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Original Article

Explaining the Relationships between Machiavellianism, Moral Indifference, Moral Accountability, and Sustainability Reporting

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Abstract

Introduction: Machiavellian beliefs emphasize that individuals should achieve their goals and desires by any means, even unethical ones, without considering other factors. The principles of Machiavellianism have long been discussed in psychology, politics, organizations, and other fields. The purpose of this study is to explain the relationships between Machiavellianism, moral indifference, moral accountability, and corporate sustainability reporting.

Material and Methods: The present study is descriptive–correlational in nature. The statistical population consisted of managers and deputy managers of public and private companies. Using Cochran's formula, 170 individuals were selected as the statistical sample. Data were collected through standardized questionnaires and analyzed using structural equation modeling (SEM).

Results: The results indicated that Machiavellianism has a positive and significant effect on moral indifference and sustainability reporting, and a negative effect on moral accountability. Moreover, moral indifference had a significant negative effect on moral accountability and corporate sustainability reporting. However, the relationship between moral accountability and corporate sustainability reporting was not supported in this study.

Conclusion: The findings suggest that paying attention to ethical dimensions in organizational management can play a crucial role in improving sustainability reporting and enhancing organizational responsibility. The study recommends that organizations move toward reducing Machiavellianism and moral indifference by promoting ethics education and developing incentive-based ethical policies.

Keywords: *Machiavellianism, Moral Indifference, Moral Accountability, Corporate Sustainability Reporting*

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INTRODUCTION

In recent years, sustainability reporting has become one of the key tools for strengthening the moral accountability of organizations [1]. Despite the importance of this topic, the effects of certain managerial personality traits-particularly Machiavellianism, moral indifference, and the role of moral accountability-on organizational approaches toward sustainability reporting have received little attention from researchers.

Recent studies indicate that individuals with darker personality tendencies -such as those described within the concept of the "Dark Triad of personality"- often demonstrate lower levels of moral sensitivity [2], commitment to social [3] and ethical goals [4], and are prone to

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mechanisms such as moral disengagement. For example, one study found a negative relationship between the Dark Triad and social entrepreneurial intentions, which was largely explained through moral disengagement [5]. Similar evidence has been observed in the field of sustainability reporting. A study [6] conducted on Italian managers revealed that Machiavellianism is significantly associated with lower support for social and environmental reporting. It was also found that stakeholder orientation can mediate this relationship, meaning that Machiavellian tendencies reduce attention to stakeholders, thereby weakening managers' inclination toward sustainability reporting [7, 8].

Moral indifference -or moral disengagement- is defined as a cognitive process through which individuals justify or trivialize behaviors that would normally conflict with their moral standards [9]. This process provides a context for reduced moral accountability and the emergence of unethical behavior in the workplace [10]. Despite this evidence, few studies have examined the simultaneous effects of Machiavellianism, moral indifference, and moral accountability on sustainability reporting. Furthermore, it remains unclear whether moral indifference and moral accountability may act as mediating or moderating variables in explaining the relationship between Machiavellianism and sustainability reporting. Accordingly, the present study aims to explain the relationships among Machiavellianism, moral indifference, moral accountability, and sustainability reporting, and seeks to clarify the mediating or moderating roles of ethical variables in this relationship.

Many individuals with dark personality traits do not perceive their supervisors as ethical [11]. Such individuals exhibit several behavioral patterns, and their deviant behaviors tend to intensify under conditions of poor leadership quality [12]. Machiavellian individuals tend to view others pessimistically and perceive them as unethical [13]. Their decisions are typically unethical [14]; they place less importance on corporate and social responsibility and do not refrain from unethical behavior [15]. The issue of sustainable development and the need to achieve it have led major corporations since the 1990s to include economic, social, and environmental dimensions in their annual reports, thereby moving toward corporate sustainability. With the growing demand for accountability regarding corporate activities and their societal impacts, laws and regulations have been established to guide corporate reporting practices. In Iran as well, according to the Sixth Five-Year Development Plan Act (2017), emphasis has been placed on commercial stability, sustainability, and the enhancement of financial transparency. One of the key criteria for the sustainability of any program or activity is its environmental compatibility and its recognition of social legitimacy. Article 2 of the Sixth Five-Year Development Plan specifically addresses strategic issues related to sustainability. Therefore, a structural and explanatory examination of the relationships among these variables can contribute to a better understanding of the factors influencing the quality of sustainability reporting and provide strategies for improving organizational performance. Despite several existing studies in this area, the authors of the present paper identified a research gap concerning the relationship between Machiavellianism, moral indifference, and moral accountability in the context of sustainability reporting among the accounting community. Accordingly, this study seeks to answer the following question: How does Machiavellianism, through moral indifference and moral accountability, affect sustainability reporting?

Based on this, the following hypotheses were formulated:

Hypothesis 1: Machiavellianism affects moral indifference.
Hypothesis 2: Machiavellianism affects moral accountability.
Hypothesis 3: Machiavellianism affects corporate sustainability reporting.
Hypothesis 4: Moral indifference affects corporate sustainability reporting.
Hypothesis 5: Moral indifference affects moral accountability.
Hypothesis 6: Moral accountability affects corporate sustainability reporting.

MATERIAL AND METHODS

This study is a descriptive–correlational research conducted with the aim of examining the relationships between Machiavellianism, moral indifference, moral accountability, and sustainability reporting. The statistical population consisted of all managers and deputy managers of public and private companies in 2024 (1403 in the Iranian calendar). Based on statistical analysis, the minimum required sample size for structural equation modeling with 80% statistical power and a 5% significance level was determined to be 103 participants. Ultimately, valid data from 170 questionnaires were collected through correspondence, email, and online platforms. The demographic characteristics of the sample are presented in Table 1

Table 1: Demographic characteristics

Factors	Description	Percent	Frequency
Gender	Female	38.8	66
	Male	61.2	104
Education	Associate	0	0
	B.A. student	5.9	10
	B.A.	34.1	58
	M.A. student	17.6	30
	M.A. graduate	36.5	62
	Ph.D. student	4.1	7
	Ph.D. graduate	1.8	3
Work experience	Less than 5ys	30	51
	5-10ys	25.3	43
	10-15ys	19.4	33
	15-20ys	11.2	19
	Over 20ys	11.8	20
	Without response	2.3	4

The research data were collected using standardized questionnaires as follows:
Machiavellianism: Measured using the scale developed by Moshagen et al. (2018), consisting of 7 items on a 5-point Likert scale (from strongly disagree to strongly agree) [16].
Moral Indifference: Assessed using the Moore et al. (2012) questionnaire, including 8 items on a 7-point scale (1 to 7) evaluating respondents' attitudes toward moral disengagement [17].
Moral Accountability: Measured using the Wormley et al. (2023) questionnaire, containing 10 items on a 5-point Likert scale (from not at all to very much) to assess moral accountability [18].
Corporate Sustainability Reporting: Evaluated using the Lee, Ha-Brookshire & Chow (2018) questionnaire, comprising 20 items on a 5-point Likert scale measuring respondents' agreement or disagreement with statements related to sustainability reporting [19].
After data collection, the responses were entered into statistical software and analyzed using the Partial Least Squares Structural Equation Modeling (PLS-SEM) method. This approach

enables the simultaneous examination of multiple complex relationships among latent and observed variables and is suitable for analyzing behavioral and managerial research models.

RESULTS

Descriptive Statistics Related to the Research Variables

This section presents the descriptive indicators and frequency distribution of the research variables. Since the questions for each variable were measured using a specific set of response options, the descriptive analysis aims to examine how the scores obtained from the participants' responses are distributed across each indicator. In fact, measures of central tendency (mean and median) and measures of dispersion (standard deviation, maximum, and minimum) were calculated for each variable.

Table 2: Descriptive statistics of research variables

Variables	No.	Mean	Median	SD	Min.	Max.
Machiavellianism	170	3.33	3.28	0.536	1	5
Moral Indifference	170	3.15	3.25	0.751	1	7
Moral Accountability	170	4.20	4.30	0.555	1	5
Corporate Sustainability Reporting	170	4.19	4.40	0.742	1	5

Convergent Validity (Factor Loadings and Average Variance Extracted – AVE)

The results, after removing weak items, show that the factor loadings of all questions for their corresponding variables are greater than 0.4 and statistically significant. Since the AVE value - which measures the degree of correlation between each construct and its indicators - is higher than 0.4 for all variables, the convergent validity of the measurement model is confirmed.

Table3: Results of the final analysis of factor loading and AVE values for research variables

Variable	Question	Factor load	t. value	AVE
Machiavellianism	MQ7	1	0	1
Moral Indifference	DQ1	0.79	13.33	0.4953
	DQ2	0.63	6.45	
	DQ3	0.66	8.10	
Moral Accountability	AQ2	0.74	14.62	0.5358
	AQ3	0.76	14.90	
	AQ5	0.73	15.10	
	AQ6	0.60	8.21	
	AQ7	0.78	23.78	
	AQ8	0.79	19.45	
	AQ9	0.73	16.55	
	AQ10	0.66	9.10	
Corporate Sustainability Reporting	SQ1	.74	13.23	0.5898
	SQ2	0.75	15.58	
	SQ3	0.78	17.78	
	SQ4	0.79	22.20	
	SQ5	0.85	31.19	
	SQ6	0.74	18.82	
	SQ7	0.58	8.22	
	SQ8	0.82	19.47	
	SQ9	0.77	17.88	
	SQ10	0.87	35.03	

	SQ11	0.75	17.40	
	SQ12	0.89	40.34	
	SQ13	0.84	29.08	
	SQ14	0.65	12.28	
	SQ15	0.77	24.44	
	SQ16	0.77	19.31	
	SQ17	0.70	12.92	
	SQ18	0.69	17.84	
	SQ19	0.72	14.28	
	SQ20	0.71	14.42	

HTMT Index

A researcher introduced a new index called the Heterotrait-Monotrait Ratio (HTMT) to evaluate discriminant validity (20). The acceptable threshold for the HTMT criterion ranges from 0.85 to 0.90. If the values of this criterion are less than 0.90, discriminant validity is considered acceptable. Table 4 presents the HTMT index values, all of which are below 0.90; therefore, the discriminant validity of the models is confirmed.

Table4: Divergent validity based on the HTMT index

	Moral indifference	Machiavellianism	Moral accountability	Corporate Sustainability Reporting
Moral indifference	-	-	-	-
Machiavellianism	0.5127	-	-	-
Moral accountability	0.5950	0.3659	-	-
Corporate Sustainability Reporting	0.3870	0.0726	0.2320	

The results of testing the research conceptual model with the Machiavellianism variable in standard and significant mode are shown in Figures 1 and 2.

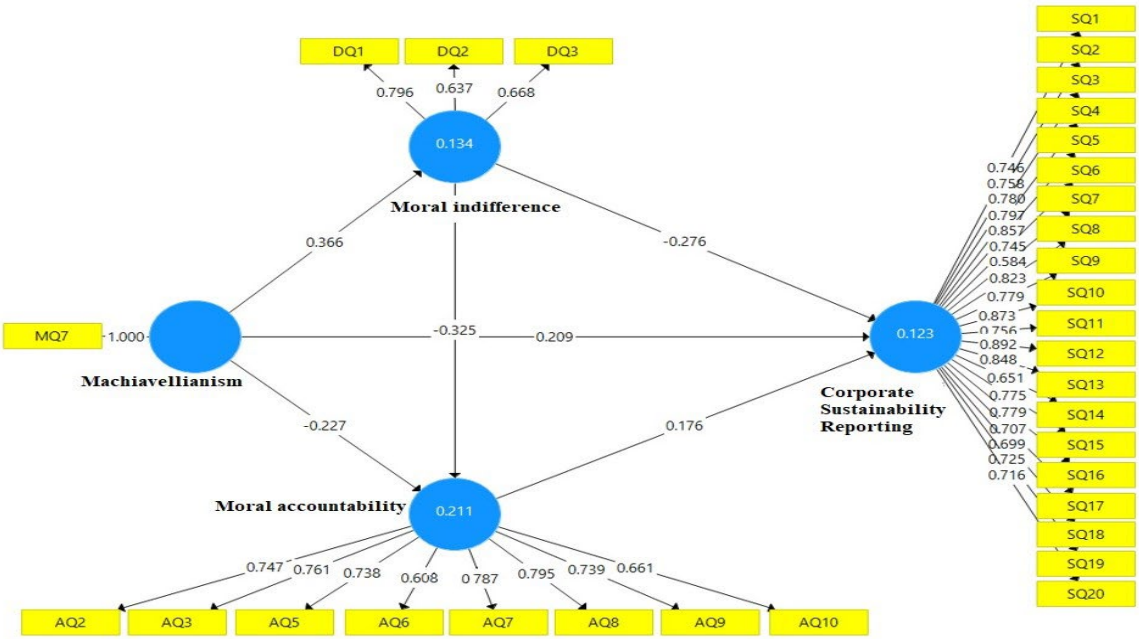

Figure 1: Testing the first research model in the standard mode

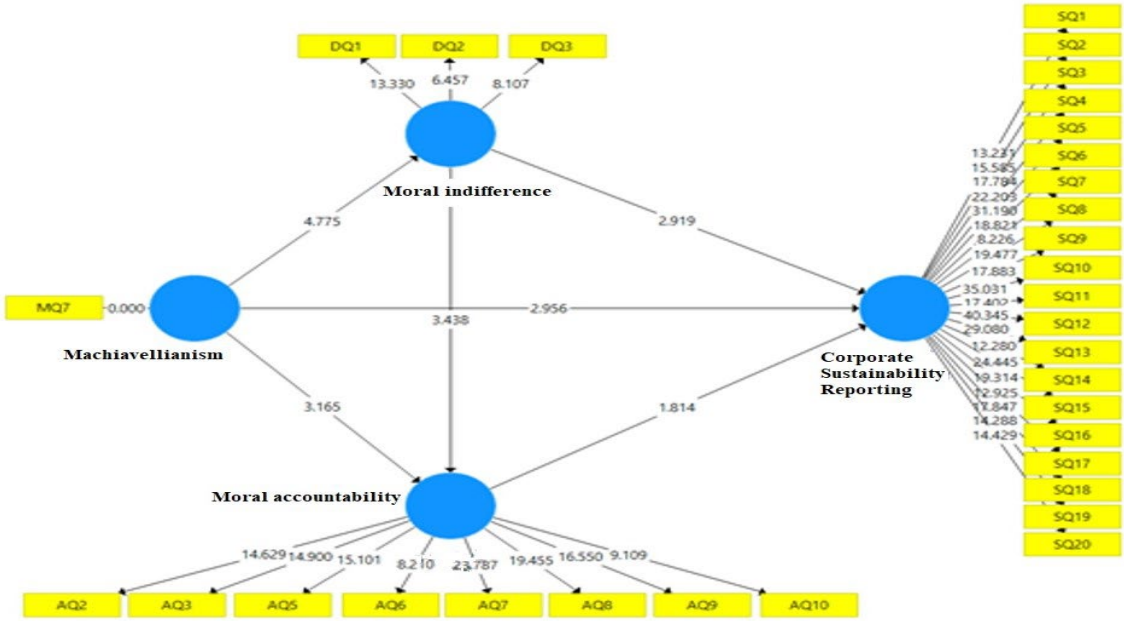

Figure 2: Test of the first research model in the significant state

Results of the First Model Test

The results from testing the first research model indicate the following:

Machiavellianism has a positive effect (0.366) on moral indifference. This effect is statistically significant, as the T-value is 4.775, which is greater than the critical value of 1.96. Therefore, the hypothesis regarding the effect of Machiavellianism on moral indifference is accepted.

The negative effect (-0.227) of Machiavellianism on moral accountability is also statistically significant, since the T-value equals 3.165, exceeding 1.96. Thus, the hypothesis concerning the effect of Machiavellianism on moral accountability is accepted.

The positive effect (0.209) of Machiavellianism on corporate sustainability reporting is statistically significant as well, with a T-value of 2.956, which is greater than 1.96. Hence, the hypothesis regarding the effect of Machiavellianism on corporate sustainability reporting is accepted.

Moral indifference has a negative effect (-0.276) on corporate sustainability reporting, which is statistically significant, as the T-value is 2.919, exceeding 1.96. Therefore, the hypothesis regarding the effect of moral indifference on corporate sustainability reporting is accepted.

The negative effect (-0.325) of moral indifference on moral accountability is also statistically significant, since the T-value equals 3.438, which is greater than 1.96. Consequently, the hypothesis regarding the effect of moral indifference on moral accountability is accepted.

The positive effect (0.176) of moral accountability on corporate sustainability reporting is not statistically significant, as its T-value is 1.814, which is less than 1.96. Therefore, the hypothesis regarding the effect of moral accountability on corporate sustainability reporting is rejected.

Table 5: Results of testing research hypotheses

Hypothesis	Path coefficient	t. Value	Test result

1	The Effect of Machiavellianism on Moral Indifference	0.366	4.775	Accepted
2	The Effect of Machiavellianism on Moral Accountability	-0.227	3.165	Accepted
3	The Effect of Machiavellianism on Corporate Sustainability Reporting	0.209	2.956	Accepted
4	The Effect of Moral Indifference on Corporate Sustainability Reporting	-0.276	2.919	Accepted
5	The Effect of Moral Indifference on Moral Accountability	-0.325	3.438	Accepted
6	The Effect of Moral Accountability on Corporate Sustainability Reporting	0.176	1.814	Rejected

DISCUSSION

Hypothesis 1: Machiavellianism affects moral indifference.

Based on the results, the first hypothesis is confirmed, indicating that this relationship is positive and significant. Machiavellianism, as a personality trait characterized by self-centered behavior, manipulation of others, and disregard for ethical principles, leads to an increase in moral indifference. Machiavellian individuals often use mechanisms of moral disengagement to justify their unethical behaviors, which reduces their sense of moral responsibility [21]. Some researchers also explain that moral disengagement allows individuals to engage in behaviors that would normally conflict with their moral values, without experiencing guilt or anxiety [22].

Hypothesis 2: Machiavellianism affects moral accountability.

According to the findings, the second hypothesis is confirmed, showing a negative and significant relationship. Machiavellian traits, including distrust and disregard for the needs of others, lead to a decrease in personal responsibility and accountability. Individuals with Machiavellian tendencies are less inclined to be accountable for the moral consequences of their actions [23]. Moral accountability, which refers to the commitment to transparency and taking responsibility for one's actions, is observed more frequently among individuals with lower levels of Machiavellianism [24].

Hypothesis 3: Machiavellianism affects corporate sustainability reporting.

The results confirm the third hypothesis, indicating a positive and significant relationship. Although this finding may initially seem surprising, studies have shown that Machiavellian managers may use sustainability reporting as a tool to enhance their own or their organization's image, even if their motivation is purely performative [25]. This means that such individuals may be active in sustainability reporting, but their activities are not necessarily genuine or responsible [26]. Therefore, Machiavellianism is expected to have a positive and significant effect on corporate sustainability reporting.

Hypothesis 4: Moral indifference affects corporate sustainability reporting.

The fourth hypothesis is confirmed, indicating a negative and significant relationship. Moral indifference, or moral disengagement, leads to a decrease in an individual's commitment to ethical principles and transparent reporting [27]. Individuals with high levels of moral disengagement may be indifferent to the importance of sustainability reporting and may not value such practices [28]. Therefore, moral indifference has a negative and significant effect on corporate sustainability reporting.

Hypothesis 5: Moral indifference affects moral accountability.

The fifth hypothesis is confirmed, showing a negative and significant relationship. Moral disengagement is a process through which individuals deny or justify their unethical behaviors, which leads to reduced moral accountability [29]. Individuals with higher levels of moral indifference are less likely to take responsibility for their actions [30].

Hypothesis 6: Moral accountability affects corporate sustainability reporting.

The sixth hypothesis is rejected, as no significant relationship was found between these two variables. This may be due to various factors, such as differences in how moral accountability is perceived in workplace environments or the complexity of factors influencing sustainability reporting, which require further investigation in future studies.

Based on the results of the hypotheses, the following recommendations are proposed:

- Emphasis on ethics education and reducing Machiavellianism: The results show that Machiavellianism has a negative effect on moral accountability and a positive effect on moral indifference. Therefore, it is recommended that organizations promote a culture of ethical responsibility by conducting training sessions and ethics workshops and prevent the growth of Machiavellian behavior.
- Developing motivational policies to enhance moral accountability: Given the negative effect of moral indifference on moral accountability and sustainability reporting, organizations should design incentive and disciplinary systems that encourage ethical behavior and discourage indifferent or unethical conduct.
- Increasing transparency in sustainability reporting: Since sustainability reporting is influenced by ethical variables, organizations are advised to use modern technologies and international standards to improve the accuracy and transparency of their reports.

Limitations of the Present Study:

- Limited statistical population: The study population consisted of accountants and auditors working in public and private companies, which may limit the generalizability of the findings to other professional groups.
- Use of self-reported data: Because the study relied on self-reported questionnaires, there is a possibility of response bias, which could affect the results.

Cultural and environmental dimensions: Cultural and environmental factors influence ethical behavior; however, these factors were not directly examined in the present study and may be considered topics for future research.

CONCLUSION

Both Machiavellianism and moral disengagement can serve as serious obstacles to the realization of ethical behavior and sustainability reporting within organizations. However, the simultaneous examination of these variables - alongside moral accountability and the investigation of their mediating or moderating roles - has received little attention in the research literature.

According to the results of the present study, moral indifference can function as a cognitive mechanism that weakens ethical behavior, while moral accountability can act as a factor that strengthens responsible conduct. This indicates the mediating or moderating roles of these two constructs in the relationship between Machiavellianism and sustainability reporting.

Therefore, attention to ethical dimensions in organizational management can play a crucial role in improving sustainability reporting and enhancing organizational responsibility. This study recommends that organizations move toward reducing Machiavellianism and moral indifference by promoting ethics education and developing incentive-based ethical policies.

ETHICAL CONSIDERATIONS

Ethical issues (such as plagiarism, conscious satisfaction, misleading, making and or forging data, publishing or sending to two places, redundancy and etc.) have been fully considered by the writers.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interests.

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