



The Moderating Role of Uncertainty Reduction on the Relationship between Leadership Styles and Organizational Identification within Saudi Hospitals

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ABSTRACT

This study embarked on an exploration into the dynamics of various leadership styles and their influence on organizational identification, placing a spotlight on the potential moderating effect of uncertainty reduction within the healthcare sector of Saudi Arabia. Adopting a hypothesis testing approach, the research employed a correlation investigation design, ensuring minimal interference from the researcher. The backdrop of this study was set in five hospitals across Riyadh and Makkah, targeting the entire population of permanent nurses. To derive a representative sample, a probability sampling technique was used, more specifically, stratified sampling, which culminated in a sample size of 375 participants. The unit of analysis was set at an individual level, with a cross-sectional study time horizon. Data collection involved a 7-point Likert scale, which underwent a comprehensive descriptive analysis via SPSS, followed by a Partial Least Square assessment using Smart-PLS. The findings highlighted the nuanced interplay between leadership strategies and organizational contexts, emphasizing the significance of adaptability in leadership in alignment with varying degrees of environmental uncertainty.

Keywords: Directive leadership style, Supportive leadership style, Participative leadership style, Achievement-oriented leadership style, Uncertainty reduction, Organizational identification, and Saudi hospitals.

INTRODUCTION

Organizational identification is another crucial factor in determining employees' performance and plays a significant role in uniting employees with their organizations [1]. When employees have high levels of organizational identification, they would tend to embrace the organization's perspectives and behave in congruence with its values, practices, and attitudes. Employees who identify with their organization commit to their work and are involved in the organization. In fact, those employees consider the success and failure of their organization as their own. In addition, they behave in a manner that drives the organization to attain its goal. Moreover, employees with high identification exhibit higher satisfaction, productivity, and willingness to continue working for their organizations to achieve better results.

Organization theorists have researched how individuals define themselves in relation to the relationship they perceive with their organizations by applying the Social Identity Theory (hereafter SIT). As the name suggests, the theory tries to understand the social identification of individuals within an organization [2], wherein organizational identification by individual members is regarded as a type of social identification. The SIT posits that employees within any given organization tend to define themselves using their group membership as a basis [3]. Identification of oneself with the organization is said to have taken place when individuals partly or wholly define themselves based on what the organization standards for or is thought to represent. Organizational identification is an integral part of organizational behavior as it has implications for individual employees, groups within the organization, and the organization as a whole [4]. Indeed, studies by Bergami and Bagozzi [5], Hogg [6] state that membership in one's employment organization is among the most vital group affiliations an individual possesses and is considered to be more important by individuals than any other group affiliations.

It is worth mentioning that Hogg [6], Loi, Chan [7] have stated that organizational identification is driven by two main human needs: uncertainty reduction and self-enhancement. The need to reduce uncertainty has been identified as a fundamental human necessity that people aim to fulfil [8]. It can affect how employees behave and how they respond to new experiences and ideas [9]. The element of uncertainty is an intriguing yet integral aspect of social grouping and life in organizations. Although a complete state of uncertainty is unbearable and would be overwhelming in an organization, risks always exist. Risks are epistemic as there is a lack of preparedness and understanding of how to properly manage them to reach a satisfactory outcome. Accordingly, uncertainty in this context refers to situations and circumstances that have unpredictable and unforeseeable outcomes, regardless of whether or not they are acted upon [10]. Adding to that, the motive of uncertainty reduction reflects a desire for knowledge, meaning, and comprehension of both oneself and the surrounding social environment.

The aim of this study is to identify the influence of directive leadership style, supportive leadership style, participative leadership style, and achievement-oriented leadership style on organizational identification within Saudi hospitals, as well as identifying the moderation effect of uncertainty reduction for these relationships. The remaining sections of this paper are designed as follows: Section 2 defines the literature review towards the study variables; Section 3 focuses on illustrating the model used in the study as well as the hypotheses development; Section 4 shows the methodology used; Section 5 analysis the collected data; Section 6

discusses the findings and compare them with the findings of previous studies; and finally, Section 7 represents conclusion which includes future research directions.

LITERATURE REVIEW

Leadership

Leadership is a complex and important phenomenon in organizational studies [11]. Despite extensive attempts to understand the subject and vast publications, there is still no agreed-upon definition of the term. The definition of leadership based on the condition implies the conditions that shape and influence interrelations among different dynamic forces. These forces include the ability to influence and power, individuals in a social organization, values and beliefs in group dynamics, available resources, and circumstances involved [12]. Furthermore, leadership can be understood and defined based on the prescribed behavior that is agreed upon in a social setup, the physical and personality traits of a group, the foci resulting from group processes, the attempt at making meaning, the need for initiation into the structure, the ability to exercise influence, the ability to induce compliance, the effects as a result of influencing others, or the relationship between a person and his/her subordinates [13, 14].

Leadership is variedly defined by scholars. According to Buchanan and Huczynski [15], leadership is the act or process that involves motivating, influencing, and empowering subordinates so that they can help the organizations in which they work to meet the objectives. DuBrin [16], simply define leadership as task facilitation. They added that the leader achieves this by helping subordinates perform their tasks by guiding them in problem-solving and implementing better ways of performing duties. Leadership has also been defined as the processes and procedures involved in guiding and directing subordinates in the workplace. In addition, leadership can be viewed as a relationship where one person or a group of individuals influences the behavior of others in a given environment. In concluding the different definitions of leadership, four key aspects are common: (1) it involves a process; (2) it entails influencing; (3) it occurs in a group scenario; and (4) it involves meeting objectives [14].

Organizational Identification

The concept of social identification has been applied in an organizational context to explain the ways individuals in an organization define themselves regarding the relationship between individuals and organizations [17]. In other words, the organizational identification concept has been developed based on social psychology literature. In general, social identification has been defined as “the individual’s knowledge that he belongs to certain social groups together with some emotional and value significance to him regarding his group membership” [18]. Identification happens when individuals define themselves, at least partly, concerning what the organization believes in representing. Organizational identification is an important and interesting topic within the realm of organizational behavior due to its pertinent implications for organizations, groups, and individuals. Organizational identification is defined as “a psychological linkage between the individual and the organization whereby the individual feels a deep, self-defining affective and cognitive bond with the organization as a social entity” [19]. Meanwhile, according to Pratt [8], organizational identification happens “when an individual’s beliefs about his or her organization becomes self-referential or self-defining... [So as to] integrate beliefs about one’s organization into one’s identity” (p. 172). In light of this, it is possible to assert that organizational identification refers to a psychological state that

encompasses a sense of affiliation and self-perception as well as a cognitive appraisal of one's membership in an organization.

Uncertainty Reduction

Uncertainty is a cognitive phenomenon, which can have affective overtones. It is a phenomenon that is experienced in relation to oneself, interactions, or the environment that can have both positive and negative attitudes. It is also associated with probability, insufficient knowledge, unknown or unpredictable beings, the difference between cues, and unfavorable expectations. According to Hogg [6], Hogg and Mahajan [9], uncertainty reduction is a specific epistemic motive, which expresses a need for knowledge, understanding, and self-awareness in the personal and social realms. The term "uncertainty reduction" refers to any actions taken by an individual, group of employees or organization to reduce uncertainty about organizational events [20]. People are motivated to minimize feelings of uncertainty, especially regarding their identity and self-concept.

From a psychological perspective, uncertainty reduction is a reflection of individuals' tendency to resist and avoid uncertain and ambiguous situations. Individuals who avoid risks show a high need for closure and low tolerance to ambiguous situations [20] and seek a clear answer, as stated by Kruglanski and Webster [21]. Other researchers have shown that people with high needs for closure tend to prefer ordered situations, predictable situations, and a clear structural setting and have negative reactions when faced with changes in the organization or tasks that they perform [22]. While uncertainty is an unpleasant feeling, being confident in oneself and others makes it possible to better manage one's social surroundings by comprehending and foreseeing interactions with others. By adhering to clear-cut group prototypes, individuals can foster group identification and cultivate certainty about how to act, what is expected from them, and how they are viewed and connect to others. Thus, this reflects the individual members' capacity to be at ease or feel uneasy when faced with unstructured situations. Unstructured situations refer to unfamiliar and unforeseen circumstances differing from the norm. Uncertainty reduction has become more relevant regarding how organizations react to the effects caused by the macro-environment. Uncertainty reduction changes how employees behave and react to new experiences and concepts.

Theoretical Framework

This research utilizes the Path-Goal Theory by House [23] and the Social Identity theory (SIT) from Tajfel and Turner [24] as the primary theoretical foundations. These theories form the basis of the proposed research framework. Both theories have a proven track record of being widely accepted and utilized in leadership and organizational behavior research studies, as seen in the works of Alharbi [1], Alanazi [25]. Based on the Path-Goal Theory, leaders are considered the primary source for improving employees' attitudes and performance. The theory's scope is limited, as it only pertains to the relationship between formally appointed leaders and subordinates in carrying out their daily tasks. Based on the contingency paradigm of leadership, the theory was developed with the premise that different leadership styles will produce different results under different situations [26]. In light of the SIT, this study posits that leaders in the healthcare sector can enhance their nurses' job performance by enhancing their identification with the sector. Specifically, leaders in the sector may stimulate nurses' self-enhancement by encouraging enhanced performance, setting high standards, and challenging but achievable goals, showing confidence and trust towards the nurses, resulting in an

increased level of performance. Such approaches lead to the subordinates' realization that the organization is an appealing environment to fulfill their needs related to self-esteem [7]. On the other hand, healthcare sector leaders may reduce uncertainty by providing information, guidelines, scheduling, and ultimately practicing "path clarification" [15]. As a result, nurses' identification with the healthcare sector will be enhanced, and the affective (uncertainty and self-enhancement) and conative (job performance) components of social identification will also be elevated.

Furthermore, as the healthcare sector is undergoing organizational change, which can lead to varying levels of identification among employees [27], this study anticipates that different levels of organizational identification among the nurses of the healthcare sector may lead to varying needs for self-enhancement and uncertainty reduction. As a result, nurses in the healthcare sector may rely more on their leaders' behaviors to elevate self-enhancement and reduce uncertainty, thus enhancing their identification with the sector, and vice versa. This study utilizes the SIT to investigate whether the directive, supportive, participative, and achievement-oriented leadership styles of leaders in the healthcare sector may affect nurses' organizational identification and ultimately their job performance. Additionally, the study examines the moderating effect of uncertainty reduction and self-enhancement on the interaction between leadership styles and organizational identification.

RESEARCH MODEL AND HYPOTHESES

Leadership Styles and Organizational Identification

Numerous research studies have revealed that leadership and supervision are the primary sources of employees' organizational identification. Employees' organizational identification has been found to affect different styles of leadership, including ethical approach, developmental style, servitude style, and paternalistic approach [e.g., 28]. While several leadership styles have been linked to organizational identification, most research has been limited to transformational leadership. Other leadership styles and behaviors, such as directive style, should also be considered [29].

As noted by House [30] in his research on leadership, the behavior of leaders acts as a complementary mechanism for followers as it aids in enhancing the psychological framework and supports a smooth collaborative environment, helping to maintain a conducive work environment while enhancing the legitimacy of the organization from the employee's perspective. House and Dessler [31] further add that leaders have a strategic function of enhancing the psychological motives of the followers, with the objective of improving job performance and job satisfaction. Additionally, the way subordinates perceive leaders plays an important role in how they carry out their daily routines as they view those in leadership positions as a direct representative or representation of the organization [32, 33]. Therefore, leaders' behaviors may shape how employees view their relationship and social identification with their organization [4].

Adding to that, those in a leadership position might choose to involve followers in decision-making and related processes. This will result in enhancing the involvement of subordinates' commitment to the organization, and social pressure from fellow subordinates [30], and the concept of identity as a whole. Other scholars have shown that when a leader supports his followers, the end result is an enhancement of followers' identity with the organization in

question [34]. The tendency of leaders to adopt a supportive approach in terms of their behavior results in psychological motivation for subordinates [35], which enhances the subordinates' identity with their employer or employing firm [4]. In accordance with this argument, this study proposed the following hypotheses:

- H1: Directive leadership positively influences nurses' organizational identification.
- H2: Supportive leadership positively influences nurses' organizational identification.
- H3: Participative leadership positively influences nurses' organizational identification.
- H4: Achievement-oriented leadership positively influences nurses' organizational identification.

The Moderating Effect of Uncertainty Reduction

The first piece of information required when analyzing the quality of leadership approach is understanding how certain an individual feels about their future with the organization in question. Employees who experience high-quality leadership practices benefit from their supervisors who act as leaders and have access to organizational resources acquired as a result of their relationship with the leaders and the informal social network within the workplace. As a result of leaders being perceived as representatives of the employing organization [32], such subordinates tend to attribute these resources to the organization and view the gains as a generous act from the organization. This reduces their uncertainty and increases their self-identity with the organization as they can depend on it. Furthermore, such leadership approaches enhance employees' view of their roles as being more defined and stable, as they are favored rather than excluded. This further enhances their perception of their identity with the organization [7].

According to the SIT, the need to reduce uncertainty and the need for self-enhancement are the motivating factors for organizational identification from the subordinates' perspective [6]. As a result, leadership should first strive to reduce uncertainty in order to ease the psychological state of the subordinates. This can be achieved by reducing ambiguity through informing subordinates of what is expected in carrying out their tasks, scheduling activities and coordinating them, providing specific guidance in performing tasks, and clarifying policies and procedures adopted by the organization [30], and adopting the practice of "path clarification" as identified by Buchanan and Huczynski [15]. As a result, followers will perceive their role as being clearer and more stable within the workplace [7], and will gain an understanding of the norms and values of organizational membership and what the organization entails [36]. This understanding influences the nurses' identification with the organization due to the reduced levels of uncertainty. Building on this discussion, the following hypotheses were proposed:

- H5: Uncertainty reduction moderates the relationship between directive leadership and organizational identification.
- H6: Uncertainty reduction moderates the relationship between supportive leadership and organizational identification.
- H7: Uncertainty reduction moderates the relationship between participative leadership and organizational identification.
- H8: Uncertainty reduction moderates the relationship between achievement-oriented leadership and organizational identification.

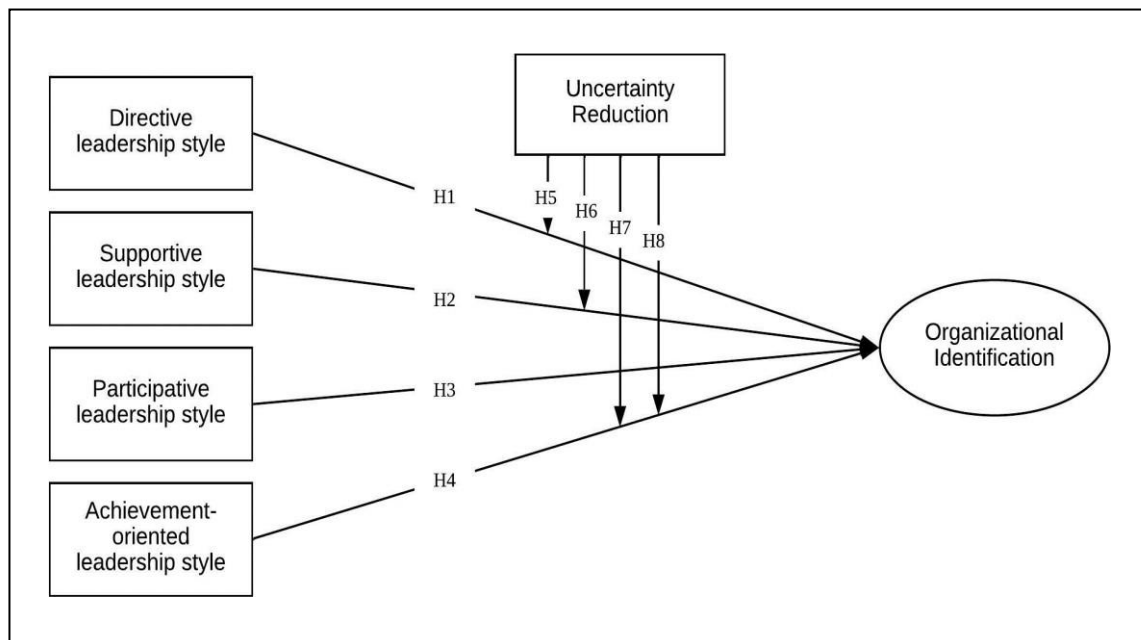


Fig. 1: Research conceptual model.

METHODOLOGY

According to Creswell and Creswell [37], the quantitative research methodology is commonly used in the positivist paradigm. In other words, objectivist researchers use quantitative methods, while constructionist or subjectivist researchers use qualitative methods. Quantitative research usually focuses on using data to test hypotheses based on established theories. Therefore, it is useful in determining the relationships among variables, which are numerically measured and analyzed using a range of statistical techniques [38]. This study adopted the positivist paradigm and utilized a quantitative research methodology (survey design) as a specific research method. Using the quantitative method helps the researcher obtain large quantities of data to explain a particular phenomenon [39, 40].

Inferential surveys are commonly used in business research. Additionally, a survey is a way that allows the collection of standardized data from a large population in an economical way. Furthermore, in a cross-sectional survey, data are gathered from more than one case at one point in time on two or more variables, in order to describe the incidence of a phenomenon or to explain how factors are related [38, 41, 42]. As aforementioned, the main objective of this study was to investigate the influence of leadership styles on specific outcome variables. Al-Sharif, Ali [33], Abdulsamad, Ali [42] summarized the advantages of survey as the type of research that is characterized by providing quick, inexpensive, efficient, and accurate means of assessing information about a population. In this study, a cross-sectional survey consisting of five sections was used to collect data on the variables.

The research design is defined as the plan to answer the research question(s) [38]. It also illustrates the activities to achieve the research objectives. According to Sekaran and Bougie [43], the research design consists of research aims, type, researcher interference, setting, measurements, unit of analysis, sampling design, time horizon, data collection, and data analysis. The purpose of the study could be exploratory, descriptive, or hypothesis testing. As mentioned earlier, this study tested 8 hypotheses to examine the relationships between

variables, namely, leadership styles and organizational identification, as well as, the moderating role of uncertainty reduction. Table 1 shows a summary of the adopted research design. More details are provided later in this section regarding population, sampling, instrumentation, and data analysis.

Table 1: Summary of the Research Design

Research Design	Decision
Purpose of the Study	Hypothesis testing
Investigation Type	Correlation
Researcher Interference	Minimal Interference
Study Setting	Healthcare Sector in Saudi Arabia
Population	All permanent nurses in the healthcare sector located across 5 hospitals in Riyadh and Makkah.
Sampling Design	Probability sampling technique, specifically, stratified sampling.
Sample Size	375
Unit of Analysis	Individual
Time Horizon	Cross-sectional study
Scale Format	7-Point Likert scale
Data Analysis	Descriptive analysis via SPSS Partial Least Square via Smart-PLS

This study targeted the Saudi healthcare sector for the purpose of evaluating leadership practices and employees' attitudes and job performance. All permanent nurses working in the hospitals (A, B, C, D, E) located in Riyadh and Makkah, Saudi Arabia constituted the population. The justification for choosing nurses because they represent the largest group of health care professionals in Saudi Arabia; and they deliver the highest percentage of health care (Ministry of Saudi Health, 2021). In addition, Saudi Arabia is challenged with shortages of qualified nurses, accompanied by high rates of turnover [44]. Furthermore, the unit of analysis was individuals who work at the specified locations and do not hold managerial positions. Specifically, male or female permanent nurses who provide direct patient care and had been employed as a nurse in Saudi Arabia for more than six months were the targeted respondents. This was to ensure that the sample was representative of the population and that the results of the study would be applicable to the target population. The study did not include physicians, allied health personnel, temporary staff, or contract workers such as blue-collar workers (maintenance and cleaning workers). This study excludes temporary staff, or contract workers because of the difficulty in counting them due to the differences in their contract period of time and the frequent movement which affects the results of the study and does not serve the goals of the search. Excluding these workers also ensured that the sample is homogenous, making it easier to draw valid conclusions about the population.

This study was conducted at 5 hospitals in Riyadh and Makkah. In addition, The Ministry of Saudi Health (2021) in Saudi Arabia indicated that the 5 hospitals have the highest numbers in employees, nurses, and visitors. According to the Ministry of Saudi Health (2018), the process of privatizing government hospitals will be implemented on these 5 hospitals as the first step before implementing the privatization initiative in all hospitals. The human resources

department in each of the five hospitals indicated that the number of nurses is 4,186, 3,076, 1,337, 1,105, and 856 in hospital A , hospital B, hospital C, hospital D, and hospital E, respectively, which represent a total of 10,560.

Accordingly, a total population of 10,560 nurses in Riyadh and Makkah public hospitals required a sample size of 375 respondents. To be consistent with the sampling technique adopted for this study, the sample size was determined by the population in each stratum. Based on the population of each stratum, the hospital A , hospital B, hospital C, hospital D, and hospital E, had a required sample size of 149, 109, 48, 39, and 30, respectively. This study used a survey questionnaire as a tool to gather data. A comprehensive literature review helped in the selection of instruments for this study. The items used in the questionnaire were adapted from well-established measures that have been previously verified for use in the field of research, and have shown high internal reliability in previous studies. The questionnaire employed a seven-point Likert scale ranging from "1" (strongly disagree) to "7" (strongly agree). It has been noted that the 5- and seven-point formats are the most commonly used scale formats. Nevertheless, the seven categories were preferred because it provides a more detailed scale description, increases respondents' certainty regarding their answers, and ensures scale validity and reliability by providing greater sensitivity to responses [45, 46].

DATA ANALYSIS AND RESULTS

Demographic Profile of Respondents

Using SPSS software, a frequency test was performed to assess the demographic profiles of the respondents who participated in this study. As presented in Table 2, the demographic profile includes gender, age, marital status, highest level of education, and working experience in the hospital.

Among the 371 respondents, the majority were male (n=212; 57.1%) compared to female (n=159; 42.9%). In terms of age, most of them were between 36 and 45 years old (n=161; 43.4%) followed by 26 to 35 years old (n=151; 40.7%), 46 years old and above (n=42; 11.3%), and the smallest group of 18 to 25 years old (n=17; 4.6%). In terms of nationality, the sample was relatively diverse. The nurse respondents were mostly Saudi (n=229; 61.7%), while (n=142; 38.3%) were non-Saudi. With respect to marital status, more of them were married (n=283; 76.3%) than single (n=82; 22.1%) or divorced (n=6; 1.6%). Additionally, about half of them (n=208; 56.1%) had completed their bachelor's degree, while 31.3% (n=116) of them had finished their diploma studies, followed by 10.2% (n=38) with a master's degree, and only 2.4% (n=9) of them had been awarded a PhD degree. The results on the job location of the respondents revealed that there were a majority (n=146; 39.4%) of nurses from hospital A , hospital B, hospital C, hospital D, and hospital E ranked second (n=108; 29.1%), third (n=48; 12.9%), fourth (n=39; 10.5%), and fifth (n=30; 8.1%) by respondents, respectively. The results on the job position of the respondents revealed that staff nurses were the only respondents (n=371; 100%). In terms of working experience in the hospital, most respondents had one to five years of experience (n=120; 32.3%), followed by 11 to 15 years (n=99; 26.7%), six to 10 years (n=77; 20.8%), and 16 years or more (n=75; 20.2%).

Table 2: Profile of Respondents

Description	Items	Frequency	Percentage
Gender	Male	212	57.1
	Female	159	42.9
Age	18-25 years old	17	4.6
	26-35 years old	151	40.7
	36-45 years old	161	43.4
	46 years old and above	42	11.3
Nationality			
	Saudi	229	61.7
	Non-Saudi	142	38.3
Marital Status	Single	82	22.1
	Married	283	76.3
	Divorced	6	1.6
Education	Diploma	116	31.3
	Bachelor	208	56.1
	Master	38	10.2
	PhD	9	2.4
Job location			
	Hospital A	146	39.4
	Hospital B	108	29.1
	Hospital C	48	12.9
	Hospital D	39	10.5
	Hospital E	30	8.1
Job Position			
	Staff nurse	371	100
	Nurse Manager	0	0.0
	Other	0	0.0
Working Experience	1-5 years	120	32.3
	6-10 years	77	20.8
	11-15 years	99	26.7
	16 years and more	75	20.2
	Total	371	100

Analysis of Construct Reliability and Convergent Validity

This study evaluated the construct reliability of various constructs, including the four leadership styles, job performance, organizational identification, self-enhancement, and uncertainty reduction, using Cronbach's alpha (α) and composite reliability. The α values for all reflective constructs were found to be between 0.668 and 0.938, which exceeds the recommended value of 0.70 proposed by Al-Zubaidi, Ariffin [47], Ariffin, Abdulsamad [48], Nunnally [49]. Additionally, the composite reliability scores for all constructs were between 0.721 and 0.970, meeting the recommended score of 0.70. In this study, the analysis of convergent validity was performed using two metrics: factor loadings and AVE. All items should have factor loadings of equal to or greater than 0.40. A few items were deleted from the study due to low loading values (less than 0.40), including two items from achievement-oriented leadership, three items from directive leadership, three items from participative leadership, and three items from supportive leadership. Table 3 shows that the AVE values for all

constructs were higher than the threshold limit of 0.50, ranging from 0.485 to 0.941. This suggests that all items were able to account for more than 50% of their respective construct's variance, according to Hair, Sarstedt [50]. Thus, it can be inferred that all reflective variables (i.e., achievement-oriented leadership, directive leadership, organizational identification, participative leadership, supportive leadership, and uncertainty reduction) fulfilled the criteria for reliability and convergent validity.

Table 3: Test for Construct Reliability and Convergent Validity

Latent Variable	Item	Outer Loading	Cronbach's Alpha	Composite Reliability	AVE
Achievement-Oriented Leadership	AO1	0.498	0.668	0.721	0.485
	AO2	D			
	AO3	0.554			
	AO4	D			
	AO5	0.948			
Directive Leadership	D1	D	0.938	0.970	0.941
	D2	0.971			
	D3	D			
	D4	0.970			
	D5	D			
Organizational Identification	OI1	0.645	0.915	0.934	0.706
	OI2	0.859			
	OI3	0.902			
	OI4	0.902			
	OI5	0.895			
	OI6	0.809			
Participative Leadership	P1	D	0.905	0.955	0.913
	P2	0.954			
	P3	D			
	P4	0.958			
	P5	D			
Supportive Leadership	S1	D	0.817	0.916	0.845
	S2	D			
	S3	D			
	S4	0.932			
	S5	0.906			
Uncertainty Reduction	UR1	0.708	0.933	0.942	0.645
	UR2	0.772			
	UR3	0.822			
	UR4	0.833			
	UR5	0.850			
	UR6	0.784			
	UR7	0.816			
	UR8	0.814			
	UR9	0.823			

Descriptive Analysis

In the descriptive analysis, the evaluation includes examination of the mean, standard deviation, and normality to identify how the participants responded to each construct in this study. Specifically, all items of achievement-oriented leadership, directive leadership, organizational identification, participative leadership, supportive leadership, and uncertainty reduction were measured using a seven-point Likert scale, with options ranging from 1 (strongly disagree) to 7 (strongly agree).

The mean scores for most of the respondents were above 5 (above the neutral point of 4 on a seven-point Likert scale), indicating that they somewhat agreed that their immediate supervisor or manager demonstrates a directive (mean=5.298; standard deviation =1.830) and supportive (mean=5.249; standard deviation=1.852) style when leading all subordinates. On the other hand, respondents somewhat disagreed that their leader demonstrates an achievement-oriented leadership style (mean=3.672; standard deviation=1.551), while a neutral point was recorded in relation to participative leadership style (mean=4.776, standard deviation=1.828).

Concerning organizational identification (mean=4.764; standard deviation=1.677), the sample agreed that they have a neutral feeling towards experiencing a sense of oneness with the organization. In terms of personality traits, respondents somewhat disagreed that they are unsure or uncertain about how to behave and what to expect from the physical and social environment (i.e., uncertainty reduction: mean=3.442; standard deviation=1.554). Overall, the respondents were somewhat in agreement that they were able to perform well and effectively in the workplace. The data was analyzed using a normality test in SPSS. As shown in Table 4, the skewness and kurtosis values of all constructs (i.e., achievement-oriented leadership, directive leadership, organizational identification, participative leadership, supportive leadership, and uncertainty reduction) fell within the range of -2 and +2 (i.e., skewness ranging from -1.121 to 0.469; kurtosis ranging from -0.834 to 0.027). Therefore, it can be concluded that all the constructs involved in this study were normally distributed, as supported by Hair, Sarstedt [51], Byrne [52].

Table 4: Descriptive Results

Variable	Mean	Std. Deviation	Skewness	Kurtosis
Achievement-oriented	3.672	1.551	0.376	-0.651
Directive	5.298	1.830	-1.121	0.027
Organization Identification	4.764	1.677	-0.672	-0.642
Participative	4.776	1.828	-0.598	-0.834
Supportive	5.249	1.852	-1.080	-0.082
Uncertainty Reduction	3.442	1.554	0.469	-0.592

Direct Effect Analysis (Path coefficients)

Path coefficients must be assessed to test the significance of the direct hypotheses [53, 54]. The assessment of leadership's influence on organizational identification indicated that directive (H1: $\beta=0.383$, $t=5.019$, $p<0.001$), supportive (H2: $\beta=0.166$, $t=3.113$, $p=0.001$), and participative (H3: $\beta=0.214$, $t=2.727$, $p=0.003$) leadership styles had a positive and significant impact, but not achievement-oriented leadership (H4: $\beta=-0.004$, $t=0.060$, $p=0.476$). Therefore, H1, H2, and H3 were supported, and H4 was rejected (see Table 5).

Table 5: Summary of the path analysis – the direct effect

Hypothesis	Std Beta	Std Error	T Statistics (O/STDEV)	P Values
H1) Directive -> OI	0.383	0.076	5.019	<0.001
H2) Supportive -> OI	0.166	0.053	3.113	0.001
H3) Participative -> OI	0.214	0.079	2.727	0.003
H4) Achievement-Oriented -> OI	-0.004	0.062	0.06	0.476

Moderation Effect Analysis

The study examined the moderating effects of uncertainty reduction on the relationships between leadership styles and organizational identification. The results revealed a significant moderation effect of uncertainty reduction in the effects of directive leadership (H5: $\beta = -0.292$, $t = 3.479$, $p < 0.001$) and supportive leadership (H6: $\beta = -0.109$, $t = 1.757$, $p = 0.040$) on organizational identification, but not for participative leadership (H7: $\beta = 0.071$, $t = 0.773$, $p = 0.22$) and achievement-oriented leadership (H8: $\beta = -0.009$, $t = 0.132$, $p = 0.448$) on organizational identification. To gain deeper insights, interaction plots were developed for the significant paths. As demonstrated in Figure 2, the positive relationship between directive leadership and organizational identification is stronger when uncertainty reduction is low. Conversely, Figure 3 demonstrates that the positive relationship between supportive leadership and organizational identification is stronger when uncertainty reduction is high.

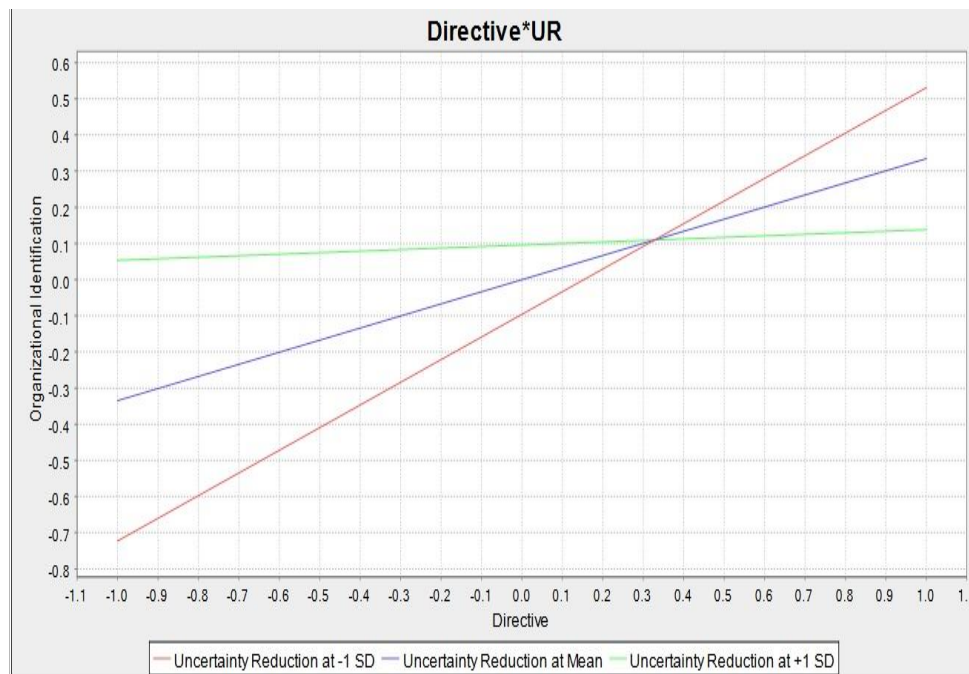


Figure 1 : Interaction plot of Directive*Uncertainty reduction -> Organization Identification

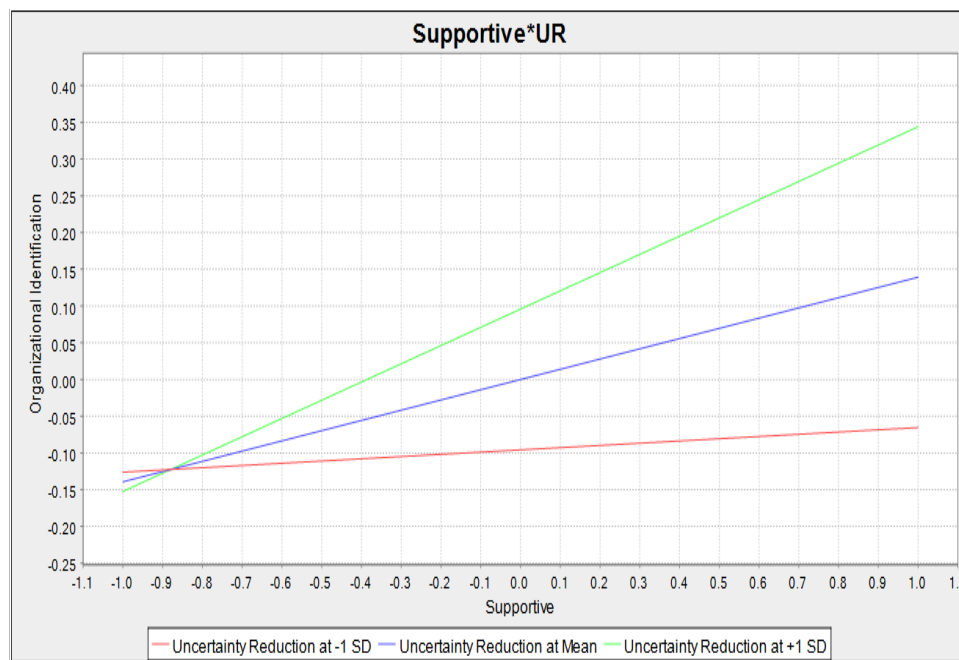


Figure 2 : Interaction plot of Supportive *Uncertainty reduction -> Organization Identification

DISCUSSION AND IMPLICATIONS

The paper's objectives focused on examining the relationship between leadership styles, including directive, supportive, participative, and achievement-oriented, and nurses' organizational identification in the context of Saudi Arabian hospitals. The various hypotheses formulated present a multifaceted picture of these relationships.

In terms of organizational identification, the study found supportive relationships with Directive, Supportive, and Participative leadership styles. Directive leadership was seen to be employed by nurse leaders in Saudi Arabian hospitals to achieve specific goals, highlighting the importance of organizational identification for job satisfaction and citizenship behaviors [55]. Supportive leadership was associated with a sense of belonging and well-being, aligning with the findings of [56, 57]. Participative leadership, emphasizing inclusiveness and collaboration, also positively influenced organizational identification, suggesting a more democratic approach within the nursing context. However, Achievement-oriented leadership did not show a positive relationship with organizational identification. This result contradicts studies that emphasize the importance of goal alignment and reward systems [58], implying that in the Saudi context, this leadership style might not instill confidence or inspire continuous progress. Overall, the complex interplay between different leadership styles and organizational outcomes underscores the nuanced role of context, culture, and individual considerations in shaping these relationships. The results confirm that leadership behaviors shape employees' relationships and identifications with their organization [59], with implications for practice, policy, and future research.

The second objective involves investigating how uncertainty reduction plays a moderating role in the relationship between various leadership styles and organizational identification. The insights derived from hypotheses H5 to H8 are explained and justified below. H5 received robust support, showing that uncertainty reduction positively moderates the relationship

between directive leadership and organizational identification (p -value = 0.001, t -value = 3.479). This finding is consistent with previous studies [e.g., 6, 20], suggesting that directive leaders facilitate clearer roles, expectations, and understanding among subordinates. The support for H5 adds to the body of evidence that emphasizes the importance of a defined and stable work environment in enhancing employees' identification with the organization. It underscores the role of strong leadership practices in creating a positive working environment and aligns well with existing literature. H6 also found support (p -value = 0.04, t -value = 1.757), indicating that uncertainty reduction indeed moderates the relationship between supportive leadership and organizational identification. This finding aligns with studies like Owens and Hekman [60], emphasizing that supportive leadership fosters a culture where errors become learning opportunities, reducing uncertainty. This justification complements previous research and expands the understanding of how supportive leadership can reduce ambiguity in specific healthcare contexts like Saudi Arabian hospitals. The rejection of H7 (p -value = 0.22, t -value = 0.773) presents an interesting contrast. It indicates that uncertainty reduction does not moderate the relationship between participative leadership and organizational identification. This finding aligns with studies suggesting that participative leadership can increase conflict due to differing views [61, 62]. In Saudi Arabian hospitals, this may reflect a cultural or organizational challenge in managing participative dynamics, leading to uncertainty rather than reducing it. This result urges a deeper investigation into the unique dynamics of participative leadership within this specific context and could provide insights into how to enhance its effectiveness without increasing ambiguity. The rejection of H8 (p -value = 0.448, t -value = 0.132) adds another layer of complexity, showing that uncertainty reduction does not moderate the relationship between achievement-oriented leadership and organizational identification. Unlike other leadership styles, achievement-oriented leadership might be viewed as more authoritarian, emphasizing task accomplishment over employees' concerns. This finding diverges from the typical understanding of leadership's role in reducing uncertainty and invites further exploration. The absence of a moderating effect may be specific to the Saudi Arabian context or indicate a broader challenge in how achievement-oriented leadership is applied in healthcare settings. The examination of the fourth objective reveals nuanced insights into the moderating effect of uncertainty reduction on different leadership styles. While directive and supportive leadership align with existing studies, the results for participative and achievement-oriented leadership offer surprising contrasts. These findings suggest that leadership strategies in healthcare, especially in the specific context of Saudi Arabian hospitals, may not universally reduce uncertainty, and in some instances, might even contribute to it. The rejection of H8, in particular, illuminates the complexities and potential pitfalls of implementing achievement-oriented leadership within this context. The findings provoke important questions for future research and organizational practice, encouraging a more thoughtful and context-specific application of leadership styles. By tailoring leadership strategies to the unique needs and characteristics of the Saudi Arabian healthcare setting, managers may foster stronger organizational identification without inadvertently increasing uncertainty.

LIMITATION AND FUTURE STUDY

The present study has enhanced the understanding of the intricate relationship between nurse leadership and job performance within specific regions, uncovering key insights that could inform future practice. However, the complexity of this relationship opens many avenues for further exploration. Future studies could expand the geographical scope, including diverse

healthcare systems and nations, to draw more globally applicable conclusions. Such comparative research may help in understanding regional variations and the universalities in nurse leadership dynamics.

Recognizing that the four leadership styles are not entirely separate entities, the study considers the impact of combined usage. However, the focused approach was chosen to enable a more precise analysis of each style's individual effect. The possibility of different styles being more effective in various contexts is acknowledged and left for future exploration[63]. The study's focus on nurses from hospitals in Saudi Arabia was a necessary constraint to ensure a manageable and context-specific research design. While this limits the generalizability of the findings, it also allows for insights that are highly relevant to the sampled population [64].

Additionally, the concepts of empowerment and autonomy within the nursing workplace deserve further attention. Examining how these factors, often associated with increased job satisfaction and performance, relate to leadership styles, might uncover actionable insights that can be applied in healthcare organizations [65]. A mixed-methodology approach, integrating qualitative interviews with healthcare professionals, could enrich this exploration, revealing contextual factors and subtleties that quantitative data might miss.

CONCLUSION

Leadership styles play an important role in influencing organizational identification. However, the results of previous studies failed to provide an adequate explanation for the proposed relationships, and the underlying mechanism is still unclear [14, 66, 67]. Nevertheless, this study's theoretical implications address various research gaps in the literature on the Path-Goal Theory, Social Identity Theory, leadership styles, and organizational identification. Firstly, the study contributes to the Path-Goal Theory by examining the relationships between leadership styles and organizational identification through the moderation of the uncertainty reduction effect. The study highlights the importance of nurses' organizational identification. This finding extends the Path-Goal Theory by demonstrating the moderation of the uncertainty reduction in the relationship between leadership styles and organizational identification.

Secondly, Previous research works on leadership characteristics and employees' organizational identification based on the SIT have used uncertainty reduction motives as their basis, but have not subjected their research to empirical testing [1, 7]. However, this study adds to the Social Identity Theory by investigating the role of uncertainty reduction as a moderator in the relationships between leadership styles and nurses' organizational identification. This study provides evidence of how uncertainty reduction can impact the formation and maintenance of nurses' organizational identification. According to Yang, Chen [68], the findings extend the Social Identity Theory by demonstrating the moderating role of situational factors, such as uncertainty reduction, in the relationship between leadership styles and organizational identification.

Thirdly, the study examines the impact of reducing uncertainty on the relationships between leadership styles and nurses' organizational identification. The research results suggest that the connections between nurses' organizational identification and their leaders' leadership styles may be tempered by nurses' efforts to reduce uncertainty and improve themselves [69].

This finding underscores the importance of contextual and personal elements in affecting the development of organizational identification.

The study delved into the intricate relationships between various leadership styles and organizational identification, with a particular focus on the moderating role of uncertainty reduction within Saudi hospitals. Directive leadership showcased a strong positive correlation with organizational identification, particularly when uncertainty reduction was low, highlighting the value of clear direction in more ambiguous situations. In contrast, the relationship between supportive leadership and organizational identification intensified with higher uncertainty reduction, suggesting that in environments of clarity, a supportive leadership style becomes increasingly impactful. Interestingly, neither participative nor achievement-oriented leadership displayed significant moderation effects from uncertainty reduction, indicating their consistent influence on organizational identification regardless of environmental predictability. These findings underscore the importance of understanding the interplay between leadership approaches and the organizational context, emphasizing the need for adaptability in leadership strategies according to varying degrees of uncertainty within the healthcare sector of Saudi Arabia.

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