

**The Relationship Between the Big Five Personality Traits and Theory X and Y: An  
Exploratory Study**

Hope Pine

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School of Psychology

University of Adelaide

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### Abstract

McGregor's (1960) *Theory X and Theory Y* proposes individuals either have X managerial assumptions (e.g., negative view of employees that requires closer supervision), or Y assumptions (e.g., positive view that assumes employees are motivated by being given responsibility). Although limited, research has shown that these managerial styles can affect employee motivation, performance, and satisfaction. However, there is no research that considers the relationship between Theory X and Theory Y attitudes and personality traits. Thus, this study explores the relationship between these managerial attitudes and the Big Five personality factors. It also investigates whether individuals change their Theory X and Y approach when presented with different organisational contexts. To explore these aims, participants who were managers ( $N = 62$ ) completed a validated scale of X and Y attitudes, and a Big Five personality measure: IPIP-NEO-120. Given that there were no existing measures of contextual factors in relation to X and Y, a scale was designed to assess the extent that such factors might affect Theory X or Y attitudes in those contexts. Results found that Agreeableness was the only Big Five trait that significantly related to Theory X and Theory Y orientation. It was also found that individuals became more Theory X or Y when presented with different contextual factors. These findings have implications for understanding how personality and contextual factors affect management behaviour, and for the training of managers in how an understanding of their own personality and contextual factors can be used to optimise their approach to managing employees.

**Declaration**

This thesis contains no material which has been accepted for the award of any other degree or diploma in any University, and, to the best of my knowledge, this thesis contains no materials previously published except where due reference is made. I give consent to this copy of my thesis, when deposited in the University Library, being available for loan and photocopying.

*Signature*

Hope Pine

**October 2018**

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## 1 Introduction

There have been many debates surrounding leadership and management concerning the most effective way to supervise employees. Previous research has shown that managerial style can have negative effects on subordinates, impairing their ability to perform and their job satisfaction (Lawter, Kopelman, & Prottas, 2015). Consequently, this may cause absenteeism, affect the employee's well-being (e.g., depression or stress resulting in WorkCover claims; Michie & Williams, 2003), and lead to turnover, all of which can have serious financial repercussions for the organisation.

A major factor to consider in relation to how managers supervise is managerial attitudes towards employees. The idea that a manager's attitudes towards employees can have an impact on their motivation was suggested by McGregor (1960) in a theory called *Theory X and Theory Y*. Each of these two distinct categories of assumptions determine how a manager deals with employees in a way considered best for the particular organisation. Theory X takes a more negative view of employees (e.g., untrustworthy and lazy), whereas, Theory Y takes a more positive view (e.g., employees can be trusted and are motivated if offered responsibility).

Another more general factor that has been found to contribute to effective management is the personality of the manager. For example, studies have found that the Big Five personality traits (Openness, Conscientiousness, Agreeableness, Extraversion and Neuroticism; OCEAN) predict leadership emergence and leadership effectiveness (Colbert, Judge, Choi, & Wang, 2012; Judge, Bono, Ilies, & Gerhardt, 2002).

Relatively little research has investigated how managers supervise employees in terms of the relationship between McGregor's *Theory X and Y* and personality. For example, given that certain individuals might be predisposed to be more of a Theory X or Y manager, are these

predispositions related to certain personality characteristics, particularly as McGregor assumed that they represent unconscious assumptions on the part of managers concerning the nature of employees. An alternative view is that these attitudes are learnt, perhaps from previous managers. These alternatives are important because they have implications for the extent to which individual managers can be trained to adopt attitudes, such as a more Theory Y approach, which can have a positive impact on employees' satisfaction and job performance.

### **1.1 Defining McGregor's *Theory X and Theory Y***

McGregor's *Theory X and Theory Y* considers the assumptions that managers have about human behaviour in organisations. In particular, it considers managers' attitudes about their employees and how best to manage them. In understanding the managers' assumptions, this theory has been very useful heuristically for the understanding of management behaviour in the field of organisational psychology. In McGregor's (1960) the *Human side of Enterprise*, two distinct categories of managerial assumptions were identified, a more pessimistic view (labelled X) and a more optimistic view (labelled Y). McGregor proposed many assumptions that typified each of the categories. For example, McGregor (1960) characterises Theory X managers as believing employees are lazy, resist change, need to be pushed to perform, prioritise security (e.g., money) above all else, cannot be trusted, and avoid responsibility. In contrast, he proposed that Theory Y managers believe the opposite, where employees will perform without force, are capable of providing ideas to their organisation, and can be trusted (McGregor, 1960). Furthermore, McGregor theorises that managers possessing Theory Y-type managerial attitudes will enact more Y-type managerial behaviours (McGregor, 1960). For instance, Theory Y

orientation individuals will provide higher levels of encouragement and responsibility (Lawter et al., 2015).

Despite the heuristic value of McGregor's theory, he failed to provide operational measures of these constructs. Thus, some previous research has attempted to produce useful scales to measure Theory X and Y attitudes (Fiman, 1973; Jones & Pfeiffer, 1972; Kopelman, Prottas, & Davis, 2008; Neuliep, 1987; Sager, 2008). However, in Fiman's (1973), Jones and Pfeiffer's (1972), and Neuliep's (1987) studies, there is no evidence of validity and reliability for the measures. Consequently, Kopelman et al. (2008) constructed their scale by combining two different scales; the Scanlon Leadership Network (n.d.) and Swenson (n.d.). However, as in previous scales, there was no available evidence to support the reliability and validity of this scale.

It was not until the work of Kopelman, Prottas, and Falk (2012) that a reliable and valid scale was developed. This quantitative measure places Theory X and Y attitudes on a continuum scale, which opposes certain aspects of McGregor's (1960) theory in which X and Y are dichotomous. However, despite Kopelman et al.'s. (2012) reliable and valid scale, there are still limitations to the measure. For example, the measure does not include any consideration of contextual factors that might affect how a manager supervise (e.g. whether a Theory X or Theory Y approach would be more appropriate for qualified and experienced employees versus inexperienced employees).

### **1.1.1 Research on *Theory X and Y***

Despite extensive research on other managerial and leadership styles and organisational performance, research on *Theory X and Y* is limited. Most studies examine this theory in relation to job satisfaction and job and organisational behaviour. For example, studies such as Gillman

(1993) and Gürbüz, Şahin, and Köksal (2014) found that managers with Theory Y assumptions have employees with higher job satisfaction, whereas, managers with Theory X assumptions have employees who are less satisfied with their job.

Given these findings, current research tends to favour the Theory Y approach to managing employees. However, this could be too simplistic because if an individual is strongly Theory Y, they could be naive and too trusting of employees, whereas, if an individual is strongly Theory X, they could be too domineering. This is highlighted by McGregor's (1967) recognition that Theory Y managerial style is not appropriate at all times. Bobic and Davis (2003) also argued that Theory Y is an incomplete theory of human motivation, and that the persistence of Theory X in management is partly due to employees' personalities that respond better to this style. However, there is no empirical evidence to support this.

Limited research has found that personality and demographic variables (e.g., gender) can influence an individual's Theory X or Y style (Kopelman et al., 2012; Sund, 2012). Sund (2012) found in a Master's thesis that the traits Openness to Experience, Agreeableness and the facet Dutifulness (from the trait Conscientiousness) were more likely to endorse Theory Y. Conversely, stress and people valuing power and security were more likely to endorse Theory X (Sund, 2012). However, this study uses Kopelman et al.'s (2008) unvalidated scale. Kopelman et al. (2012) found that age had a weak but statistically significant positive association with a Theory Y orientation, and that women had slightly but again significantly higher Theory Y scores than men, suggesting a gender difference. These findings of age and gender are consistent with Kopelman et al.'s (2008) study and the meta-analysis of Eagly, Johannesen-Schmidt and Van Engen (2003).

Although some individual factors have been considered with respect to the use of a Theory X

or Theory Y approach to managing employees, there has been no research on organisational factors, including the context of the situation that might be expected to also influence a Theory X or Theory Y approach (e.g., a tight deadline for a project might be expected to require a more Theory X than a Theory Y approach). Accordingly, due to the limited studies on *Theory X and Y*, there is a need for more research on how personality and contextual factors might influence and change the way a manager perceives and behaves towards employees.

## **1.2 Leadership and Management**

There are well-established leadership and management theories and models that are similar to *Theory X and Y* in nature. Research on these models have shown changes in leadership styles, depending on the organisational context, and they have also explored their relationship to personality, all of which are lacking in the research literature on *Theory X and Y*. In the following section, leadership and management will be defined, and the research literature concerning leadership theories relevant to *Theory X and Y* will be reviewed.

### **1.2.1 Defining Leadership and Management**

There are a variety of definitions of leadership, such as the ability to influence a group towards achieving the organisation's objectives (Robbins, Judge, Millett & Waters-Marsh, 2008). However, research shows that the concept of leadership is complex as there are multiple categories within leadership (i.e., different types of leadership styles). Similarly, there are disputes between whether leadership and management are different concepts, as some literature uses the terms interchangeably while other research supports the notion that these two concepts are entirely distinct. Kotter (1990) argues that leadership is primarily involved with establishing

direction, producing change, and motivation, whereas managerial responsibilities are concerned with planning, budgeting and organising staff (Kotter, 1990). Rost (1993) further argues that this distinction is based upon the hierarchical level of power, with management being inferior in this respect to leadership.

In opposition to this, Mintzberg (1990) and Northouse (2013) argue that leadership and management overlap regarding certain responsibilities (e.g., they both lead and goal attainment). An example illustrating leadership in management is when managers are influencing a group to achieve the organisation goals (Northouse, 2013). Overall, a literature review established a compromise that leadership and management are two distinct functions, but share duties which consist of influencing others to achieve goals (Algahtani, 2014).

### **1.2.2 Leadership and Management Theories and Styles**

Given the complexity of leadership and management, research has produced many theories to determine how individuals lead and manage, whether individual differences play a role, and what makes a leader effective. Lewin, Lippit and White (1939) theorised that there are three different leadership styles: autocratic, democratic and laissez-faire. Autocratic style is conceptually similar to the Theory X approach, where leaders have absolute power (i.e. making all the decisions) and maintain a hierarchical relationship with group members (Bunmi, 2007). In contrast, the democratic style uses a consultative approach and encourages group participation in decision making (Bunmi, 2007). Thus, this approach parallels Theory Y management. Bunmi (2007) conducted a study hypothesising that employees under an autocratic leadership will experience higher job-related tension; however, their results did not support this hypothesis, showing that an autocratic style does not have higher job-related tension.

Burns (1978) identified two distinct leadership styles that were: transformational (i.e., an interactive style) and transactional leadership (e.g., monitoring and controlling employees; Bono & Judge, 2004). Bass (1985) further identified eight dimensions of behaviours under these domains. For example, the dimension *Individual consideration* refers to leaders coaching and consulting employees (Bono & Judge, 2004). This dimension belongs to transformational leadership and is conceptually consistent with Theory Y, whereas, *Management by exception-active* belongs to transactional leadership and shows behaviours of monitoring performance, thus being conceptually more consistent with Theory X.

Other leadership models are based on contingency theories, such as Fiedler's Model of Leadership (1967), Situational Leadership Model (Hersey & Blanchard, 1969), and the Dunphy and Stace (1988, 1990) Contingency Model. Overall, these models assume that the success of leadership behaviour depends on the situation.

Hersey and Blanchard (1969, 1988) developed the Situational Leadership model that proposes there is an adaptive style, with no best single approach to leadership. These authors argue that effective leadership is task-relevant, and the best leaders are those who adapt their style to the performance readiness of the subordinates (Hersey & Blanchard, 1969). This model categorised all leadership styles into four behaviour types. For instance, directing is when a leader defines the role of the individual and provides instructions, conceptually similar to the Theory X approach, whereas, delegating is giving responsibilities to employees, paralleling a Theory Y approach (Hersey & Blanchard, 1969).

Dunphy and Stace (1988, 1990) also argue that appropriate organisational leadership is dependent on the situation; specifically, the extent to which the organisation is 'in fit' (i.e., meet market demands) or 'out of fit' (i.e., fails to meet demands) with its environment, the degree of

resistance to change, and the urgency of the change (Dunphy & Stace, 1990). The authors identify four different leadership styles: collaborative, consultative, directive, and coercive (Dunphy & Stace, 1990), with four associated change strategies that a leader should use when in a certain situation (Dunphy & Stace, 1988). For instance, a leader should most appropriately use dictatorial transformation (conceptually similar to Theory X) when the organisation is 'out of fit', and there is limited time for participation and incremental change is not possible (Dunphy & Stace, 1988). While there is some criticism of this model (e.g., in terms of its validity in practice; Bernard, 1995), a significant advantage of this approach is that it accommodates organisation transformation and allows for managers to systematically choose between various change strategies (Dunphy & Stace, 1988, 1993).

Whilst contingency theories argue that there is no one best leadership style, research suggests that participative or democratic leadership style is generally more effective. This is demonstrated in a meta-analysis, with results showing that democratic leadership may be more effective than autocratic when laboratory groups were given moderately to high complex tasks (Gastil, 1994). However, a limitation to this study involved experimentally manipulating a leadership style imposed on the group (Gastil, 1994).

An individual factor that has been researched in terms of its influence on leader effectiveness is trait personality theory. This theoretical approach proposes that certain traits differentiate leaders from other individuals. Early studies on trait theory were often inconsistent (Mann, 1958; Stogdill, 1948), as Stogdill (1948) reviewed 100 studies and found little consistency in the identified leadership traits. However, subsequent research in theories of personality resulting in the "Big Five" personality traits (OCEAN) has provided a potentially more useful framework for researching the relationships between personality and leadership (Colbert et al., 2012).



### **1.3 Personality (The Big Five)**

A widely known and empirically supported individual difference that affects the way we behave, feel and think is personality. Due to the popularity of personality research, there have been extensive theories and measures on this individual factor, such as Cattell's Sixteen Personality Factor (16PF; 1948) questionnaire. The 16PF model was based upon personality adjectives (e.g., liveliness); however, Cattell's model has undergone four revisions to address initial limitations (e.g., the absence of more general factors or sub-factors). Due to these limitations, researchers have developed a new model termed the Big Five personality traits with each trait having six facets. The Big Five has become one of the most popular measures supported by empirical evidence.

The Big Five measures personality traits including Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism (Costa & McCrae, 1992). Openness refers to an individual's intellectual curiosity and behavioural flexibility (Costa & McCrae, 1992). Conscientiousness reflects an individual's organisation, diligence, and efficiency. Extraversion is characterised as sociability, assertiveness, and the tendency to experience positive emotions (e.g. joy; Costa & McCrae, 1992). Agreeableness is primarily composed of interpersonal behaviour which reflects trust, sympathy, and cooperation (Costa & McCrae, 1992). Lastly, Neuroticism represents an individual's tendency to experience psychological distress (Costa & McCrae, 1992).

#### **1.3.1 Leadership and Personality**

Personality has been demonstrated to play an important role in how individuals manage others

and in particular, how certain personality traits predict better leadership. To demonstrate this, a meta-analysis found that the Big Five traits related to leadership success, with Extraversion being the strongest predictor and Neuroticism negatively related (Judge et al., 2002). In support of this, Colbert et al.'s (2012) study produced similar findings.

Barrick and Mount (1991) performed a meta-analysis by exploring the relationship between the Big Five and performance in different occupational groups. The results found that Conscientiousness consistently related to performance in all occupational groups, whereas, for the other remaining traits, the correlation scores varied by occupational group (Barrick & Mount, 1991). For instance, Extraversion was a valid predictor for two occupations involving social interaction: managing and sales (Barrick & Mount, 1991). Other studies, such as, Furnham, Eracleous, and Chamorro-Premuzic (2009) found Conscientiousness and job status were both significant predictors of job satisfaction.

#### **1.4 The Current Study**

The first aim of this exploratory study was to determine the extent that individual factors like personality, gender and age correlate with Theory X and Theory Y approaches to management. Finding any significant results in this area will help inform the literature concerning the extent that these individual factors play a role in leadership and managerial style. The second aim of the study was to examine the role of organisational factors by determining the flexibility of individuals in regards to changing their Theory X and Y orientation to management when presented with different management contexts (e.g., level of responsibility for task outcomes). Specific aims and hypotheses are displayed in Table 1.

Table 1

*Aims and Hypotheses for the Current Study*


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<b>Aim 1</b>	<p>To explore the relationship between individual factors including personality, age, and gender and Theory X and Y assumptions.</p> <p><b>Hypothesis 1:</b> Theory X and Y assumptions will relate to traits of the Big Five personality characteristics. Since there is limited research on this topic, only the traits Openness to Experience and Agreeableness are predicted to relate to Theory Y orientation, as previously found by Sund (2012).</p> <p><b>Hypotheses 2:</b> Based on previous research (e.g., Kopelman et al., 2012) it is predicted that females will score higher on Theory Y orientation.</p> <p><b>Hypothesis 3:</b> Based on previous research (e.g., Kopelman et al., 2012) it is predicted that older participants will score higher on Theory Y orientation.</p>
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<b>Aim 2</b>	<p>To investigate whether individuals change their orientation when presented with different management contexts.</p> <p>McGregor's Theory X, Theory Y assumed these styles were based on unconscious assumptions and hence were unlikely to change. However, it is predicted on the basis of many subsequently developed leadership theories on changing leadership styles in different organisational contexts that individuals will change their Theory X, Theory Y orientation when presented with different contextual factors.</p> <p>Given that Theory X, Theory Y can be considered as a continuum, it might be expected that those who are strongly Theory X or Y will be less likely to change</p>
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their orientation when presented with different contextual situations compared to those who are more neutrally Theory X or Y.

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## 2 Method

### 2.1 Ethical Considerations

The present study was approved through the Human Research Ethics Subcommittee of the University of Adelaide. Participants were assured that answers would remain anonymous and that only group results would be reported. Participants were given the opportunity to withdraw from the study at any time up until the submission of the questionnaire. Consent was required from each participant by agreeing to the information provided through clicking “okay”.

### 2.2 Participants

A cross-sectional design was used to collect data from  $N = 62$  participants (Female = 33, Male = 29), aged from 18 to 65 years ( $M = 35.65$ ,  $SD = 13.13$ ). Participants were recruited from the MBA executive training program through the Faculty of Business at the University of Adelaide ( $n = 11$ ), level one *Psychology 1B* students at the University of Adelaide in exchange for course credit ( $n = 7$ ), and the general community of South Australia (recruited via Facebook post, posters at the University of Adelaide, and snowball sampling;  $n = 44$ ). Participants who provided their email address were put in a draw to win a \$100 Westfield gift card. This was used to increase response rate. The inclusion criteria for the study specified that participants must be in a managerial position and be fluent in English.

#### 2.2.1 Participants Demographic Information

Table 2 shows the profiling of participants in regards to the demographic variables. It can be seen that there were slightly more females in this sample, the majority were tertiary trained but most had no executive training, most were employed full time, and the average

experience in a managerial role was six and a half years, varying from one month to 35 years ( $n = 59$ , three participants chose not to answer this variable).

Table 2

*Participants Demographic Information*

Variable	M(SD)	Frequency	%
Age	35.65(13.13)		
Under 25		15	24.2
Over 25 to 40		24	38.7
40 and Above		23	37.1
Gender:	1.53(.50)		
Male		29	46.8
Female		33	53.2
University student	1.66(.48)		
Yes		21	33.9
No		41	66.1
Executive Training:	1.82(.38)		
Yes		11	17.7
No		51	82.3
Education Level:	3.31(1.57)		
Completed year 12 or below		15	24.2
Certificates I-IV		4	6.5
Apprenticeship, Diploma or Advanced Diploma		8	12.9
Bachelor Degree or Honours		15	24.2

Post Graduate Certification	19	30.6
Employment Status:	1.69(1.08)	
Full time	38	61.3
Part time	12	19.4
Casual	8	12.9
Retired	1	1.6
Unemployed	3	4.8
Experience of managerial role:	6.53(7.73)	
Min = 0.01 (1 month)		
Max = 35 (years)		

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*Note.*  $M$  = mean;  $SD$  = standard deviation; Min = minimum; Max = maximum.

## 2.3 Measures

An online survey (Appendix A) that took approximately 20 minutes to complete was used to collect information for this study using four questionnaires. The following information was collected.

### 2.3.1 Demographic Information (7 items)

Participants' age, gender, highest level of education completed, employment status, the name of the organisation participants worked in, their position in that organisation, and the length of experience in that role.

### 2.3.2 Attitude Theory X and Theory Y Scale (10 items)

To measure Theory X and Y assumptions, the study implemented a modified version of the

Theory X and Y Attitude Scale (Kopelman et al., 2012). The original Theory X and Y Attitude Scale (Kopelman et al., 2012) was a 24-item questionnaire that required respondents to indicate the extent they agreed with each statement; however, through factor analyses, they excluded some items, resulting in a 10-item scale. This scale assessed whether an individual was less or more likely to display a Theory X or a Theory Y orientation.

This scale was chosen as it measures the two component dimensions of *Theory X and Y* assumptions that were: whether people are industrious or lazy, and whether people are capable or incapable of useful and creative accomplishments respectively. This scale, unlike some other Theory X and Y scales has been validated (Lawter et al., 2015). There were five items that examined the industrious component, such as "*People naturally like to work*", four items that measured the capability component, such as "*Employees possess imagination and creativity*", and one item that measured trustworthiness that was "*Most employees are trustworthy*". All questions were rated on a 5-point Likert-type scale (1 = strongly disagree, 2 = moderately disagree, 3 = neutral, 4 = moderately agree, and 5 = strongly agree).

### **2.3.3 Contextual Factors of Theory X and Y (10 items)**

This questionnaire employed ten different situations in relation to *Theory X and Y* assumptions. There were five contextual factors that favoured a more Theory X approach, and these variables were: time constraint, a manager's responsibility, a negative employee experience, goals and rewards, and improving work performance. An example of a contextual Theory X approach was, "*Given a tight deadline to finish a job, a manager will need to closely supervise employees to make sure they meet it*". There were also five contextual factors that favoured a more Theory Y approach, and these factors were: able employees, routine tasks,



group work, improving work conditions, and social activities. An example of a contextual Theory Y approach was, “*On routine tasks employees can be trusted to complete them with little or no supervision*”. This scale was designed for this study to measure whether participants’ changed their Theory X or Y approach, depending on the situation. All questions were rated on a 5-point Likert scale (1= strongly disagree, 2 = moderately agree, 3= neutral, 4= moderately agree, and 5= strongly agree).

### **2.3.3.1 Pilot Testing of the Contextual Factor Theory X and Y Measure**

There were no previous scales that measured contextual situations surrounding *Theory X and Y*, therefore, a measure was created to address this. Three pilot studies were conducted to try different options for contextual situations (Appendix B). For instance, the initial measure contained six items and concerned specific scenarios (e.g., “*As a manager, you and your staff have a project deadline by the end of the week and have to present it to the CEO, how far do you agree with these statements*”). Ten managers were used for pilot testing and common feedback suggested that the scale was too long, did not provide enough detail in each scenario and found difficulty in answering the questions. Subsequent revisions led to the 10-item scale, with five favouring Theory X and five favouring Theory Y (as described above in 2.3.3). All participants believed it was understandable, relevant, and most found no difficulty in answering it.

### **2.3.4 Theory X and Y Percentages on Attitudes of Employees (3 items)**

This measure used three questions that assessed whether an individual with a more Theory X or Y orientation would display the corresponding response to an X or Y percentage question. For example, an individual with a strong Theory X orientation would be expected to have a low percentage for all the questions, which would display a Theory X attitude towards employees.

The three questions were: “*What percentage of employees' in general, do you think are trustworthy?*”, “*What percentage of employees' in general, do you think really like to work?*”, and “*What percentage of employees' in general, are able to provide helpful ideas for the organisation they work in?*”. Two of these three factors were chosen as they were based on the component dimensions of capability and industrious, that were produced in Kopelman et al.'s (2012) study. A key assumption that underlies McGregor's *Theory X and Y* is trust, and this was the basis for the first question. These questions were rated on a scale as percentages, ranging from 0% to 100% (with 11 options, separated by 10% increments i.e., 10% and 20%). Higher percentages indicated that individuals displayed a more Theory Y orientation.

#### **2.3.4.1 Pilot Testing of Theory X and Y Percentages on Attitudes of Employees**

This measure was created to explore whether an individual's general beliefs concerning the nature of most people would match their Theory X and Y orientation. This led to developing the three item scale as described above in 2.3.4, and it was piloted tested on 10 people. There were no problems found.

#### **2.3.5 Personality Traits (120 items)**

Personality traits were measured using the IPIP-NEO-120 (Johnson, 2014), which is a shortened version of the NEO-PI-R (220 items), and is a public domain measure. It measures the Big Five personality traits: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (OCEAN), as well as the six facets that make up each of the five factors. This scale has been found to have high reliability and validity (Johnson, 2014; Maples, Guan, Carter, & Miller, 2014). The 120-item scale required participants to rate their opinion of themselves with

respect to each statement on a 5-point Likert scale (1= strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree). An example of statement in the scale include “*I cheat to get ahead*” (Agreeableness; measuring facet Morality; Johnson, 2014).

## 2.4 Procedure

*Psychology 1B* students were recruited through the University of Adelaide's Research Participation System. Participants recruited from the MBA executive training program were contacted via email from the Faculty of Business, and were invited to participate. Prior to commencement of the study, participants provided consent by agreeing to the information presented on the nature of the study, which stated that this study would be to explore the relationship between personality traits and management styles. Participants who agreed to participate were then asked to complete an online questionnaire through the software of *SurveyMonkey*, which remained available for a duration of nine weeks (02/07/18 – 04/09/18). The survey provided multiple statements and participants were asked to rate their answers using Likert rating scales. The questionnaire concluded with an option for participants to indicate if they wished to receive their individual results.

For both of the Theory X and Y Attitude Scale and the Contextual Theory X and Y scale, items were grouped accordingly to Theory X and Y. For example, item “most people are lazy and do not want to work” was categorised as a Theory X assumption. Then these responses were averaged. For the IPIP-NEO-120, items that were keyed negative (e.g., “I break the rules”) were reverse-scored, and items were grouped under their facet and for each trait. For instance, the item “I rarely overindulge” was categorised under the facet Immoderation, and Immoderation was categorised under the trait Neuroticism.

Given that there were no cut-off scores provided for Kopelman et al.'s (2012) scale and IPIP-NEO-120, categories of responses were created using the 5-point Likert scale. For managerial attitudes, contextual factors, and personality, three categories were created, people whose average score was low (ranged from 1 – 1.99; consistent with a response of strongly disagree or disagree to questions), people who scored neutrally (ranged from 2 – 3.99; consistent with a response of neither agree or disagree / neutral), and people who scored high (ranged from 4 – 5; consistent with a response of strongly agree or agree).

The percentages of attitudes towards people in general were scored low (ranged from 0 – 39), neutral (ranged from 40 – 79), or high (ranged from 80 – 100). These cut-offs were provided in order to determine if there were any differences between weakly, neutrally, and strongly Theory X or Y oriented managers in relation to individual differences and contextual factors. The covariate variable age, was divided into three groups accordingly: age under 25 (coded = 1), age over 25 to 40 (coded = 2), and age 40 and above (coded = 3). Gender was coded as follows: male = 1 and female = 2.

### 3 Results

#### 3.1 Data Screening and Quality Control

Data was analysed using SPSS Statistics (25) for Mac. Initially, 77 managers participated in the study; however, 15 participants were removed from the dataset, due to them not completing the full questionnaire, completing the questionnaire within five minutes indicating that they had not given it due consideration as most participants took 15 to 30 minutes, or did not meet the eligibility criteria. After excluding these participants, the sample size for statistical analyses was  $N = 62$ .

#### 3.2 Power Analysis

A priori power analysis was conducted, using G\*Power (3.1.9.3). The results indicated that a sample size of  $N = 128$  was necessary to achieve a power level of 0.80 when adopting a significance criterion of  $\alpha = .05$ , measuring medium effect size of  $d = 0.05$ , using Independent Samples t-test. Thus, this study had insufficient statistical power for this test. However, there was sufficient power to run correlational analyses, which needed sample size of  $N = 46$ .

#### 3.3 Inspection of Data

Data was inspected in terms of outliers, assessing normality of data, and testing assumptions required for analyses. Some outliers were observed in boxplots for attitudes of X, contextual X, contextual Y, Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. However, inspection of the 5% trimmed means revealed no significant difference to total mean scores. Thus, outliers were not removed. Histograms and a Shapiro-Wilk test showed that general Y attitudes, age, context Y and Conscientiousness had skewed distributions. Most scatterplots

displayed heteroscedasticity (a cone-like shape; Appendix C), and showing little to no linearity between both the dependent and independent variables. Consequently, the data violates assumptions of parametric tests (e.g., One-Way ANOVA), therefore non-parametric tests were used for analyses. Exploratory and confirmatory factor analyses were considered for this study for the measures created but the sample size was insufficient for such analyses.

### **3.4 Descriptive Statistics**

Table 3 shows that on average, people tended to score higher on a Theory Y orientation, compared to Theory X. This was consistent with the percentage of Theory X versus Theory Y attitudes, with the average score of 74%, suggesting that there was a strong bias towards Theory Y. A Theory Y orientation was also evident when presented with different contextual factors. These results are consistent with previous studies of Theory X and Y, which tend to show a Theory Y bias (e.g., Kopelman et al., 2012), thus reflecting a possibility of social desirability effect. In terms of their personality profiles, participants on average scored moderately on all traits of the Big Five, with scoring highest on Conscientiousness and lowest on Neuroticism. Cronbach's alpha indicated acceptable internal consistency for the personality scale, but not for Kopelman et al.'s (2012) validated scale of Theory X and Y nor for the contextual scale of Theory X and Y. Table 4 shows a correlation matrix that display the relationships between these variables described in Table 3.

Table 3

*Descriptive Statistics for Scales (N = 62)*

Scale	<i>M(SD)</i>	Min	Max	Alpha
<b>Theory X, Theory Y</b>				
<b>Scale</b>				
General X (DV)	2.23 (.62)	1.0	3.80	.64
General Y (DV)	3.74 (.54)	2.40	4.60	.64
<b>Theory X, Theory Y</b>				
<b>Context Measure</b>				
Contextual X (IV)	2.80 (.68)	1.0	4.20	.55
Contextual Y (IV)	4.25 (.52)	2.60	5.0	.60
<b>Theory X, Theory Y</b>				
<b>Attitudes</b>				
Percentage of Attitudes	7.41 (1.50)	2.66	9.66	.78
<b>Personality Scale</b>				
Neuroticism (IV)	2.76 (.50)	1.66	4.25	.87
Extraversion (IV)	3.41 (.45)	2.46	4.56	.84
Openness (IV)	3.30 (.46)	1.96	4.33	.80
Agreeableness (IV)	3.90 (.45)	2.50	4.83	.86
Conscientiousness (IV)	3.91 (.50)	2.50	4.71	.89

*Note.* DV= dependent variable, IV= independent variable, *Alpha* = Cronbach Alpha; General X and General Y = Kopelman et al.'s (2012) Attitude Scale; Contextual X and Y = scale measuring contextual factors that favour X and Y approach.

Table 4

*Spearman's Rho* correlations amongst variables

Scale	1	2	3	4	5	6	7	8	9
1. General X									
2. General Y	-.700**								
3. Contextual X	.42**	-.31*							
4. Contextual Y	-.45**	.45**	-.228						
5. Neuroticism	.15	-.18	.16	-.03					
6.. Extraversion	-.18	.25	-.08	.22	-.54**				
7. Openness	-.16	.14	-.07	.21	-.15	.47**			
8. Agreeableness	-.39**	.36**	-.09	.36**	-.18	.15	.23		
9. Conscientiousness	-.19	.15	-.13	.27*	-.37**	.34**	.10	.37**	
10. Percentage of Attitudes	-.55**	.64**	-.25	.48**	-.18	.16	.14	.47**	.29*

Note: \*\*p < .01. \*p < .05



Table 5 indicates that participants tended to score in the moderate range for each of the five personality traits, with a low percentage of participants scoring in the extreme divisions, excluding traits Agreeableness and Conscientiousness, on which participants scored highly ranging from 41.9% and 50% respectively. The majority of participants were in the moderate range for both Theory X and Theory Y orientations with relatively few in the extreme categories of Theory X or Theory Y. In Sund's (2012) study, there were no categories provided in terms on how participants scored on Theory X and Theory Y.

Table 5

*Descriptive Statistics of Categories and Scoring of Sample (N = 62)*

Categories	Frequency	%
<b>Theory X, Theory Y</b>		
<b>General X</b>		
Low	15	24.2
Moderate	47	75.8
High	0	0
<b>General Y</b>		
Low	0	0
Moderate	37	59.7
High	25	40.3
<b>Theory X, Theory Y Attitudes</b>		
Low	2	3.2
Moderate	35	56.5
High	25	40.3

**Personality****Neuroticism**

Low	3	4.8
Moderate	58	93.5
High	1	1.6

**Extraversion**

Low	0	0
Moderate	57	91.9
High	5	8.1

**Openness**

Low	1	1.6
Moderate	57	91.9
High	4	6.2

**Agreeableness**

Low	0	0
Moderate	36	58.1
High	26	41.9

**Conscientiousness**

Low	0	0
Moderate	31	50
High	31	50

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*Note.* For instance, low general X refers to number of participants who scored low on Kopelman et al.'s (2012) X items.

Table 6 shows the frequency of participants' responses for each contextual Theory X and Y situations. It can be seen that most people scored neutrally or highly on both X and Y situations, indicating that most participants were prepared to change to a more Theory X or Theory Y approach to management depending on the situation.

Table 6

*Categories and Scoring of Specific Contextual Items of X and Y*

Categories	Frequency	%
<b>1. Time Constraint (X)</b>		
Low	5	8.1
Neutral	22	35.5
High	35	56.5
<b>2. Experienced Group (Y)</b>		
Low	0	0
Neutral	11	17.7
High	51	82.3
<b>3. Routine Tasks (Y)</b>		
Low	0	0
Neutral	6	9.7
High	56	90.3
<b>4. Goals and Rewards (X)</b>		
Low	12	19.4
Neutral	35	56.5
High	15	24.2

**5. Manager Responsibility (X)**

Low	2	3.2
Neutral	25	40.3
High	35	56.5

**6. Improving Work Conditions (Y)**

Low	0	0
Neutral	3	4.8
High	59	95.2

**7. Negative Employee Experience (X)**

Low	20	32.3
Neutral	28	45.2
High	14	22.6

**8. Able Employees (Y)**

Low	0	0
Neutral	6	9.7
High	56	90.3

**9. Improving Work Performance (X)**

Low	11	17.7
Neutral	41	66.1
High	10	16.1

**10. Social Activities (Y)**

Low	1	1.6
Neutral	15	24.2
High	46	74.2

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*Note.* X = Items that favour an X approach, Y = Items that favour a Y approach.

### 3.5 Inferential Statistics

#### 3.5.1 Aim 1: Determining the relationship between *Theory X and Y* and the Big Five personality traits

Aim 1 was to explore the relationship between Theory X and Y and the Big Five personality traits. Given that the relationship between personality and other leadership styles has been established, with McGregor's (1960) theory being about related managerial styles, hypothesis 1 predicted that personality traits would relate to Theory X and Y. Covariates such as age and gender were also considered to determine their relationship with Theory X and Y orientation. Hypothesis 2 predicted that females will score higher on Theory Y orientation. Hypothesis 3 predicted that older participants will score higher on Theory Y orientation. These hypotheses were based on previous findings (e.g., Kopelman et al., 2012).

#### 3.5.2 Relationships between Attitudes X and Y, the Big Five, and Covariates (Hypothesis 1)

Pearson's correlational analysis was initially considered but as discussed previously, data violated the assumptions for Pearson's R and consequently, Spearman's Rho was used to determine the relationship between personality, covariates, and McGregor's (1960) *Theory X and Theory Y*.

As can be seen in Table 7, only the trait Agreeableness had a moderate statistically significant correlation with Theory X and Y. Agreeableness was positively associated with Theory Y, and negatively with Theory X. Thus, individuals with a more Theory Y managerial style tended to be more agreeable and those with a more Theory X-orientation tended to be less agreeable. This result is consistent with a similar finding by Sund (2012) who also found that the Agreeableness

trait of the Big Five correlated with Theory X and Theory Y. Thus, Hypothesis 1 was only partly supported.

The results also found that age was the only covariate that had a statistically significant moderate relationship with both Theory X and Theory Y, correlating positively with Theory Y and negatively with Theory X. This suggests that as people age, they become more Y-oriented and less X-oriented. This finding is consistent with Kopelman et al.'s (2012) study, and other leadership styles literature have found an equivalent age effect (e.g., Kotur & Anbazhagan, 2014).

Table 7

*Spearman's Rho Correlations Between X and Y Attitudes and the Big Five, Age and Gender*

Variables	X Attitudes	Y Attitudes
1. Neuroticism	( $r = .15, p = .25$ )	( $r = -.18, p = .16$ )
2. Extraversion	( $r = -.18, p = .15$ )	( $r = .25, p = .053$ )
3. Openness	( $r = -.16, p = .23$ )	( $r = .14, p = .27$ )
4. Conscientiousness	( $r = -.19, p = .14$ )	( $r = .15, p = .26$ )
5. Agreeableness	<b>(<math>r = -.39, p = .002</math>)</b>	<b>(<math>r = .36, p = .004</math>)</b>
6. Gender	( $r = -.04, p = .76$ )	( $r = -.14, p = .29$ )
7. Age	<b>(<math>r = -.36, p = .005</math>)</b>	<b>(<math>r = .46, p &lt; .001</math>)</b>

*Note.*  $r$  = Strength and Direction of Correlation,  $p$  = Level of Significance, and the bolded results indicate statistical significance.

Given that Agreeableness correlated with Theory X and Theory Y, facets of that trait were further explored in terms of the relationship; that is, Trust (A1), Morality (A2), Altruism (A3), Cooperation (A4), Modesty (A5), and Sympathy (A6). These findings are presented in Table 8.

The findings show that all facets of Agreeableness, except Modesty had a statistically significant association with both Theory X and Y attitudes. All facets correlated negatively but weakly with Theory X, except the facets Trust and Cooperation showing a moderate association. All facets except for Modesty, correlated positively but weakly with Theory Y, with the facets Trust, Cooperation, and Sympathy showing a moderate relationship. These results suggest that individuals with a more Theory Y orientation tend to have higher levels of trust, morality, altruism, cooperation, and sympathy, whereas, individuals that are more Theory X-oriented tend to have lower levels of trust, morality, altruism, cooperation, and sympathy.

The present results suggest that trust may be a key, if not the key personality factor contributing to a Theory X or Theory Y approach. There were insufficient data in the present study to conduct multiple regression, however, future studies with larger numbers of participants would be useful to determine the relative contribution of different factors to Theory X and Theory Y scores.

Table 8

*Spearman's Rho Correlations of X and Y Attitudes and Agreeableness Facets*

Facets	Attitudes X	Attitudes Y
1. Trust	$(r = -.43, p < .001)$	$(r = .46, p < .001)$
2. Morality	$(r = -.27, p = .03)$	$(r = .27, p = .03)$

3. Altruism	<b>(<i>r</i> = -.29 , <i>p</i> = .02)</b>	<b>(<i>r</i> = .25, <i>p</i> = .05)</b>
4. Cooperation	<b>(<i>r</i> = -.31 , <i>p</i> = .02)</b>	<b>(<i>r</i> = .35, <i>p</i> = .01)</b>
5. Modesty	( <i>r</i> = -.05 , <i>p</i> = .71)	( <i>r</i> = -.02, <i>p</i> = .87)
6. Sympathy	<b>(<i>r</i> = -.29 , <i>p</i> = .02)</b>	<b>(<i>r</i> = .30, <i>p</i> = .02)</b>

*Note.* *r* = Strength and Direction of Correlation, *p* = Level of Significance, and the bolded results indicate statistical significance.

### 3.5.3 Gender Differences on Attitudes X and Y (Hypothesis 2)

As already indicated assumptions were violated for parametric tests so non-parametric Mann-Whitney U-Test was used to address hypothesis 2. As indicated in Table 9, no statistically significant gender differences between males and females were found for Theory X and Theory Y orientations. Thus, females did not score lower on Theory X and higher on Theory Y orientation, which does not support hypothesis 2. This was inconsistent to Sund’s (2012) and Kopelman et al.’s (2012) findings.

Table 9

*Mann-Whitney U-Test Results for Gender Difference on Attitudes X and Y*

Orientation	Male ( <i>Mdn</i> )	Female ( <i>Mdn</i> )	<i>U</i> , <i>p</i> , <i>r</i>
1. Attitudes X	2.2	2.4	<i>U</i> = 456.5, <i>p</i> = .76, <i>r</i> = -.04
2. Attitudes Y	4	3.6	<i>U</i> = 403, <i>p</i> = .28, <i>r</i> = -.14

*Note.* *Mdn* = Median, *U* = Mann-Whitney U Value, *p* = Level of Significance, *r* = Effect Size



### **3.5.4 Age Difference on Attitudes X and Y (Hypothesis 3)**

A Kruskal Wallis H Test found a statistically significant difference between age groups on Theory Y ( $H(2) = 8.8, p = .01$ ), with a mean rank of 22.7 for age group under 25, 29.2 for age group over 25 to 40, and lastly 39.6 for group above 40. The mean rank shows that the age group above 40 scored higher on Theory Y orientation, compared to the other two groups. Thus, this supports Hypothesis 3. This contrasts with Sund's (2012) study that found there was no significant age differences on attitudes of Theory X and Y, but supports Kopelman et al.'s (2012) findings.

### **3.5.5 Aim 2: Determining changes in Theory X and Y orientation on Contextual Factors and Personality**

Aim 2 was to explore whether people change their natural orientation when presented with different management contexts. It is evident from the results presented in Table 3 that when individuals were presented with different contextual situations, individuals scored higher on both Theory X and Y. To confirm this, Spearman's correlation analyses were used to test the relationship between individuals' general attitudes and the overall contextual Theory X and Y scoring. This was further explored for each contextual factor in relation to Theory X and Y attitudes. Multiple regression was considered to determine which independent variables were the strongest predictor in managerial orientation, however, as discussed above data violated these assumptions.

Table 5 indicates that there were no strongly Theory X or weakly Theory Y individuals. However, there were individuals who scored neutrally and highly on Theory Y attitudes. Thus, these two groups were compared to determine whether individuals who scored high on Theory Y

were more likely to change their style in different contextual situations, compared to individuals who scored neutrally on Y. This was further explored by comparing these two groups against personality, to determine whether highly Theory Y individuals were higher on certain personality traits compared to neutrally Y individuals.

### **3.5.6 Theory X and Y Attitudes and Specific Contextual Factors**

Spearman's correlations were used to analyse the relationship between Theory X and Y management styles and specific contextual factors favouring Theory X and Y approaches. Table 10 shows that both attitudes of Theory X and Y had a statistically significant association with contextual Theory X and Y factors. This suggests that individuals become more Theory X oriented when presented with situations favouring a Theory X approach, whereas, individuals become more Theory Y oriented when given a context that favours a Theory Y approach.

Of the 10 contextual items, only six significantly correlated with Theory X, having a negative and moderate relationships with variables: experienced group, routine tasks, and social activities. Thus, the more Theory X-oriented the individual is, the less they trust experienced work groups, the less they trust employees' performing routine tasks, and the less they believe employees are capable of deciding what kinds social activities to have. Only goals and rewards, improving work performance and negative employee experience positively and moderately associated with Theory X. This indicates that, as an individual's orientation increases in Theory X, so does their need for setting goals, rewards and work performance for employees without having to consult them, and closer supervision of employees when they have a negative employee experience.

Seven out of 10 contextual items significantly correlated with Theory Y, having negative and

moderate relationships with goal and rewards, negative employee experience, and improving work performance. This indicates that strongly Theory Y individuals are associated with lower levels of supervision, and higher levels of consulting employees on setting goals and rewards and how to improve performance. Furthermore, highly Theory Y individuals are associated with higher levels of trusting an experienced group to complete tasks with little to no supervision, increased levels of believing employees are capable of making useful suggestions about working conditions, and social activities, and higher levels of little to no supervision for able employees.

Table 10

*Spearman's Rho Correlations between X and Y attitudes and overall and specific Contextual Factors of both X and Y*

Variables	Attitudes X	Attitudes Y
1. Context X	<b>(<math>r = .42, p = .001</math>)</b>	<b>(<math>r = -.31, p = .02</math>)</b>
2. Context Y	<b>(<math>r = -.31, p = .02</math>)</b>	<b>(<math>r = .45, p &lt; .001</math>)</b>
3. Time Constraint (X)	( $r = .0, p = .99$ )	( $r = .12, p = .37$ )
4. Experienced Group (Y)	<b>(<math>r = -.33, p = .01</math>)</b>	<b>(<math>r = .27, p = .03</math>)</b>
5. Routine Tasks (Y)	<b>(<math>r = -.36, p = .004</math>)</b>	( $r = .23, p = .08$ )
6. Goals and Rewards (X)	<b>(<math>r = .34, p = .007</math>)</b>	<b>(<math>r = -.31, p = .01</math>)</b>
7. Manager Responsibility (X)	( $r = .09, p = .48$ )	( $r = -.02, p = .88$ )
8. Improving Work Conditions (Y)	( $r = -.25, p = .054$ )	<b>(<math>r = .28, p = .03</math>)</b>

9. Negative Employee Experience (X)	<b>(<math>r = .42, p = .001</math>)</b>	<b>(<math>r = -.30, p = .02</math>)</b>
10. Able Employees (Y)	( $r = -.17, p = .18$ )	<b>(<math>r = .27, p = .03</math>)</b>
11. Improving Work Performance (X)	<b>(<math>r = .35, p = .005</math>)</b>	<b>(<math>r = -.44, p &lt; .001</math>)</b>
12. Social Activities (Y)	<b>(<math>r = -.36, p = .004</math>)</b>	<b>(<math>r = .39, p = .002</math>)</b>

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*Note.*  $r$  = Strength of Correlation,  $p$  = Level of Significance, bolded significance indicates significant relationship.

### 3.5.7 Contextual Theory X and Y Factors on Neutrally and Highly Theory Y Individuals

A Mann-Whitney U-Test was used to compare the difference between individuals who were neutrally Theory Y versus highly Theory Y, when given different organisational situations. The results show that there was a statistically significant difference between those who scored highly on Theory Y and those who scored neutrally on Theory Y for both the average of contextual Theory X and Y situations. The result indicated that highly Theory Y individuals changed their orientation more when given situations that favoured a Theory Y approach ( $Mdn = 4.2$ ), than for neutrally Theory Y individuals ( $Mdn = 3.6$ ),  $U = .000, p < .001, r = -5.84$ . In contrast, individuals who scored neutrally on Theory Y changed their orientation more when given situations that favoured a Theory X approach ( $Mdn = 2.4$ ), than highly Theory Y individuals ( $Mdn = 2.0$ ),  $U = 155, p < .001, r = -3.88$ .

These results suggest that people who are strongly Theory Y-oriented are less likely to change their own orientation to Theory X management style even when presented with different situations, compared to people who are neutrally Theory Y-oriented.

### 3.5.8 The Big Five personality traits of Neutrally and Highly Theory Y Individuals

As can be seen in Table 11, a Mann-Whitney U-Test found there was only a statistically significant difference for the trait Extraversion between highly Theory Y individuals ( $Mdn = 3.58$ ) and neutrally Theory Y individuals ( $Mdn = 3.3$ ),  $U = 309$ ,  $p = .03$ ,  $r = -1.93$ . However, Agreeableness and Neuroticism were close to significance ( $p = .06$ ,  $p = .06$  respectively). Thus, the significant result suggests that people who are strongly Theory Y-oriented are higher on Extraversion, than neutrally Theory Y people. These results are unexpected, as it was expected there would be a difference in Agreeableness as this was the only trait that related to Theory X and Y.

Table 11

*Mann Whitney U-Test on Big Five Between Neutrally and Highly Y Individuals*

Variables	Neutrally Y ( <i>Mdn</i> )	Highly Y ( <i>Mdn</i> )	<i>U, p, r</i>
1. Neuroticism	2.8	2.5	$U = 329, p = .06, r = -1.68$
2. Extraversion	3.3	3.58	$U = 309, p = .03, r = -1.93$
3. Openness	3.25	3.33	$U = 392, p = .31, r = -.09$
4. Agreeableness	3.8	4	$U = 330.5, p = .06, r = -1.66$
5. Conscientiousness	3.96	4	$U = 422.5, p = .56, r = -.51$

*Note.* *Mdn* = Median, *U* = Mann-Whitney U Value, *p* = Level of Significance, *r* = Effect Size

## 4 Discussion

Researching the relationship between managerial styles, personality, and management contexts is of both theoretical and practical importance, as a better understanding of leadership and how it can be optimised for different contexts are needed to achieve better outcomes for staff and organisations. Given the lack of research surrounding McGregor's (1960) theory, specifically, in relation to individual factors (e.g. personality), the first aim of this study was to investigate the relationship between Theory X and Theory Y managerial styles and individual factors, particularly personality. A second aim of the study was to investigate the extent to which people can change between Theory X and Theory Y styles depending on the organisational situation.

### 4.1 Theory X, Theory Y Scores

It was found that most participants in the present study scored more towards a Theory Y orientation. This is consistent with Sund's (2012) and Kopelman et al.'s (2012) findings that show their samples were also biased towards Theory Y. These results could be partly attributed to social desirability bias, as other related-leadership styles (e.g. transformational; conceptually consistent with Theory Y) literature suggest that leaders perceive certain leadership styles as more socially acceptable than others (Brown & Reilly, 2009). Given that both Sund (2012) and Kopelman et al. (2012) did not provide categories on Theory X and Y (e.g. strongly Theory X), the current findings on Theory X and Y categories could not be compared with those studies.

#### **4.2 Aim 1: Determining the Relationship between Theory X and Theory Y and Individual Factors**

With respect to the first aim of the study, the findings only partly supported hypothesis 1, as only one trait, Agreeableness, correlated significantly with Theory X and Y orientation. The findings with respect to Agreeableness are consistent with Sund (2012) who also found that it correlated with Theory X and Y. In the present study, all facets of Agreeableness except for Modesty related to both the management styles, showing that people who were more Theory Y-oriented were associated with having higher levels of trust, morality, altruism, cooperation, and sympathy, whereas this was the opposite for Theory X-oriented individuals. Sund (2012) did not explore all facets of the traits (e.g. Agreeableness), thus current results could not be compared. However, unlike the present study, Sund (2012) also found that Openness to Experience and a facet of Conscientiousness, Dutifulness correlated as well. The different findings in the two studies may be partly due to differences between them including the measures used for the Big Five and Theory X and Y attitudes. The current study used more recent and validated scales of these constructs. However, since that study and this are the only two studies of this kind, there is a need to replicate these findings.

The present results showing that only Agreeableness correlated significantly with Theory X and Y also contrasts with other types of leadership-related styles, which have been found to correlate with most if not all of the Big Five personality traits. For example, Judge et al.'s (2002) meta-analysis found that all five traits correlated with transformational leadership (i.e. interactive style), with Extraversion emerging as the strongest and Agreeableness being the weakest of the Big Five traits. Judge et al (2002) state that a possible reason for this is because agreeable individuals tend to be passive and compliant, with a lower probability of emerging as leaders.

Similarly, Hassan, Asad and Hoshino (2016) found that domineering leadership styles (e.g., task-orient and autocratic; conceptually consistent with Theory X) consistently related to high Conscientiousness, moderately high Extraversion and Agreeableness, and moderately low Openness to Experience. Participative Decision Making leadership styles (e.g., relationship-oriented and democratic; theoretically consistent with Theory Y) were related to high Extraversion, Neuroticism (emotional stability), and Openness to Experience (Hassan et al, 2016).

A possible explanation for the contrast between the current and previous findings on other leadership styles, is that McGregor's (1960) theory is somewhat different to other managerial and leadership styles. As Theory X and Theory Y management styles are based upon generally negative or positive assumptions respectively about people in general, with trust being one of the most fundamental components (McGregor, 1960). Thus, it is plausible that Agreeableness should relate to these two constructs, as the current findings support McGregor's (1960) notion that Theory Y individuals have higher levels of trust in employees, as a facet of Agreeableness, compared to Theory X individuals.

Results for the other individual factors, such as gender and age were mixed. Hypothesis 2 was not supported as there was no significant gender difference found with Theory X and Y. This is contrary to the findings of Sund (2012) and Kopelman et al. (2012), as both studies found a significant gender difference where women scored slightly higher on Theory Y orientation. The gender balance was only slightly better for the current study as 53.2% were females, compared to Sund's (2012) and Kopelman et al.'s (2012) with 56%, 60% respectively.

The different gender findings between the current and previous findings of Theory X and Y,



can be related to mixed findings in the leadership research. Eagly et al. (2003) argued that gender differences found in transformational leadership style were due to females being more likely to adopt transformational leadership because it allowed them to adopt behaviours that were less masculine. However, Wille, Wiernik, Vergauwe, Vrijdags and Trbovic (2018) investigated personality characteristics of male and female executives, and found that both groups demonstrated a similar pattern of classically masculine personality traits.

Results supported Hypothesis 3 and showed a difference between age groups on the orientation of Theory Y, with older participants displaying a more Theory Y style. This contrasts with Sund's (2012) findings, as she found no significant difference between groups on the basis of age. However, current results support Kopelman et al.'s (2012) findings on Theory X and Y, that suggests as people age the more they believe employees can be trusted and that employees are motivated. The current results are also consistent with age effects in other leadership-related styles, where Kotur and Anbazhagan (2014) found that employees tend to be less authoritative as they age. Kotur and Anbazhagan (2014) provide a possible reason for this; that is, as individuals successfully adapt to their environment and gain knowledge, they tend to become more flexible and less assertive, thus exhibiting lesser authority on their staff. This explanation could also apply to the differences between age groups on the orientation to a more Theory Y style.

#### **4.3 Aim 2: Theory X and Y Orientation and Contextual Factors and Personality**

Given the absence of research literature concerning Theory X and Y and contextual factors, it was difficult to make specific predictions with respect to the second aim of the study. McGregor (1960) assumed that Theory X and Theory Y orientations were based on unconscious assumptions about the nature of people and therefore would be unlikely to change very much.

However, the results were consistent with more recently developed leadership theories that emphasise the need to adapt to different contexts, as participants did change their Theory X or Theory Y orientation depending on the situation. Managers with a more Theory X managerial style were associated with organisational contexts involving closer supervision of employees, and setting goals and rewards for employees without consulting them. Managers with a more Theory Y managerial style were associated with contexts involving higher levels of trust in an experienced group and able employees, and were more likely to believe employees are capable of providing suggestions about working conditions.

The results also indicated that strongly Theory Y managers were less likely to change their own orientation than more neutrally Theory Y managers when presented with different contexts that might favour a more Theory X orientation (e.g., improving work conditions without consulting employees). This suggests that managers with strong Theory Y type assumptions may be less adaptable to different situations than managers with more neutral Theory Y assumptions. Hersey and Blanchard's (1969) argue that the best leaders adapt their style depending on the performance readiness of employees, and the present results suggests that individuals who are more neutrally Theory Y may be better in this respect than those who are strongly Theory Y. Unfortunately, there were no participants with a strong Theory X orientation to assess whether they might also be less likely to change their orientation depending on different circumstances, compared with those who have a more neutral Theory X orientation.

Overall these findings support a variety of studies that suggest organisational leadership is dependent on the situation (Dunphy & Stace, 1990; Fiedler, 1967; Hersey & Blanchard 1969). Further exploration of strong versus more neutral Theory Y orientations showed that only the trait Extraversion was significantly higher in strongly Theory Y individuals compared with more

neutral Theory Y orientations. This was unexpected because only the trait Agreeableness significantly related to Theory X and Y although Extraversion did approach significance ( $p = .053$ ) for Theory Y. These results require replication before speculating on the reasons for such effects.

#### **4.4 Limitations and Methodological Considerations**

Some methodological considerations should be taken into account when interpreting the results. Firstly, administering self-report instruments could have led to socially desirable responses, as Theory Y attitudes are known to be perceived as “positive” (Kopelman et al., 2012). Consequently, some participants could have presented themselves in a more Theory Y orientation, when in reality they possess more of a Theory X approach in the workforce. Nevertheless, when given organisational contexts in which a more Theory X management style might be appropriate, most participants did change to a more Theory X orientation. The subjectivity of these managerial attitudes shows how difficult it can be to measure McGregor's (1960) theory without using practical examples. In the present study they were hypothetical examples but managers could be asked in similar studies to provide examples of how they have managed in such situations to validate what they say they would do.

A second limitation of the study was its cross-sectional nature and its use of correlational analyses which means it is not possible to infer causation with respect to personality and a Theory X, Theory Y orientation. However, to the extent that personality has a genetic component, the results suggest that those with a more agreeable temperament might be inclined to adopt a more Theory Y orientation, even if exposed to a more Theory X mentoring. This might

be tested in further research by assessing the influence of Theory X or Theory Y mentors on managers' development of a more Theory X or Y management style.

A major limitation was the sample size which limited the analyses used, and greatly reduced the power of the study. In the similar study by Sund (2012), 115 participants were used which was greater than the present study. Additionally, the resources available for the present study were restricted (e.g. time) which made it impractical to validate the newly developed context scale beyond using pilot studies. Also, snowball sampling was used with the general population, which although they were all required to be managers, causes a higher possibility of sampling bias and reduces the representativeness of the sample.

#### **4.5 Strengths of the Current Study**

The primary strength of the current study is that it provides empirical evidence that has been lacking with respect to the conceptualisation of McGregor's (1960) theory, and specifically, to show how a measure of Theory X and Theory Y relates to personality traits. Furthermore, to the best of the researcher's knowledge, this was the first study to create a contextual scale to investigate the extent to which Theory X and Theory Y management styles might be affected by different organisational contexts. Previous conceptualisations of the concept have implied that Theory X and Y represents fixed management styles based on unconscious beliefs about the nature of employees. The context scale developed for this study suggested that they might be more adaptable to different situations than has previously been considered. Finally, although the sample was relatively small with consequent issues of generalisability of the results, the use of managers in the current study is a strength, as McGregor's (1960) theory is concerned with management.

#### **4.6 Implications and Practical Applications**

The results presented have a number of important implications. First, it has been demonstrated that certain personality traits may predict more of a Theory X or Theory Y management style. This knowledge may provide managers with insights as to why they may favour a particular management style. In management training courses, it would be important for managers to be aware that their personality and attitudes can affect the way they assume employees should be managed. An understanding of this relationship may also provide insight into a leader's fit with an organisation's management culture. Secondly, the results suggest that managers are prepared to change their managerial style depending on context, which suggests that they can adapt their management styles. This also has implications for management training where an understanding of different contexts and how they might best be dealt with could help managers to adjust their management style appropriately rather than not at all or arbitrarily.

#### **4.7 Directions for Future Research**

There is a need for future research to replicate the present study with different types of managers, in different organisations, and with larger numbers of managers to allow for more in depth analyses. There was some consistency in the findings between this study and the only other study of this kind but further studies are needed to confirm which personality traits and facets are most relevant to Theory X and Theory Y management styles. The present study found that the facet related to trust had the highest correlation, and although this would be consistent with trust being a key element underlying Theory X and Theory Y, the result needs to be replicated. There is also a need to extend measures beyond self-ratings to include observer-ratings (e.g., a manager and their subordinate) and examples of the use of Theory X and Theory Y in practice. Given that

a contextual scale had to be created for this exploratory study without the resources needed to properly validate it, research should investigate its test-retest reliability and validity and whether it can be further developed. It would also be interesting to investigate organisational context effects of management training on Theory X and Theory Y attitudes and changes in such attitudes depending on the context.

The present study has contributed to a better understanding of McGregor's (1960) theory. The results of this study and further studies of this kind have the capacity to provide important insights concerning how personality and organisational contexts influence management styles. Such findings are important for both managers and organisations, particularly in the context of training programs seeking to improve management performance.

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## Appendix A: Survey



### Managerial Attitudes: The Relationship Between Personality and Management Styles

#### Participant Information Sheet

Dear Participant,

You are invited to participate in the research project described below.

#### What is the project about?

This project seeks to explore the relationship between key personality traits and management styles.

#### Who is undertaking the project?

This project is being conducted by Psychology Honours student Hope Pine. This research forms the basis for the degree of a Bachelor of Psychological Science (Honours) at the University of Adelaide, under the supervision of Dr. Neil Kirby.

#### Why am I being invited to participate?

You are being invited as you are:

- In a managerial position (i.e. supervisor, CEO).
- Proficient in English

#### What am I being invited to do?

You are being invited to complete a questionnaire about management styles and personality.

#### How much time will my involvement in the project take?

The survey will take approximately 25 minutes to complete.

#### Are there any risks associated with participating in this project?

There is an inconvenience in participating in this project as it takes time to fill out the survey. If there is an event of an incident of adverse event, researchers will report to the HREC statement.

#### What are the potential benefits of the research project?

There are no immediate benefits to the participants, however, the research may result in helping organisations to train managers.

#### Can I withdraw from the project?

Participation in this project is completely voluntary. If you agree to participate, you can withdraw from the study up until the submission of the survey.

#### What will happen to my information?

Participation is anonymous and all efforts will be made to remove any information that might identify you, however, if the sample size is small, complete anonymity cannot be guaranteed. Despite this, the utmost care will be taken to ensure that no personal identifying details are revealed.

The information and datasets will be securely stored on laptop which has a password that only the student researcher has access to.

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The data will be kept until October 2018. The information and results might be published in a journal article and there will be a honours thesis presentation. Participants will not be identified in publications. Your information will only be used as described in this participant information sheet and it will only be disclosed according to the consent provided, except as required by law.

**Who do I contact if I have questions about the project?**

Participants can email student researcher Hope Sheree Pine at [a1668163@adelaide.edu.au](mailto:a1668163@adelaide.edu.au) to ask any questions about the project. Dr. Neil Kirby is also available for questions at [neil.kirby@adelaide.edu.au](mailto:neil.kirby@adelaide.edu.au).

**What if I have a complaint or any concerns?**

The study has been approved by the Human Research Ethics Committee at the University of Adelaide (approval number H-2018-1850). This research project will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research (2007). For any questions concerning the ethics from the study, please contact the convener of the Subcommittee for Human Research in the School of Psychology, Dr. Paul Delfabbro, 8313 4936.

Yours sincerely



## Managerial Attitudes: The Relationship Between Personality and Management Styles

### Consent

1. I have read the attached Information Sheet and agree to take part in the following research project:

#### **PERSONALITY AND MANAGEMENT STYLES**

Ethics Approval Number: 1850

2. I have had the project, so far as it affects me, and the potential risks and burdens fully explained to my satisfaction by the research worker. I have had the opportunity to ask any questions I may have about the project and my participation. My consent is given freely.

3. Although I understand the purpose of the research project is to improve the quality of health/medical care, it has also been explained that my involvement may not be of any benefit to me.

4. I agree to participate in the activities as outlined in the participant information sheet.

5. I understand that I am free to withdraw from the project at any time and that this will not affect medical advice in the management of my health, now or in the future.

6. I have been informed that the information gained in the project may be published in a thesis.

7. I have been informed that in the published materials I will not be identified and my personal results will not be divulged.

8. I agree to my data to be shared on an online digital repository and to being used for future research purposes.

9. My information will only be used for the purpose of this research project and it will only be disclosed according to the consent provided, except where disclosure is required by law.

10. I am aware that I should keep a copy of this Consent Form, when completed, and the attached Information Sheet.





## Managerial Attitudes: The Relationship Between Personality and Management Styles

1. If you are completing this survey as part of course credit for the University of Adelaide, please provide your Research Participation System ID number (you can find this on your profile page on the Research Participation System) - if this does not apply to you please skip.

\* 2. Gender

- Male
- Female
- Prefer not to answer

\* 3. Age (in years)

4. What is the highest level of education you have completed?

- Completed year 12 or below
- Bachelor Degree or Honours
- Certificates I-IV
- Post Graduate Certification
- Apprenticeship, Diploma, or Advanced Diploma

\* 5. Are you currently a University student?

- Yes
- No

6. If you are a University student, what is your degree?

\* 7. Are you currently enrolled/have completed the Executive Training Program at the University of Adelaide?

- Yes
- No

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\* 8. What best describes your employment status

Full Time

Retired

Part Time

Unemployed

Casual

9. If employed, what is the name of your organisation? (i.e. Australian Taxation Office)

10. If employed, what is your position within that organisation? (i.e. Operations Officer)

11. How much experience do you have in your current role? Specify in months and/or years (If not applicable, write NA).

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**Managerial Attitudes: The Relationship Between Personality and Management Styles**

\* 12. Rate the extent to which you agree or disagree with the following statements using a scale from 1 to 5, with 1 being strongly disagree and 5 being strongly agree. Fill in only one response per statement.

	1 Strongly Disagree	2 Moderately Disagree	3 Neutral	4 Moderately Agree	5 Strongly Agree
Most people will try to do as little work as possible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people are industrious	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people are lazy and don't want to work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People naturally like to work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most employees will slack off if left alone by managers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most employees are capable of providing ideas that are helpful to the organisations where they work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees possess imagination and creativity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees' ideas are generally not useful to organisations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most employees lack the ability to help the organisations where they work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most employees are trustworthy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Managerial Attitudes: The Relationship Between Personality and Management Styles

\* 13. Rate the extent to which you agree or disagree with the following statements using a scale from 1 to 5, with 1 being strongly disagree and 5 being strongly agree. Fill in only one response per statement.

	Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree
Given a tight deadline to finish a job, a manager will need to closely supervise employees to make sure they meet it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A manager can trust experienced work groups to find the best way to do new tasks by themselves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
On routine tasks, employees can be trusted to complete them with little or no supervision.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managers should set goals and rewards for employees without having to consult them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If the outcome of a project is the manager's responsibility, employees will need to be closely supervised to make sure it is completed properly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees can make useful suggestions about how their working conditions could be improved.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A new manager who encounters a lazy employee should closely supervise the others to ensure there are no other lazy employees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>





**Managerial Attitudes: The Relationship Between Personality and Management Styles**

**The NEO Inventory measures five broad domains, or dimensions, of personality. The responses that you give to the statements about your thoughts, feelings, and goals can be compared with those of other adults to give a description of your personality.**

**The NEO inventory measures differences among normal individuals. It is not a test of intelligence or ability, and it is not intended to diagnose problems of mental health or adjustment. It does, however, give you some idea about what makes you unique in your ways of thinking, feeling, and interacting with others.**

\* 15. Read each statement carefully. For each statement select the response that best represents your opinion. Make sure your answer is in the correct box. For example, if you strongly disagree or believe a statement is definitely false, you would select the strongly disagree option. Fill in only one response for each statement.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
I worry about things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I make friends easily	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a vivid imagination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I trust others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I complete tasks successfully	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get angry easily	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I love large parties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe in the importance of art	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often use others for my own ends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to tidy up	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often feel blue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I take charge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experience my emotions intensely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I love to help others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
I keep my promises	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find it difficult to approach others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am always busy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer variety to routine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I love a good fight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I work hard	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I go on binges	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I love excitement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I love to read challenging material	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that I am better than others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am always prepared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I panic easily	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I radiate joy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to vote for liberal political candidates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sympathise with the homeless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often jump into things without thinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often fear the worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel comfortable around people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy wild flights of fantasy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often believe that others have good intentions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I excel in what I do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get irritated easily	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to talk to a lot of different people at parties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often see the beauty in things that others do not notice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
I cheat to get ahead	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often forget to put things back into their proper place	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I dislike myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try to lead others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel others' emotions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am concerned about others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tell the truth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am afraid to draw attention to myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am always on the go	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to stick with things that I know	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often yell at people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often do more than what is expected of me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I rarely overindulge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I seek adventure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I avoid philosophical discussions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think highly of myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I carry out my plans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I become overwhelmed by events	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a lot of fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe there is no absolute right or wrong	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel sympathy for those who are worse off than myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often make rash decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often avoid contact with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am afraid of many things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
I love to daydream	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often trust what people say	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I handle tasks smoothly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often lose my temper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to be alone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not like poetry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I take advantage of others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I leave a mess in my room	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am often down in the dumps	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I take control of things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I rarely notice my emotional reactions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am indifferent to the feelings of others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I break rules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I only feel comfortable with friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do a lot in my spare time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I dislike change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often insult people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do just enough work to get by	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I easily resist temptations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy being reckless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have difficulty in understanding abstract ideas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a high opinion of myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I waste a lot of my time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I am unable to deal with things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
I love life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to vote for conservative political candidates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not interested in other people's problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often rush into things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get stressed out easily	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I keep others at a distance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to get lost in thought	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I distrust people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know how to get things done	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not easily annoyed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I avoid crowds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not enjoy going to art museums	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often obstruct others' plans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I leave my belongings around	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel comfortable with myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wait for others to lead the way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't understand people who get emotional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I take no time for others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often break my promises	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not bothered by difficult social situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to take it easy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am attached to conventional ways	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
I like to get back at others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I put little time and effort into my work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to control my cravings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I act wild and crazy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not interested in theoretical discussions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often boast about my virtues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have difficulty in starting tasks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I remain calm under pressure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I look at the bright side of life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that we should be tough on crime	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try not to think about the needy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often act without thinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



**Managerial Attitudes: The Relationship Between Personality and Management Styles**

\* 16. In addition to being appropriately skilled, what are the personality characteristics do you think that a good manager should have?

A good manager should be;

\* 17. In addition to being appropriately skilled, what are the personality characteristics do you think that a good manager should NOT have

A good manager should NOT be;

18. Please feel free to leave a comment about the questions you have answered (whether it is feedback i.e. had issues with any of the questions, your general thoughts, et cetera).

19. Please leave your email address if you wish to enter the draw to win \$100 Westfield gift card. If you would like to know your individual results, please indicate.

## Appendix B: Pilot Test of Contextual Situations

### Pilot Test One

As manager, you and your staff have a project deadline by the end of the week and have to present it to the CEO, how far do you agree with these statements:

1. I will allow employees to be creative with this project (Y statement)
2. I don't need to motivate my employees to do this project because they like doing their job (Y statement)
3. I need to motivate and push my employees to make sure we meet the deadline (X statement)
4. I will hold regular meetings and reports during the week up until the presentation to ensure the efficacy of the project (X statement)

Your organisation plans to invest into a \$20 million project, it is your responsibility to make sure you and your staff foresees the probable pros and cons of outcomes in the investment. How far do you agree with these statements

- 1 I will do regular meetings and reports with employees to make sure everyone is on track and progressing (X)
2. I believe in my employees to get this task done, with me being there if they need any help (Y)
3. I trust my employees to foresee probable outcomes in the investment (Y)
4. Employees cannot be trusted to foresee the probable outcomes alone (X)
5. employees will need the motivation and direction to do this task (X)
6. Employees are more than capable of providing probable outcomes in the investment as they are creative and imaginative (Y)

For the last two years you have fired employees for not performing to the required standards (i.e. late for work continuously, not performing tasks efficiently). Given this, you have recently hired three new employees. The new employees have been working for six months and so far have been meeting the expected standard. How far do you agree with these statements

1. As they are meeting the expected standard, I trust that the new employees are managing and can do their own work (Y)
2. I need to motivate the new employees are they will avoid responsibility if they can (X)
3. The new employees are meeting the expected standard because they are self-motivated (Y)

4. Despite the new employees meeting the expected standard, they still need to be closely supervised (X)

You have hired a new employee, Sarah, who has four years' experience in this work field. For the first week, it is evident that Sarah knows how to do her job without having much guidance. How far do you agree with these statements

- 1) I will still regularly see how she is going (X)
- 2) I will allow her to be on her own, and be there if she needs me (Y)
- 3) I have confidence in her and don't need to worry as much (Y)
- 4) Despite her experience, it is always best to be cautious and not as trusting (X)

A project requires you to make the final decision on whether the business should take the deal or not. If the outcome of this decision is not ideal, this failure will be directly attributed to you. How far do you agree with these statements?

- 1) I will have regular meetings and reports with employees to make sure everyone is on track (X)
- 2) Given this situation, I need to motivate my employees (X)
- 3) I will give instructions for employees to follow and not allow employees to deviate or be creative with this task (X)
- 4) Employees are not capable of helping me for deciding whether this deal is the best for the business (X)
- 5) I trust the employees' in helping me make this decision (Y)

You are in a meeting with your staff, currently advising them on your final decision on what is the best option for the business to progress. However, some of your employees' disagree with your final decision. How far do you agree with these statements:

1. Given that some employees do not agree with my final decision, I will need to report on them more often (X)
2. Even though some of my staff do not agree with me, I know they will still do the task efficiently, without my supervision (Y)
3. I know that I can trust my employees' to do their task, despite them not wanting to do it (Y)
4. I will need to motivate and push my employees' as I know that some of them do not want to do this. (X)
5. I would listen to what my employees' have to say, and negotiate to come to some sort of agreement (Y)

6. Despite some disagreement, it is up to me to make the final decision regardless if some employees' do not agree. (X)

## **Pilot Test Two**

### Contextual Factors Favouring A More Theory X Approach

#### **Time Restraint** – More Theory X

Given a tight deadline to finish a job, employees can be expected to work hard to meet it under normal supervision, because most people are industrious.

#### Time Restraint – More Theory Y

Given a tight deadline to finish a job, employees will need extra supervision to make sure they meet it, because *most people are lazy* and don't want to work

#### **Manager responsibility** – More Theory X

If the outcome of a project is the manager's responsibility, employees will need to be closely supervised in order to complete it properly, because most people will try to do as little work as possible.

#### Manager Responsibility – More Theory Y

If the outcome of a project is the manager's responsibility, employees will complete it properly under normal supervision, because most employees are trustworthy.

#### **Negative Employee Experience**– More Theory X

A negative experience with one lazy employee will mean that a new manager closely supervises employees, because most employees will slack off if left alone by managers.

#### Negative Employee Experience – More Theory Y

A negative experience with one lazy employee need not mean a new manager has to closely supervise employees, because most employees naturally like to work.

#### **Goals and Rewards** – More Theory X

Managers should set goals and rewards for employees, because employees' ideas are generally not useful to organisations.

#### Goals and Rewards – More Theory Y

Managers should consult employees when deciding on goals and rewards for them, because most employees are capable of providing ideas that are helpful to the organizations where they work.

### **Improving Work Performance – More Theory Y**

Managers can improve work performance by consulting with employees about how to do tasks better, because employees possess imagination and creativity.

### Improving Work Performance – More Theory X

Managers can't improve work performance by consulting with employees about how to do tasks better, because employees lack the ability to help the organisations where they work.

Contextual Factors Favouring A More Theory Y Approach (missing item “people naturally like to work”)

### **Able Employees – More Theory Y**

If employees are well qualified, they can be left to complete work tasks by themselves, because most employees are trustworthy.

### Able Employees – More Theory X

If employees are well qualified, they still need to be closely supervised, because most employees will slack off if left alone by managers

### **Routine Tasks – More Theory Y**

On routine tasks employees can be left to complete them with little or no supervision, because most people are industrious

### Routine Tasks – More Theory X

On routine tasks employees can't be left to complete them with little or no supervision, because most people will try to do as little as possible.

### **Group– More Theory Y**

A manager can leave an experienced group to work out the best way to do new tasks for themselves because most employees are capable of providing ideas that are helpful to the organizations where they work. –

### Group – More Theory X

A manager needs to supervise an experienced group when they are working out the best way to do new tasks because most people are lazy and don't want to work.



**Improving Work Conditions – More Theory X**

It is not worthwhile for a manager to ask employees for suggestions about how their working conditions could be improved because most employees lack the ability to help the organisations where they work.

**Improving Work Conditions – More Theory Y**

It is worthwhile for a manager to ask employees for suggestions about how their working conditions could be improved because employees possess imagination and creativity.

**Social Activities – More Theory Y**

Managers should allow employees to decide what kinds of social activities employees should have at work, because employees possess imagination and creativity.

**Social Activities – More Theory X**

Managers should decide on what kinds of social activities employees should have at work, because employees' ideas are generally not useful to organisations.

**Pilot Test Three** (refer to survey – the study used this scale)

**Appendix C: Example of Heteroscedastic Scatterplot (variables: Theory Y and Openness)**

