.02	0.31**	-0.20 <sup>†</sup>	0.07	0.21 <sup>†</sup>	-	
8. Subordinate X/Y Attitude <sup>2</sup>	3.66	0.60	0.14	0.31**	-0.09	0.20 <sup>†</sup>	0.02	0.22 <sup>†</sup>	-0.03	(0.68)

Note: All performance rated by manager. Cronbach alpha shown along diagonal

<sup>1</sup>N equals 21 for manager X/Y attitudes, X/Y behaviors, and group performance as assessed by manager. The number of subordinates in each of the 21 varied from 2 to 13 (mean = 3.81, sd = 2.71, md = 3).

<sup>2</sup>N equals 80 for individual performance, subordinate age, subordinate gender, subordinate education, and subordinate X/Y attitude.  
\* $p < 0.05$ , \*\* $p < 0.01$ , <sup>†</sup> $p < 0.10$

### Analysis Strategy

The analysis was conducted using a multilevel modeling approach which closely follows the procedures recommended by Hofmann (1997) and Zhang *et al.* (2009). This strategy allowed for hypothesis testing at the individual level and at the group level as well as testing of the mediating effects. Mplus (Muthen and Muthen, 1998-2010) was used to conduct the multilevel model tests of hypotheses in the present research. Mediation was determined per the procedures outlined by Zhang *et al.* (2009) for multilevel mediation specifically and by Baron and Kenny (1986). Hierarchical linear modeling was used to test the hypothesized direct and mediating effects. (Individual-level coefficients are noted as betas ( $\beta$ ), and group-level coefficients are noted as lambdas ( $\gamma$ )). Mediating effects were tested per Baron and Kenny (1986) by establishing a relationship between manager X/Y attitudes and all performance measures. Manager X/Y behaviors were then added to the model to test for mediation.

## RESULTS

Descriptive statistics and correlations are provided in Table 1.

Subordinate X/Y attitudes and demographics were entered into each hypothesized model as a control variable. Subordinate X/Y attitudes were significantly related to supervisor X/Y behaviors ( $\beta = 0.22, p = 0.01$ ) and group performance ( $\beta = 0.32, p = 0.05$ ); the relationship between subordinate X/Y attitudes and subordinate performance was not significant ( $\beta = -0.09, p = 0.56$ ).

Hypothesis 1 posited a positive relationship between manager X/Y attitudes and manager X/Y behaviors and was supported ( $\gamma = 0.20, p = 0.04$ ). The correlational data were also supportive ( $r = 0.26, p = 0.02$ ).

Hypothesis 2 predicted a positive relationship between manager X/Y attitudes and subordinate performance. This hypothesis was supported as the coefficient for manager X/Y attitudes as related to subordinate performance was positive and statistically significant ( $\gamma = 0.47, p = 0.01$ ; correlation data:  $r = 0.23, p = 0.04$ ).

Continuing down the causal network, Hypothesis 3 predicted a positive correlation between manager X/Y behaviors and individual job performance. This hypothesis was supported as the coefficient for manager X/Y behaviors and subordinate performance was statistically significant ( $\gamma = 0.61, p = 0.01$ ). The correlational data were also supportive ( $r = 0.26, p = 0.02$ ).

Manager X/Y behaviors were hypothesized to mediate relationships between manager X/Y attitudes and performance. Hypothesis 4 pertained to the mediating role of manager X/Y behaviors on the relationship between manager X/Y attitudes and manager-rated subordinate performance. Hypothesis 4 was fully supported: the effect size for manager X/Y attitude decreased in the mediated model and became non-significant ( $\Delta\gamma = -0.10, p = 0.06$ ) and the association of manager X/Y behaviors was significant ( $\gamma = 0.51, p = 0.02$ ). See Table 2 for individual performance results.

Table 2  
Summary of Tests of Hypothesized Relationships with Subordinate Performance

Controls:	H1: Supervisor X/Y Behaviors		H2: Subordinate Performance		H3: Subordinate Performance		H4: Mediation Model	
	$\beta$	SE	$\beta$	SE	B	SE	$\beta$	SE
Subordinate Age	-0.01	0.03	-0.01	0.05	-0.09	0.05	-0.09	0.05
Subordinate Gender	-0.11	0.14	-0.60*	0.29	-0.53	0.28	-0.54	0.28
Subordinate Education	0.02	0.05	0.38**	0.11	0.38**	0.11	0.37**	0.19
Subordinate X/Y Attitude	0.22*	0.08	-0.09	0.15	-0.19	0.16	-0.20	0.16
<b>Independent Variables:</b>								
Managerial X/Y Attitude	0.20*	0.10	0.47*	0.19			0.37	0.19
Managerial X/Y Behavior					0.61**	0.22	0.51*	0.22
$R^{2a}$	0.09		0.17		0.19		0.21	

Note: \* $p < 0.05$ , \*\* $p < 0.01$ ,  $^{\dagger}p < 0.10$

$N=21$ ,  $n=80$

<sup>a</sup>R-squared was calculated following Hofmann, 1997

At the group level, similar relationships were hypothesized between managerial X/Y attitudes and behaviors and group performance. Hypotheses 5 pertained to associations between manager X/Y attitudes and workgroup performance. Hypothesis 5 was supported as the coefficient for manager X/Y attitudes as related to overall workgroup performance was positive and significant ( $\gamma = 0.39, p = 0.05$ ). The correlation was not significant ( $r = 0.20, p = 0.07$ ).

Hypothesis 6 posited that managerial X/Y behaviors would be directly associated with workgroup performance. As predicted, the coefficient was positive and statistically significant ( $\gamma = 0.54, p = 0.02$ ). The bivariate correlation was statistically significant ( $r = 0.30, p = 0.01$ ).

Hypothesis 7 predicted that manager X/Y behaviors mediate the relationship between manager X/Y attitudes and overall work group performance. As hypothesized, manager X/Y behaviors fully mediated the relationship between manager X/Y attitudes and group performance: the effect size for manager X/Y attitudes decreased and was non-significant in the mediated model ( $\Delta\gamma = -0.09, p = 0.14$ ) and manager X/Y behaviors were significant ( $\gamma = 0.46, p = 0.05$ ). See Table 3 for group level results.

Thus, both at the individual and at the group level, it was found that manager X/Y behavior fully mediates the relationships between manager X/Y attitudes and individual- and group-level performance.

## DISCUSSION

The present research is the first empirical test of McGregor's (1960) Theory X/Y to employ an appropriate research design—and this is more than 50 years after McGregor's (1960) theorizing. In contrast to the three prior studies that found weak negative correlations, the present research found strong support among managerial X/Y attitudes, managerial X/Y behaviors, and performance using a multilevel methodology. Results were statistically significant with regard to both individual- and group-level performance, notwithstanding the limited statistical power. As predicted, managerial X/Y behaviors fully mediated the effects of X/Y attitudes on individual- and group-level performance. These results substantiate the views held by some managers that employees have unlimited potential for high performance if managed correctly. Not only do managerial attitudes matter, but how managers behave towards employees affects both individual and group level performance.

Table 3  
 Summary of Tests of Hypothesized Relationships with Group Level Performance

	H5: Group Performance		H6: Group Performance		H7: Mediation Model	
	$\beta$	SE	$\beta$	SE	$\beta$	SE
<b>Controls:</b>						
Subordinate Age	-0.10	0.05	-0.09	0.05	-0.09	0.05
Subordinate Gender	-0.51	0.30	-0.45	0.30	-0.46	0.29
Subordinate Education	-0.17	0.11	-0.17	0.11	0.22	0.16
Subordinate X/Y Attitude	0.32*	0.16	0.24	0.17	0.46	0.23
<b>Independent Variables:</b>	$\gamma$	SE	$\gamma$	SE	$\gamma$	SE
Managerial X/Y Attitude	0.39*	0.20			0.30	0.20
Managerial X/Y Behavior			0.54*	0.23	0.46*	0.23
$R^{2a}$	0.11		0.13		0.14	

Note: \* $p < 0.05$ , \*\* $p < 0.01$ , † $p < 0.10$

$N = 21$ ,  $n = 80$

<sup>a</sup> $R$ -squared was calculated following Hofmann, 1997

Why has it taken so long for the emergence of a successful substantive test of McGregor's theory? Given the initial mean cross-individual correlations of -0.01 and -0.07 reported by Fiman (1973) and Michaelsen (1973), respectively, it is not surprising that researchers in the ensuing years turned to examine other (non-performance) criteria. According to Gordon, Kleiman and Hanie (1978), this phenomenon is common in psychology and represents a problem for theory development. It is commonplace in psychological research to encounter in their words: a "short-lived interest" and "[I]ack of commitment to thorough exploration of a subject [this being] inimical to the creation of viable psychological theory" (Gordon *et al.*, 1978: 901). To underscore their point, Gordon *et al.* (1978) cite Ring's (1967) vivid metaphor in connection with research in social psychology:

We approach our work with a kind of restless pioneer spirit: a new (or seemingly new) territory is discovered, *explored for a while, and then usually abandoned when the going gets rough or uninteresting.* [emphasis added] (Ring, 1967: 119)

The present research possesses a number of strengths. First, subordinate X/Y attitudes, managerial X/Y attitudes, and managerial X/Y behaviors in actual workgroups were incorporated in the analysis, something not previously done. Second, behavior-based individual and work unit-level performance measures were examined, permitting comparisons across individuals and also across work units. Third, the use of intact (organic) managers/work units in field settings obviated the potential confounds associated with experimental studies that have "manufactured" varying leader assumptions and/or behaviors, per Pygmalion-type interventions.

The present research addresses McGregor's (1960) fundamental theorizing about the importance of a manager's world view (or cosmology) about people at work. It is notable that McGregor (1966; 1967) himself confused matters by identifying a number of managerial techniques (such as MBO, the Scanlon Plan, and participative leadership) that he saw as consonant with Theory Y assumptions. However, the successful implementation of MBO, for example, is at best only tangentially related to McGregor's (1960) theorizing. Indeed, McGregor (1966, 1967) recognized that attempts to implement the above-mentioned management practices by managers who hold a Theory X mindset are likely to be minimally successful, with employees viewing such techniques as disingenuous manipulations (Heil *et al.*, 2000). Thus, a further strength of the present endeavor is but a modest one: namely the present research did not "fall into the trap" of conflating management or HR techniques with McGregor's (1960) theorizing about varying managerial cosmologies.

A potential weakness of the present research is the use of a uni-dimensional X/Y scale. In prior research, it has not been uncommon to create separate scales with a summated X score being subtracted from a summated Y score, a transformation which is mathematically identical to the present approach. Yet, on a conceptual basis, it can be argued that disagreement with an X attitude (e.g., people are inherently untrustworthy) is not equivalent to stating that people are trustworthy. In defense of the present approach, it might be noted that the summated X and Y scores in the present research, while negatively correlated, are orthogonal which, in part supports the use of a uni-



dimensional score. Further, it complicates matters substantially to distinguish degree of “Y-ness” from the degree of “X-ness.”

Another potential weakness of the present research is that most of the data come from the same source—the supervisor. Multilevel analyses were conducted, however, controlling for subordinate X/Y attitudes. One potential threat of using single-sourced data is common method bias. To mitigate against this threat, data collected from the subordinate and the supervisor were included in the model (per the recommendation of Podsakoff *et al.*, 2003). Additionally, during data collection, surveys were collected directly by the first author, and were not seen by any company representative. Supervisors and subordinates were surveyed separately. Lastly, all participants were notified that only grouped data drawn from multiple companies would be shared with participating companies, keeping the identities of all individuals and departments unidentifiable.

As suggested by Mossholder *et al.* (1998), one way to test for common method effects is via a confirmatory factor analysis. The confirmatory factor analysis was performed that examined the three major categories of variables: attitudes, behaviors, and performance. Manager X/Y attitudes, manager X/Y behaviors, and group performance were empirically found to be three distinct factors, indicating the absence of a strong method effect. Each of the three *a priori* factor loadings exceeded 0.95; in contrast, the median off-diagonal factor loading was 0.19.

In conclusion, the present research represents the first successful demonstration that McGregor’s (1957; 1960/1985; 1966; 1967) substantive theorizing is valid and empirically supported. Although it has taken more than 50 years to reach this conclusion, the present effort is responsive to Schein’s (2011: 163) comment: “I think it is time to take McGregor’s theory seriously and do a great deal more research on managerial assumptions.”

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*McGregor's Theory X/Y and Job Performance: A Multilevel, Multi-source Analysis* ..... 84  
 Leanna Lawter, Richard E. Kopelman, and David J. Prottas

McGregor's Theory X/Y (1957; 1960/1985; 1966; 1967), one of the most famous theories of motivation and leadership, has had a profound effect on managerial thinking over the past fifty years. Yet the effect of X/Y attitudes on job performance has never been empirically demonstrated. The present research investigates whether X/Y attitudes and X/Y behaviors—examined as two distinct constructs—are related to job performance. Further, the present research uses a multilevel, multi-source design to examine via hierarchical linear modeling the performance effects of McGregor's (1957; 1960/1985; 1966; 1967) theorizing about managerial assumptions (and behaviors) at both individual and workgroup levels. As predicted, managerial X/Y behaviors fully mediated the relationship between managerial X/Y attitudes and job performance at both the individual and group level. Whereas the three prior X/Y performance-related studies found non-significant relationships between X/Y attitudes and performance (correlations of  $r = -0.01$ ,  $r = -0.07$ , and  $r = -0.08$ ), the present research found support for the model of X/Y attitudes, X/Y behaviors, and performance with group level coefficients as high as ( $\gamma = 0.54$ ). Limitations, practical implications, and suggestions for future research are provided.

*The Buffering Effects of Salesperson Service Behaviors on Customer Loyalty After Service Failure and Recovery* .....102  
 Aniefre Eddie Inyang

The purpose of this study is to determine if salesperson service behaviors, which are behaviors that salespeople undertake after the initial sale to maintain the relationship, can buffer or mitigate the negative impact of a service failure on customer loyalty. Specifically, this study examines the buffering effect of salesperson service behaviors on customer loyalty, when varying the severity of the service failure. This study also takes into account the effects of service recovery and customers' satisfaction with service recovery on customer loyalty. Overall, the results from two studies indicate that salesperson service behaviors can buffer the effects of service failure on customer loyalty, and the buffering effect of salesperson service behaviors is still evident even after accounting for the effects of service recovery. The findings of this study also show that relationship quality underlies the effect of salesperson service behaviors on customer loyalty after service failure. The implications of this research for sales management are discussed.

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