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Festinger's Social Comparison Using McGregor's Theory X/Y: Investigating Biasness among Jordanian Employees?

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Abstract

This paper investigates the use of Festinger's social comparison theory and McGregor's theory X/Y to test the social comparison bias between self-evaluation and peer-evaluation of employees using the criteria of each of the two theories X and Y. This data was collected using a random sample of employees in various major Jordanian companies. The data uses an exploratory descriptive analysis approach to identify the differences between self-evaluation and peer-evaluation. The results showed that employees tend to have a positive view of themselves compared to their peers. This suggests that the social comparison theory falls short when creating the criteria of vertical comparison. Furthermore, when creating a common method of evaluation, the results suggest a biased approach of self-verification rather than self-assessment.

Keywords: Jordan, performance comparison, social comparison theory, theory X/Y

1. INTRODUCTION

1.1. THEORETICAL BACKGROUND

The evaluation of every event or object can be conducted on some relevant standards. These standards or referents can help in the comparison of both social and non-social objects (Zell & Alicke, 2010). Such comparisons can influence the regular daily thoughts (Summerville & Roese, 2008) and occur unconsciously (Blanton & Stapel, 2008), without any effort (Gilbert et al., 1995) and happens frequently (Wheeler & Miyake, 1992). Therefore, many practitioners and particularly social psychologists have shown their interest in comparisons where one person evaluates his or her abilities, states, characteristics, and abilities with reference or standard of another person or group (Zell & Alicke, 2010; Wu et al., 2019).

This study uses the social comparison theory to provide the basics for self-evaluation because research on social comparison is very much diverse and highlights several theoretical perspectives (Stapel & Blanton, 2007). The belief of people about the inefficiency of standards and object information for reduction of self-uncertainty leads them to seek out external referents for the evaluation of their abilities or opinions, and this concept is known as social comparison. The notion of social comparison is defined as the process of self-evaluation against others to determine self-worth (Festinger, 1954). The social comparison process allows people to have their own evaluation criteria in making the justified comparison either for self-verification or self-improvement (Gratz et al., 2020; Park & Park, 2017; Perera et al., 2021).

People engaging in social comparison occurs when they possess the motivation to attain the correct and objective evaluation of their own self for enhancement of their self-image. Thus, the

people intension is to have a positive self-concept and better understanding of themselves, are less interested in acquiring the comparative information (Dunn et al., 2012). Based on that, Shin and Sohn (2015) aimed to investigate the comparisons trend among the employees having unfavorable core self-evaluation which is defined as a basic assessment of an individual about his or her abilities, core competencies, and values. These assessments measures effect the life and job satisfaction (Judge et al., 1998). The employees having unfavorable core self-evaluation are more engaged in social comparisons as compared to the employees who are more confident and certain about themselves. Similarly, Brown et al., (2007) highlighted those employees possessing unfavorable self-evaluation tend more towards engaging in social comparison in a work-related domain.

In the self-verification process (i.e., downward comparison) people compare themselves to others who are perceived as having less favorable qualities. During this comparison, individuals establish the conclusion based on their pre-existing opinions that they are better than others in their abilities (Buunk & Gibbons, 2007). While the self-improvement process (i.e., upward comparison) people compare themselves to others who possess qualities they admire and aspire to have. In this case, individuals looking to improve their abilities in the future (Križan & Gibbons, 2014). The fourth Festinger hypothesis argued that people have a unidirectional tendency to increase their abilities, which is considered one of the reasons people engage in social comparisons. Suls et al. (2020) caution that people do not necessarily seek accurate self-evaluation. Alternatively, they could be biased in their assessment when comparing themselves to others. Moreover, Forsyth (2000) points out that social comparisons are relative and warns of the lack of standards and norms in the evaluation process. Since last five decades, the informative review of social comparison theory has highlighted the potential usage of social comparison as an important instrument for generating positive changes in behavior as an area worthy of more investigation (Buunk & Gibson, 2007). The phenomenon of social comparison is comprehensive and wide studied (Suls & Wheeler, 2012) but still there is a paucity of studies explaining the influence of social comparison in work settings and particularly the outcomes of social comparison. Moreover, only a few studies have highlighted the social comparison behaviors within the organizational settings as an important form of social influence (Chaudhry & Song, 2014). A preponderance of research in this area has investigated the use of theory X/Y criteria to investigate the process of social comparison for self-evaluation and evaluation of peers in organizational/ work settings.

According to McGregor (1960), managers can view their subordinates in two main ways or categories, one is labeled as “theory X” (p. 35) and other as “theory Y” (p. 47). This theory X/Y points the management style and is considered as a rooted in the study and understating of organizational motivations. McGregor studied the managers and their employees in detail and on the basis of manager’s interaction with employees, he predicted some importance perspectives that can influence the manager’s behavior (Robbins & Judge, 2018) and every perspective have different set assumption. The seniors or managers having the perspective of theory X believes that people working under him do not like to work, they look others for guidance, feel no responsibility and accountability for work and require coercion for completion of task assigned to them. Whereas the superiors possessing the perspective of theory Y believes that their subordinates are highly motivated to work, have ability to regulate their performance and possess many other cognitive abilities. These theory X and theory Y shows the behavioral characteristics of individuals at work as pessimistic and optimistic respectively (McGregor, 1960). Researchers worked on these employees’ behavioral characters and leaders’ cognitions and highlighted, theory X (i.e., the pessimistic entity) suggests that employees by nature hate work and avoid taking on responsibilities that are incompatible with their personal interests (Daneshfard & Rad, 2020; Touma, 2021). Therefore, managers give them an appropriate degree of power to learn from mistakes and experiences by following a laissez-faire management style (Udueze, 2021). Theory X/Y is based on specific organizational assumptions and appropriate employment conditions such as equipment availability, information technology, labor relations, and compensation management (Russ, 2013). Senarathne (2020) mentioned that

while these conditions are essential for employees to perform tasks and duties, their presence does not necessarily motivate them. However, organizations that fulfill these conditions limit employee dissatisfaction at work as they are considered healthy factors of motivation (Lawter et al., 2015; Tahir & Iraqi, 2018).

One of assumptions of theory X is that managers seek to decrease superior-subordinate closeness (Sager, 2015), whereas, according to McGregor (1960) "theory Y, on the other hand, leads to a preoccupation with the nature of relationships" (p. 132). Moreover, there are many different roles that theory Y managers may enact with their subordinates: "the most appropriate roles of the (Theory Y) manager vis-à-vis his subordinates are those of teacher, professional helper, colleague, and consultant. Only to a limited degree will he assume the role of authoritative boss" (McGregor, 1960, p. 174). It is evident from many studies (i.e. Sager, 2008; Arslan & Staub 2013; Gürbüz et al., 2014; Şahin, 2012; Tran, 2022; Prottas, & Nummelin, 2018) that McGregor's theory X/Y is studied under leader/superior and subordinate/employee relationship on evaluation of employees' attitudes, perceptions and behaviors. In addition, many studies used this theory to evaluate the employees' perceived quality (Bourini et al., 2019), performance (Aithal & Kumar, 2016), job satisfaction (Wangdi & Tobgay, 2022), affective commitment (Sahin, 2012) and decision making (Russ, 2011), but there is paucity of literature on explaining the role of McGregor's theory X/Y as an important medium for evaluation of biasness in process of social comparison, particularly, the comparison while doing self-evaluation and peers' evaluation.

1.2. CONCEPTUALIZATION AND AIM

To properly address the issue of biases in social comparison, it is important to develop an understanding of the factors that leads to its development. Even though there are many studies discussing this issue, there is very limited research in the context of Jordan, and to the best of our knowledge, none of them was involved in studying self-evaluation (Alfuqaha et al., 2019) and peers' evaluation in the context of theory X/Y criteria. Thus, this research was conducted in Jordan as an emerging market in the context of changes in the Middle East. The expansion of the Jordanian economy and its trend towards global openness led to an increase in the role of human resources management (HRM) in promoting power-sharing and motivating employees and managers alike to take serious steps towards supporting and activating participation in decision-making (Khawaldeh, 2020; Mukhtarov et al., 2019; Oudat et al., 2019). Al-Jedaiah & Albdareen (2020) indicated that some organizations in Jordan have moved towards adopting the approach of strategic human resource management (SHRM) as it is attractive and relates to modern global trends. Amid these trends, researchers have argued that performance management is the cornerstone for achieving strategic goals and continuing to achieve regional and international success (Al-Qudah et al., 2020). While overall performance management is the responsibility of all departments of the organization, the human resource performance, in particular, is purview of HRM (Dessler, 2017). In other words, the HRM should provide the organization with its needs of a competent human element, along with seeking to develop their skills and abilities to achieve the desired performance (Armstrong, 2006). Therefore, there is a trend towards using pre-defined methods and models for employee performance appraisal. However, this is not the case in many organizations in Jordan, where the role of HRM is still limited and confined to traditional practices (Alfawaire & Atan, 2021; Shawabkeh & Alsawalhah, 2019).

Nothing in the social comparison theory guarantees comparable guidelines when engaging in such a process. This means that the observation of such comparisons cannot determine what criteria individuals involved in the process base their opinion on. Festinger (1954) warned about biases in the evaluations, where he said: "The holding of incorrect opinion and/or inaccurate appraisals of one's abilities can be punishing or even fatal". Hence, whether people engage or do not in unbiased comparison remains a proposition that needs to be tested. Moreover, there is an assumption that the results of social comparison processes can be compared. In a sense, when someone wants to create processes of self-verification or self-improvement, it is conceivable that others engage in this process similarly. However, the social comparison theory indicates that this evaluation process is not conducted equally by

using the same criteria. Accordingly, the evaluation process does not have a standard form to assure that all participating individuals use the same process of evaluation criteria. Therefore, two people involved in the personal reinforcement process cannot be compared.

The first aim of this research is to highlight the assumptions of social comparison theory and reveal how social comparisons exist and can help in evaluations. Dunn et al., (2012) highlighted that people's engagement in social comparison occurs when they have the motivation to get the objective and exact evaluation of their own self for the development of their self-image. Hence, the individuals with more positive self-concept are less interested in evaluation. The second objective this research is to highlight employees-based perspective of McGregors' theory X/Y as majority of studies previously considered the assumptions and perspectives of this theory as leadership view for evaluation of employees.

McGregors' theory X/Y has provided significant contributions to the literature of management styles in organizations. Moreover, this theory has provided substantial implications in organizational settings and particularly leadership (Gurbuz et al., 2014) but this theory has faced many criticisms and several shortcomings have been labeled towards it (Vroom and Deci, 1970). The most important criticisms presented by Vroom and Deci (1970) include, firstly, the theory ignored the employees' perspective as the management's perception of employees may not be up to point every time. Secondly, the behavior of human is not only an outcome of man's innate nature. Thirdly, the theory overlooked the fact that a satisfied need is not an only motivator of behavior as people constantly seek to satisfy other needs when the *sought needs* have been met. Fourthly, the theory only focused on presentation of treating people from two opposing positions, some with theory X and some with Y, while dealing with same employees. Therefore, on the basis of first criticism, this research has considered the employees' view to evaluate themselves and other employees working with them, so this study introduced McGregor's theory X/Y as a medium of evaluation when using a social comparison among employees and to test whether the social comparison process is biased or not. To exclude personal preferences, employees should evaluate themselves and peers by the same criteria alike. When engaging in the social comparison process, employees evaluate their peers through management's perspective. Using the theory X/Y version, this research assessed whether there is a difference between employee self-evaluation and peer-evaluation. Furthermore, it highlights the influence of this evaluation on workplace employees' satisfaction.

The extensive research and critical literature-based investigation highlighted a research gap in analyzing difference between employees' self-evaluation and peer-evaluation by using theory X and Y criteria. Therefore, this research is an attempt to bridge this gap by examining the evaluations to reveal the positive or negative difference based on McGregor's theory X/Y criteria. This research has answered the following questions, (1) What is the difference between employees' self-evaluation and peer-evaluation using theory X criteria? And (2) What is the difference between employees' self-evaluation and peer-evaluation using theory Y criteria?

2. LITERATURE REVIEW

2.1. SOCIAL COMPARISON THEORY

Some limited statements in social psychology have led to a great deal of research activity and interest, such as Festinger's (1954) social comparison hypothesis, which states that human beings are motived to engage in the process of self-evaluate their abilities and opinions. Although some scholars have reservations about using the term *motives*, most psychologists expressed that individuals desire to identify oneself through comparisons with others is a universal motive (Forsyth, 2000; Suls & Fletcher, 1983; Wills, 1986). This perception held by many people does not seem outside the discipline, at least not as it applies to themselves, as it was observed that there is a fundamental contradiction in the individuals' claims regarding their social comparison resulting from a lack of awareness of the comparisons they participated in or reservations about confessions (Cadsby et al., 2019; Gibbons & Buunk, 1999; Gratz et al., 2020; Križan & Gibbons, 2014).

Forsyth (2000) argued that sociologists might overestimate the extent to which people engage in the social comparison process in a manner similar in most psychosocial phenomena. However, empirical evidence indicates that nearly everyone participates in the social comparison process from time to time (Al-Kharboush et al., 2017; Dakin & Arrowood, 1981; Van Rooy et al., 2016; Wheeler et al., 1997). Mussweiler (2003) pointed that the drive for individuals to compare themselves with peers is an ancient phenomenon that has evolved and can be observed in many societies, as well as it is a core biological force. Indeed, the process of social comparison and its resulting information is believed to have essential evolutionary effects on an individual's personality if properly invested, regardless of the individual differences associated with its intensity implemented (Charmley et al., 2013; Gibbons & Buunk, 1999; Tylka & Sabik, 2010; Wood, 1996).

The main motive for the social comparison process was to acquire information about oneself, but the subsequent discussions of the theory identified three main motives represented by self-enhancement, self-assessment, and self-verification, which have been widely accepted by social comparison researchers (Brandenberg et al., 2019; Dakin & Arrowood, 1981; Mumford, 1983; Park & Park, 2017). The self-enhancement process assumes that people look for enhancing themselves when engaging in social comparisons. The self-assessment suggests that people like to have an accurate view of their abilities. The self-verification suggests that people want to assess their previous beliefs through their comparison process (Bonifield & Cole, 2008; Goethals & Darley, 1987). Festinger (1954) assumes that people are rational and unbiased in evaluating their own abilities. But he later warns on the consequences of the wrong evaluation of oneself abilities as they affect their behavior. This could result in high employee turnover in organizations, which reflects on the organization’s performance (Brown et al., 2007; Cadsby et al., 2019; Eddleston, 2009; Gastorf & Suls, 1978). With increasing competition, companies must assure they have the correct organizational structure to assure meeting the competition. Employee satisfaction is directly associated with the organizations' performance (Ažić, 2017; Khan et al., 2020; Ukil, 2016; Yperen et al., 2006). Employees' self-evaluation and peer evaluation effect performance (Bergee, 1993; Downes et al., 2021; Holzbach, 1978). Sometimes self-evaluation creates a problem, whether employees are looking for true evaluation on self-ability or whether they are looking to maintain a positive self-image. Comparison with the less fortunate creates a motive for people to enhance their self-image. Therefore, the evaluation process is not accurate since the outcome of the self-evaluation is directed towards self-assurance and not directed towards true self-evaluation (Wills, 1986). Hence, this paper suggests a unified method to evaluate selves and peers.

2.2. THEORY X/Y

MacGregor (1960) presented in the book entitled "the human side of the enterprise" one of the most prominent and controversial theories in the history of organizational behavior and social psychology. Gannon and Boguszak (2013) noted that "what MacGregor sought in general, or perhaps more in-depth, was a better understanding of the influence of human factors and the mechanism of their incorporation into organizational behavior and outcomes." To this day, MacGregor's basic dialectic is felt in various areas of management. Theory X/Y provides two disparate perspectives related to the nature of work, managerial orientation, and organizational life, which are based on methods of motivation through human beliefs and values for self-actualization (Almeida et al., 2018; Daneshfard & Rad, 2020; Gürbüz et al., 2014; Sager, 2008).

The premise of theory X suggests that management has the assumption that employees seek to satisfy the low-order needs, e.g., physiological basic needs, through physical motivators and avoidance of disincentives (Russ, 2013; Senarathne, 2020). Consequently, employees have such negative opinions about their work that they are unable to self-direct (Gürbüz et al., 2014; Kopelman et al., 2010; Touma, 2021). Moreover, they avoid taking on organizational responsibilities and must be compelled to work with control and direction manners based on threat and punishment to get them to make an adequate effort to achieve the goals (Gannon & Boguszak, 2013; Prottas & Nummelin, 2018). By contrast, theory Y postulates that management recognizes the tendency of employees to meet the higher-order

needs, e.g., self-actualization, by relying on an instinctive drive to achieve superb performance (Morse & Lorsch, 1970; Şahin, 2012). In this context, employees indulge in taking responsibility for achieving goals driven by their positive perspectives, where they possess the ability to self-control and self-direct (Sager, 2015; Sorensen & Minahan, 2011; Touma, 2021). Beyond that, Hattangadi (2015) discussed that role of management according to theory Y is not limited to directing and controlling, but rather it must organize human and material resources to achieve strategic goals. Daneshfard and Rad (2020) added that the management has the responsibility to provide development opportunities for employees to reach their inherent potentials and provide the appropriate conditions to harness their efforts for reaching adequate organizational performance.

Neuliep (1987) aimed to discover correlations between theory X/Y orientation and compliance-gaining tactics, imagining a similar link. He discovered that reliance on certain anti-social compliance-gaining methods was positively connected with theory X orientation, whereas reliance on specific pro-social strategies was favorably correlated with theory Y orientation. Another source of evidence is a research by Ashforth (1997), which investigated the relationship between theory X orientation and *petty tyranny* (p. 127). According to Ashforth (1994, p. 772) "An individual who acts in an arbitrary and self-aggrandizing manner, belittles subordinates, exhibits lack of consideration, pushes dispute resolution, inhibits initiative, and employs noncontingent punishment,". In addition, Ashforth (1997) discovered a link between manager theory X beliefs and subordinate perceptions of petty tyranny by managers. Sager (2008) suggested that theory X/Y assumptions were sources of variation in superior communicator style more recently. Theory X orientation was found to be positively correlated with the dominant and impression leaving superior communicator styles, whereas theory Y orientation was found to be positively correlated with the supportive, nonverbally expressive, and impression leaving superior communicator styles, but negatively correlated with the anxious style. Russ (2011) used a similar approach to see how well two aspects of managers' tendency for participatory decision making, anticipated effectiveness, and anticipated power, could be predicted using their theory X and theory Y assumptions. He discovered that theory Y assumptions predicted both expected effectiveness and expected power, but theory X assumptions predicted expected power negatively.

MacGregor did not conduct any measurements to validate his theory, but only identified the recommended practices of managers to deal with employees and the mechanism for motivating them according to both theories X and Y (Sager, 2015; Şahin, 2012; Zhang et al., 2013). According to Russ (2013), this approach diminished the impact of MacGregor's theorizing, as theory X and theory Y became a guide to management practices and were studied at the organizational level rather than reflecting core individual differences in attitudes resulting in distinction in leadership behavior. Despite the criticisms levelled at MacGregor's theory, the reality of its founding of subsequent variety research and later theories clears in the management literature, especially with the growth of organizations in the twenty-first century that coincided with the cognitive and digital revolution, where the recommended behaviors in theory Y are likely to be more effective than those assigned to theory X (Aithal & Kumar, 2016; Daneshfard & Rad, 2020; Prottas & Nummelin, 2018; Touma, 2021; Udueze, 2021).

2.3. SOCIAL COMPARISON AND THEORY X/Y

The study of the ego has long drawn the attention of researchers in behavioral and social psychology from the early beginnings of Sigmund Freud's structural theory, in which he described it as the mildest state of an individual's personality (Freud, 1989). The ego acts as a mediator between the id and the superego, where the id expresses the subconscious driven by the principle of pleasure and the avoidance of pain that arises innately or is acquired with time but is prevented by the ego from appearing, while the superego represents the conscience that is formed as a result of learning from parents, peers and moral standards, thus it is idealistic and tends towards perfection that is subject to the values of society and is far from pleasure and sensuality (Brill, 2012). People interact dynamically with the external environment and respond to their internal motivations, which are shown through the behaviors and judgments of

people that reflect their personal attitudes and reactions to a specific issue (Steel, 1967). Based on the definition of an organization, as a social unit that includes several people who interact with each other within specific and relatively clear boundaries to achieve common goals, the importance of the role played by the study of psychological and behavioral phenomena of employees is emerging in achieving the success of the organization or limiting its performance (Dessler, 2017).

Ego-oriented psychological mechanisms are considered as personal motives for making judgments and taking actions for self-actualization (García-González et al., 2019; Trip et al., 2019). Part of the judgment includes estimating the performance of others against personal performance. It seems surprising what Cadsby et al. (2019) indicated that the egoistic orientation is a motive for social comparison in light of the focus on normative competencies. Indeed, task-focused people are more likely to make comparisons and pay attention to normative information in order to accurately assess their abilities in comparison to peers (Buunk & Gibbons, 2007; Fridman & Kaminka, 2007). Individuals make comparisons with peers in order to reinforce their positive self-concepts, as individuals under threat often compare themselves with their less advantaged peers (Goethals & Darley, 1987; Trip et al., 2019). This is in line with the people's attitudes of Theory X, where they prefer to accept minimal tasks to satisfy basic and physiological needs, comparisons are made with peers to determine the differences in the level of satisfaction of these needs (i.e., downward comparison). Moreover, the social comparison of individuals contributes to fulfilling the need for self-development and acquiring new skills (Ažić, 2017; Dakin & Arrowood, 1981). Hence, the people of Theory Y, who have a sense of creativity and tendencies to satisfy needs from the level of self-esteem, tend to make comparisons with people of higher levels to determine deficiency in their experience and seek to develop it (i.e., upward comparison).

Understanding the motivations for making comparisons is essential because they determine their own comparison strategies, or with whom they are comparing themselves (Charmley et al., 2013; Guiot, 1978; Sheeran et al., 1995; Wood, 1989). Mumford (1983) argued that while self-directed people compare themselves to their peers with a desire for self-development and greater achievement, those who need to be monitored and ego driven will make comparisons with peers to satisfy the desire to feel superior or assess their relative standing. In the same vein, the study of Brandenberg et al. (2019) showed that manipulating the participants' attitudes affects their identification of the objectives of the comparison, as they reflect the different motives that were activated, as it concluded that all motives, except for avoiding performance, led the participants to enter into upward comparisons with peers. This has led to ignoring the role of self-evaluation on basis of performance against peers, especially considering the motivating factors that managers perform according to theory X and theory Y, can play a crucial role in determining the goal of social comparison within the organization prompted the following assumptions:

H_1: *There is a negative difference between employees' self-evaluation and peer-evaluation using theory X criteria.*

H_2: *There is a positive difference between employees' self-evaluation and peer-evaluation using theory Y criteria.*

3. METHODOLOGY

3.1. PARTICIPATIONS

The participants in this paper were employees of major Jordanian organizations with more than 50 employees. The researcher obtained the IRB approval number 2021-0010, and the data collection was from November 2021 to January 2022. The survey was randomly distributed with the participants given the option not to participate. The survey was divided into two separate phases. The first phase was a pilot study to check the internal consistency of the survey (Juutilainen et al., 2019; Partington et al., 2018). The distributed surveys at this phase were 100, with a response rate of 94%. The second phase aimed at distributing 1,000 surveys to a sample of employees in major Jordanian organizations. Among these surveys, 59 respondents refused to complete participate. Moreover, 13 surveys were excluded due to missing data in responses. All surveys have been audited to ensure that each survey has both employee self-evaluation

as well as peer-evaluation. The exclusion included any surveys of which one was completed but not the other. A total of 928 completed surveys were used in the paper with a response rate of 92.8%.

3.2. INSTRUMENT

Kopelman et al. (2008) suggested a set of questions to test MacGregor's theory X/Y. These questions have been adapted to reflect employee self-evaluation and peer-evaluation. Table 1 demonstrates the questions related to theory X, and table 2 shows the items related to theory Y.

Table 1. *Criteria for Employee's Self-Evaluation Theory X*

No.	Evaluation Criteria
Q_1	During my shift, there is small amount of work done by me.
Q_3	I dislike work as most humans are.
Q_5	To get my work done to expectations, my direct manager must closely supervise me.
Q_6	It is best that I will be told exactly what to do. I do not like to figure things out myself.
Q_8	The organizational goals are not important to know and care about.
Q_{10}	Most employees do not have high ambitions.
Q_{12}	If the task is not assigned to me directly, I will initiate or do extra things.
Q_{14}	I am encouraged to do my job because I fear the threat of discipline.

Table 2. *Criteria for Employee's Self-Evaluation Theory Y*

No.	Evaluation Criteria
Q_2	During my shift, I attempt to be productive, engaging, or occupied.
Q_4	Along to play and resting, work is a natural behavior.
Q_7	My organizational goals are clear and known by me.
Q_9	To increase my job security, I would seek to increase my responsibilities.
Q_{11}	Manager do not have to motivate self-control and self-motivation; I exercise them myself.
Q_{13}	During the team's decision-making and solving problems, I have a lot to contribute.
Q_{15}	I have creativity and imagination in my work.

The survey related to theory X and Y, consisted of 15 questions, eight of which were devoted to theory X and seven to theory Y. The data was collected in two stages. First, the employee conducted self-evaluation according to the survey questions. Second, the employee was given a second survey with the same questions but adapted for peer-evaluation. The employees were not allowed to compare their self-evaluation against their peer-evaluation. Accordingly, the independence of the two evaluations was assured through the distribution process. The questions were mixed to assure the answers do not follow a pattern of being pessimistic or optimistic. The hypothesis corresponds to the order theory X/Y presented in the survey. A five-point Likert scale is used to measure responses, where the responses are strongly disagree, disagree, neutral, agree, and strongly agree.

3.3. ANALYSIS TECHNIQUES

The current paper uses an exploratory descriptive approach based on bibliography and

field survey. Firstly, the internal consistency through the values of Cronbach's alpha coefficients was used to verify the reliability of the instrument (Carden et al., 2018). Secondly, the data normality was tested using Skewness and Kurtosis values. Structural equation modeling (SEM) through AMOS-24 was used to test two models of the self-evaluation and peer-evaluation using theory X criteria, and to test the self-evaluation and peer-evaluation based on theory Y criteria. To test the difference between self-evaluation and peer-evaluation, the test of paired answers uses two different methods, the parametric method and non-parametric method. If the data tested is normally distributed, then the parametric method of the paired t-test is appropriate (Gajbe et al., 2021; Zhang et al., 2020). If the data is not normally distributed, thereby the non-parametric method is most appropriate (Ghahari et al., 2021; Velasco, 2020). In the latter case, the Wilcoxon signed-rank test is used.

4. RESULTS

4.1. VALIDITY AND RELIABILITY TEST

Thigpen et al. (2017) explained the importance of testing the Cronbach alpha for testing the internal consistency of the survey questions. The Cronbach alpha test measures the inter-relatedness of questions within the test (Taber, 2018). Prior to the survey being conducted, a test of validity must also be conducted (Almanasreh et al., 2019). This is done before adopting the survey for research and to test the internal consistency of the survey as proposed by (Thigpen et al., 2017). There were 100 surveys distributed in which 6 were excluded from the analysis, as they were unusable due to missing data in the answers bringing the response rate to 94%. The results were sufficient to proceed with the research as they were in the acceptable range for the internally consistent survey. Table 3 lists the pre and post-tests Cronbach alpha results.

Table 3. *Reliability Test*

	Theory X				**Theory Y**			
	Self-Evaluation		Peer-Evaluation		Self-Evaluation		Peer-Evaluation	
	Obs.	Cronbach	Obs.	Cronbach	Obs.	Cronbach	Obs.	Cronbach
Pre-Test	94	0.7937	94	0.8208	94	0.7707	94	0.7564
Post-Test	928	0.7639	928	0.7371	928	0.7314	928	0.7125

As presented in Table 3, the Cronbach alpha for theory X self-evaluation is 0.7939 and peer-evaluation is 0.8208 which means the pre-test is internally consistent. The Cronbach alpha for theory Y self-evaluation is 0.7707 and for peer-evaluation is 0.7564 which brings them within the acceptable range. As a result, the survey was internally consistent and could be used in this research, where its Cronbach alpha values exceed the minimum accepted threshold of 0.70 (Vaske et al., 2017).

4.2. NORMALITY TEST

The literature proposes two different methods when normality is in question (Mishra et al., 2019). The first method suggests that if the sample size is large then the central limit theorem (CLT) validates that the normality assumption is satisfied. The CLT satisfies the normality assumption even if the original variables are not normally distributed. Such information leads us to the conclusion that the parametric approach is appropriate for comparing both groups. The second method states that if the normality test fails, then the parametric test is not appropriate, and the non-parametric test must be used. The non-parametric approach requires the normality test to determine whether the non-parametric test is appropriate for the analysis. Table 4 illustrates the result of the Shapiro-Wilk for normality test.

Table 4. *Normality Test for Theory X/Y Self-Evaluation*

Theory X				**Theory Y**			
Question	Obs.	W	*P*-value	Question	Obs.	W	*P*-value
Q1	928	0.9753	0.000	Q2	928	0.9793	0.000
Q3	928	0.9838	0.000	Q4	928	0.9922	0.000
Q5	928	0.9896	0.000	Q7	928	0.9808	0.000
Q6	928	0.9978	0.000	Q9	928	0.9975	0.167
Q8	928	0.9878	0.000	Q11	928	0.9953	0.005
Q10	928	0.9840	0.000	Q13	928	0.9786	0.000
Q120	928	0.9941	0.001	Q15	928	0.9822	0.000
Q14	928	0.9874	0.000				

The results in Table 4 of the normal distribution test showed that the p-values were for most questions less than 0.05, except for the ninth question. Therefore, the hypothesis of normality is rejected as the results show that the data sample is not normally distributed, therefore, the non-parametric method deemed appropriate for the data (Ghahari et al., 2021; Velasco, 2020).

4.3. STRUCTURAL EQUATION MODELING

Co-variance based structural equation modeling (SEM) was used to test the both models of theory X and Y, through AMOS-24, and results are shown in table 5. Most commonly used fit indices "Chi-Square/Degree of freedom, Root Mean Square Error of Approximation (RMSEA), Incremental Fit Index (IFI), Tucker-Lewis index (TLI), and comparative fit index (CFI)" were used to test the model fitness as advised by Hu and Bentler (1999).

Table 5. *Measurement Models*

Measurement Models	***X^2***	***DF***	***X^2/df***	***RMSEA***	***IFI***	***TLI***	***CFI***
Theory X	2771.45	1450	1.911	0.06	0.96	0.95	0.96
Theory Y	2418.78	1375	1.759	0.05	0.96	0.95	0.96
Model Fit Criteria (Hu & Bentler, 1999)			<3.00	<.08	≥.90	≥.90	≥.90

Results in table 5 reveal that data fits significantly in both models as all the fit indices (X^2/df, RMSEA, IFI, TLI, CFI), indicate excellent model fitness. All fit indices values satisfy the fit criteria recommended by Hu and Bentler (1999).

4.4. HYPOTHESES TESTING

The difference in evaluation test measures whether there is a difference between self-evaluation and peer-evaluation on each of the questions using theory X and theory Y as the evaluation criteria. The research utilizes both the parametric and non-parametric tests, which are used and compared for the comparison purposes.

Tables 6 and 7 provide the descriptive statistics of self-evaluation and peer-evaluation measurements. The results include the mean, standard deviation, and results of the paired t-test. $Q_{(i)S}$ corresponds to the question number in the survey measuring employee's self-evaluation and $Q_{(i)P}$ corresponds to the same question for the peer-evaluation.

Table 6. *Difference Test of Self-Evaluation and Peer-Evaluation Using Theory X*

Paired t-test					**Wilcoxon Signed Rank Test**				
	Mean	SE	SD	*t*-test	Test	Sign (+)	Sign (-)	Zero	*Z*-score
Q_{1S}	2.2091	0.0417	1.2693	-10.0204	$Q_{1S} = Q_{1P}$	202	455	271	-10.102
Q_{1P}	2.7037	0.0363	1.1048						
Q_{3S}	2.1153	0.0381	1.1606	-13.0294	$Q_{3S} = Q_{3P}$	167	475	286	-12.470
Q_{3P}	2.7198	0.0345	1.0516						
Q_{5S}	2.3190	0.0388	1.1813	-14.5345	$Q_{5S} = Q_{5P}$	152	467	309	-13.257
Q_{5P}	3.0248	0.0375	1.1418						
Q_{6S}	2.8987	0.0404	1.2318	-6.2448	$Q_{6S} = Q_{6P}$	236	358	334	-5.731
Q_{6P}	3.1756	0.0347	1.0584						
Q_{8S}	2.1358	0.0360	1.0957	-12.7115	$Q_{8S} = Q_{8P}$	142	429	357	-12.153
Q_{8P}	2.6703	0.0348	1.0587						
Q_{10S}	2.0862	0.0392	1.1929	-14.2517	$Q_{10S} = Q_{10P}$	150	484	294	-13.442
Q_{10P}	2.7468	0.0340	1.0174						
Q_{12S}	2.4494	0.0387	1.1786	-9.3158	$Q_{12S} = Q_{12P}$	204	412	312	-8.865
Q_{12P}	2.8782	0.0330	1.0066						
Q_{14S}	3.7522	0.0330	1.0064	7.2180	$Q_{14S} = Q_{14P}$	340	167	421	7.718
Q_{14P}	3.4741	0.0319	0.9729						

Table 4 reports the paired t-test and Wilcoxon sign rank test using theory X criteria. Except for question 14, all means of self-evaluation are smaller than peer-evaluation. These results confirm the hypothesis that when employees measure themselves on the pessimistic criteria, they tend to evaluate themselves lower on the pessimistic scale. The results suggest there is statistical evidence that there is a difference between self-evaluation and peer-evaluation. The signs of the results show that all criteria, except for question 14, where the threat of discipline encourages me/colleague to do the job. While the test is statistically significant, it has the wrong sign. In addition, the mean for self-evaluation of the discipline threat is 3.7522 compared to the peer-evaluation of 3.4741. This result requires further investigation in future research to show the reason why discipline has a higher effect on an employee in comparison to their peers. The non-parametric Wilcoxon signed-rank test confirms the results found in the parametric paired t-test. With the exception of question 14, all questions accept the hypothesis suggesting there is statistical evidence that the self-evaluation is lower than peer-evaluation. The z-score is statistically significant at Prob > |z| = 0.000.

Table 7. *Difference Test of Self-Evaluation and Peer-Evaluation Using Theory Y*

Paired t-test	**Wilcoxon Signed Rank Test**

	Mean	SE	SD	*t*-test	Test	Sign (+)	Sign (-)	Zero	*Z*-score
Q_{2S}	3.5754	0.0380	1.1578	15.1093	$Q_{2S} = Q_{2P}$	521	158	249	14.058
Q_{2P}	2.8416	0.0380	1.1574						
Q_{4S}	3.2445	0.0405	1.2340	6.8595	$Q_{4S} = Q_{4P}$	372	217	339	6.708
Q_{4P}	2.9450	0.0343	1.0450						
Q_{7S}	3.8373	0.0360	1.0984	10.6834	$Q_{7S} = Q_{7P}$	398	139	391	10.974
Q_{7P}	3.4224	0.0343	1.0440						
Q_{9S}	3.1821	0.0378	1.1529	1.6136	$Q_{9S} = Q_{9P}$	306	260	362	1.927
Q_{9P}	3.1142	0.0339	1.0323						
Q_{11S}	3.5097	0.0367	1.1176	9.6883	$Q_{11S} = Q_{11P}$	400	186	342	9.342
Q_{11P}	3.0765	0.0321	0.9774						
Q_{13S}	3.8578	0.0335	1.0204	11.1818	$Q_{13S} = Q_{13P}$	406	138	384	11.405
Q_{13P}	3.4009	0.0323	0.9825						
Q_{15S}	3.8297	0.0315	0.9593	12.2641	$Q_{15S} = Q_{15P}$	409	124	395	12.210
Q_{15P}	3.3685	0.0310	0.9439						

Table 7 reports the paired t-test and Wilcoxon sign rank test using theory Y criteria. Apart from question 9, all means of self-evaluation are higher than peer-evaluation. These results confirm the hypothesis when employees measure themselves on the optimistic criteria, they tend to evaluate themselves higher on the optimistic scale. The results suggest there is statistical evidence that there is a difference between self-evaluation and peer-evaluation. The signs of the results show that all criteria except for question 9 illustrate the care of the organization's goals. This result requires further investigation in future research to show whether there is a clear understanding of the organization's goal in the employee's perspective. The non-parametric Wilcoxon signed-rank test confirms the results found in the parametric paired t-test. With the exception of question 9, all questions reject the null hypothesis suggesting there is statistical evidence that the self-evaluation is lower than peer-evaluation. The z-score is statistically significant at Prob > |z| = 0.000.

The question that is raised here is whether there is a difference between the positive sign and negative sign self and peer evaluation. A Wilcoxon test is conducted on the results of positive and negative signs from Table 6. The hypothesis states there is difference between the signs for the theory X evaluation process. The test accepts hypothesis at α=.05 with a z-score of -2.240. This means there is a statistical difference between the positive sign evaluation and negative sign evaluation for all theory X questions in the survey. As for the difference between the positive sign and the zero difference, the results show there is a statistical difference between the positive sign evaluation and the zero evaluation at α=.05 with a z-score of -2.521 accepting the hypothesis. Lastly, the test fails to reject any statistical differences between the negative evaluation and the zero evaluation.

Table 8. *Sign Evaluation Difference between Questions Using the Wilcox Sign Test*

	Theory X	**Theory Y**

	Z-score	Z-score
Sign (+) / Sign (-)	-2.240**	2.809**
Sign (+) / Zero	-2.521**	2.094**
Sign (-) / Zero	1.400	-2.809**
Observations	8	7

Note: ** Significant level at p-value is at .05

5. DISCUSSION AND CONCLUSION

The findings suggest the original assumption that Jordanian employees are biased in their evaluation is valid. When using a unified method to self-evaluate and peer-evaluate, then the results differ than originally suggested by previous research. When the questions involve a negative view of performance, using theory X criteria, employees tend to evaluate themselves on lower scale than their peers. Meaning, employees view their peer performance worse than their performance. The results are statistically supported. Moreover, it is assumed that the Jordanian communities follow the Middle Eastern societies in the likelihood of comparing themselves higher than others (Karacay et al, 2019), which increases self-efficacy (St-Jean et al., 2018). Therefore, it is more likely they believe their performance is better than their peers, thus rate their colleagues less than their ratings (Fuchs, 2019). This bias negatively affects the performance appraisal results and processes in the Jordanian firms and organizations because many organizations use peer evaluation in the employee's annual performance evaluation. Employees, on the other hand, tend to evaluate themselves higher than their peers when it comes to evaluating themselves positively. When using positive evaluation criteria, the employees tend to have a better vision of themselves than their peers. The results are statistically significant. Comparing both the negative and positive views, it is confirmed that employees tend to have a positive view of themselves compared to their peers. This suggests the social comparison theory falls short when creating the criteria of upward and downward comparison. Since the evaluation does not have a common criterion of evaluation, the results are biased. The research suggests when creating a common method of evaluation, the data supports the existence of biasness in the self-verification rather than self-assessment.

6. IMPLICATIONS

The notion of evaluation has used in different domains and in the area of organizational behavior and human resource management, the evaluation is about analyzing the employees. Since last three decades, the practitioners and even researchers have highlighted different factors influencing the evaluation and focused on the value to employees' evaluation. Therefore, many studies and theories emphasized on the employees' evaluation from leaders', superior or senior point of view but ignored the importance of employees' evaluation by their own. Thus, this research used the McGregor's theory X/Y as a medium for evaluation when using a social comparison among employees and examine biasness of social comparison process. Therefore, this research has provided significant theoretical and practical implication. In terms of theoretical implications, this research worked on the criticisms of previous studies for McGregor's theory X/Y and used the employees' aspect for McGregor's theory X/Y instead of leaders or superior for their own and peer evaluation. Moreover, this study has provided detailed literature on the social comparison concept, social comparison theory, McGregor's theory X/Y, self-evaluation, and peer evaluation. Apart from prior studies, this research is significantly different as it emphasized on the importance of employee evaluation rather than merely highlighting the importance of evaluation. In addition, the study has indicated the biases in evaluation, whereas the biasness is not connected to a specific industry, determining the magnitude would enhance the understanding to where biasness extends. Finding the causes of

self-biasness and industry specific results, sets up the research to establish enhanced collaboration between peers in industry-related settings to affect individual or group behavior. The multiple cognitive biases humans are prone to, affect a human's evaluation processes and reduce the judgment degree of accuracy. Because people are not aware of the psychological biasness, they never try to overcome that biasness (Anderton & King, 2016). In addition, this research is a guideline for researchers, academicians, and policymakers focusing to examine the difference between employees' self-evaluation and peer evaluation using theory X and Y criteria. In terms of practical implications, the results of this research are guideline for human resource managers, social psychologists, sociologists, internal marketing managers and owners of organizations so that they can make effective strategies based on employees' self-evaluation and peer evaluation.

7. LIMITATIONS AND RECOMMENDATIONS

This research has highlighted the conceptualization of two broad theories, one is the social comparison theory and the other is McGregor's theory X/Y. Moreover, it used the later theory as a medium to evaluation while using a social comparison between employees and to examine whether the social comparison is biased or non-biased, but still, this research has several limitations which can be the future direction for studies aiming to highlight the evaluation of employees. Firstly, this research has relied on the existing scale or measurements for evaluation of employees' own selves and their peer. Therefore, the future studies can extend this research by creating an accurate measurement of evaluation. One method is to investigate whether employees' self and peer evaluation compare accurately to their management evaluation. If there is a difference, then the results confirm the inappropriateness of using social comparison theory in peoples' evaluation without a set criterion of measurement. Secondly, the study has much emphasized on the reasoning of threat of disciple, so there is an additional need to investigate the reasoning of the threat of discipline having higher effect on self-evaluation than the peer-evaluation. Moreover, a further investigation is also needed on how the discipline system can influence self-evaluation compared to peer-evaluation. Thirdly, the data only supported the existence of self-favoring evaluations between Jordanian employees in their performance. Thus, further investigation in the research would evaluate how the removal of peer evaluation changes the performance outcomes and results. Further studies would gauge the degree of self-biasness on employees' motivation and organization engagement. Measuring the hidden psychological and social comparison allows leadership and management the setup of counter measures to influence business outcomes and motivate organizational collaboration.

CONFLICT OF INTEREST STATEMENT

On behalf of all authors, the corresponding author states that there is no conflict of interest.

INFORMED CONSENT

Informed consent was obtained from all participants and/or their legal guardians.

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