

# Analyzing the Antecedents and Consequences of Manifesting Accountants' Dark Personality Traits: Providing a Model and Validation

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## ABSTRACT

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Fraudulent behaviors, while negatively affecting the trust, reputation, and integrity of individuals, organizations, and society, cause financial and non-financial harm and losses to individuals and organizations. Given the lack of a coherent and integrated model in this field, the present study has presented a model of the antecedents and consequences of manifesting accountants' dark personality traits with a mixed exploratory approach (qualitative-quantitative). The participants in the qualitative part were 15 accounting and psychology experts with research publications in this field. The statistical sample of the quantitative part of the study consisted of 222 members of the certified public accountants' community with at least a master's degree and at least 10 years of work experience, who were selected using the available sampling method. In order to collect data in the qualitative part, a semi-structured interview (record-taking) was used, and in the quantitative part, a literature review was used, two researcher-made questionnaires and the standard questionnaire of dark personality traits by Jenison and Webster (2010). To analyze the information in the qualitative part, the content analysis method of Brown and Clark (2006) and the DEMATEL technique were used; and in the quantitative part, the confirmatory factor analysis technique (LISREL software) was used. The presented model has two overarching themes (antecedents and consequences of the manifestation of dark personality traits), seven organizing themes (including antecedents: weak religiosity, personality pathology (psychological); and consequences: deviation from ethical requirements, fraud, deviation from accounting and auditing standards, negative professional consequences, dark personality traits) and 44 basic themes. The validity and reliability of the qualitative model were confirmed using content validity and test-retest reliability index techniques. The validity and reliability of the quantitative part were confirmed using convergent construct validity and composite reliability, respectively. The findings of this study can contribute to existing paradigms about the role of personality and behavior in the tendency to fraudulent behaviors in accounting, auditing, organizational leadership and management.

**Keywords:** Dark personality trait model, accountants, content analysis, validation and confirmatory factor analysis

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## INTRODUCTION

Today, in addition to the evolution of the role of managers, their characteristics have also undergone transformation; this means that managers must have socially desirable personality in addition to knowledge, competence, competence and managerial experience. Personality is a relatively stable pattern of characteristics that causes the continuation of an individual's behavior. These personality traits affect his behavior in various fields and help explain his behaviors (Parks and Goy, 2009). Therefore, research on personality has become a focal point in the fields of psychology and accounting (Agrali Ermis et al., 2018).

In recent years, the increase in financial and accounting scandals in international communities, fraud and bankruptcy of large companies in Iran or the world, and other factors such as changes in financial laws and reporting, standard-

setting institutions, capital market regulators and especially the Iranian Stock Exchange Commission or globally regarding the ability of accountants; has led to the finger of accusation being pointed at accountants (Bagheri Az-Ghandi et al., 2018). Like other countries in the world, in our country, in recent years, we have witnessed the emergence of fraudulent behaviors such as embezzlement, fraud, misuse of assets and tax evasion in public and private organizations. The effect of such behaviors has led to a decrease in trust in employees and managers and many losses. As a result, this issue has become the focus of attention of the media, researchers, standard setters and legislators to identify its effective factors. In this regard, one of the most recent effective factors is the dark personality triad.

Accordingly, studies related to the negative aspects of personality traits have increased in various scientific fields. In this regard, the dark personality triad theory was proposed by Paulhus and Williams (2002), which includes Machiavellianism, narcissism, and sociopathy (Shahin and Ermis, 2020). These personality traits are classified as dark personality traits due to their undesirable consequences. Selfishness, self-display, self-aggrandizement, self-interest, indifference, emotional coldness, lack of empathy, suspiciousness, inconsistency, deceitfulness, and aggression are some of the prominent personality traits of people with dark personality triad traits (Paulhus and Williams, 2002; Farnham et al., 2013). Dark personality traits, along with the position of individuals and the organizational environment, can affect attitudes, socially undesirable, and unethical behaviors in alignment with personal and organizational interests, or both. This is a great challenge. It is in the accounting profession (Heidari et al., 1402).

Machiavellian policies are characterized by their efficiency in justifying their actions. Their main motto is that “the end justifies the means.” Sociopaths and Machiavellianism are distinct constructs, and they also overlap conceptually, as they are both associated with a poverty of emotional relationships and a lack of moral concerns. A characteristic of sociopaths is a lack of emotion (Palhoso-Williams, 2002; Vernon et al., 2008). While Machiavellianisms are characterized by exploitation and abuse, and sociopaths are characterized by a lack of guilt, dishonesty, cynicism, and callousness; Narcissists seek attention, prestige, or social status and believe they are superior and more deserving than others (Farnham & Crump, 2005). Both narcissism and sociopathy are clinical concepts that are part of personality disorders, also classified in the DSM-5 (Tamborsky & Brown, 2011). Researchers have shown that the three components of the dark side of personality are innate and genetic in nature (Veselka et al., 2011; Petrides et al., 2011); among them, only Machiavellianism has a greater environmental component, as Machiavellianism is modulated by experience (Vernon et al., 2008).

Managers with strong dark personality traits show aggressive behaviors in their reports (Majors, 2015). They also tend to lie and use opportunistic and deceptive approaches to obtain managerial promotions and career advancement (Blair et al., 2017). In a way, narcissistic senior managers take challenging and bold actions to obtain frequent praise and admiration, and in pursuit of achieving the best performance, they are most likely to carry out fraudulent activities (Rijstbeek and Komander, 2013). People with the Machiavellian personality trait are more likely to commit high-risk behaviors such as cheating, bullying, abusing others in personal relationships, deception and fraud, and financial crimes of immorality (Abadi et al., 2018). Antisocial personality disorder is also associated with violent crime and violation of the rights of others (Mohammadzadeh and Ashouri 2018). In addition, the stress control component of dark personality traits such as Machiavellianism and antisociality are among the factors that lead to high-risk behaviors in individuals, and these individuals are prone to reducing the quality of accounting information through earnings management and fraud (Guis, 2017). Most organizations are exposed to various types of fraudulent behaviors, which have an inappropriate effect on the trust, reputation, and integrity of individuals, organizations, and society (Heidari et al., 1402). Given that this causes financial and non-financial harm and losses to individuals and organizations, therefore, studying dark personality traits as an important component in this field (Mahmoud et al., 2021) is of great importance and necessity.

A review of the research literature shows that the concept of the dark personality triad is new and there are few studies on this concept (Krok et al., 2022; Khan et al., 2021; Tex and Bisakis, 2021; Grimsky and Cork, 2019). Due to the lack of comprehensive theory and sufficient and appropriate empirical foundations in the literature related to the antecedents and consequences of the manifestation of the dark personality triad, as well as the limited nature of this field, given the concerns in the field of finance and reporting, conducting research that expands the theoretical

foundations of research in this regard is rare. Since dark personality traits are complex and multifaceted in nature; they are influential and affected by numerous factors, therefore, one of the most important aspects ignored in previous research, namely providing a qualitative model of the antecedents and consequences of the manifestation of accountants' dark personality traits, is essential. In addition, it is important and beneficial to present a comprehensive model of the antecedents and consequences of the manifestation of the three dark personality traits in the accounting profession in the field of capital markets and also to gain the trust of investors. Therefore, by understanding and recognizing the factors affecting the performance of accountants, it is possible to help advance preventive measures in this field. Considering the aforementioned research gap and considering that the findings of this study can contribute to existing paradigms about the role of personality and behavior in the tendency to fraudulent behaviors in accounting, auditing, organizational leadership and management, the present study aims to develop and validate a model of the manifestation of accountants' dark personality traits. Therefore, the main question of this study is what are the patterns of antecedents and consequences of the manifestation of accountants' dark personality traits? Does this model have the necessary validity?

Theoretical Literature and Research Background Personality is one of the valuable topics in the tendency to fraudulent behaviors in individuals and organizations. Personality can manifest itself in various forms of good and bad behaviors. The study of human personality shows that all of us are in the shadow of dark and light traits of our personality. Based on this, we show positive and negative behavior in response to the phenomena and events that affect us. Such personality traits can play a prominent role in the performance of employees and managers of organizations and their success or failure (Eisenbart et al., 2022). Personality is a set of psychological characteristics and mechanisms that are organized in an individual and relatively stable and affect his or her interactions and adaptation to the internal psychological, physical and social environments (Larsen and Bass, 2017). Personality refers to the characteristic patterns of thinking, feeling and behavior of individuals, along with the psychological mechanisms - latent or overt - behind these patterns (Fonder, 2016). Personality refers to individual differences, characteristic patterns of thinking, feeling and behavior. An individual's personality also reflects natural tendencies or personal inclinations and the ways in which this individual differs from the "standard normal person" in his or her society (Bergner, 2020). Previous research studies suggest that there may be a relationship between personality factors and job performance (Jason, 2020). Personality affects an individual's job performance, and some personality factors, including personality type, can be used as predictors of job performance in the auditing profession (Hobson et al., 2020). Three types of variables affect an individual's job performance, which are: individual variables, psychological variables, and organizational variables. Personality type is one of the psychological variables that affects performance (Church et al., 2019). The term dark personality traits (socially undesirable traits) refers to negative, antisocial, abnormal, unethical, and questionable behaviors (Palhus, 2014; Zetler et al., 2021). Since the identification of the dark personality triad (Machiavellianism, narcissism, sociopathy/psychopathy) by Paulhus and Williams (2002), other traits such as altruism, spitefulness, moral indifference, self-entitlement, authoritarianism, egocentrism, and greed have also been proposed by other researchers (Moshagen et al., 2018; Hilbig et al., 2021). The findings of some researchers show that employees and top managers of organizations who possess such traits may exhibit motivations for fraudulent financial behaviors, economic crimes, and misconduct in organizations and in the workplace (business). High levels of dark personality traits are associated with poor work quality and a "toxic" work environment (D'Souza et al., 2019; Harrison et al., 2018). Unethical and socially undesirable behaviors pose serious challenges to societies at various levels. These traits have been identified as dark traits. Those with these traits can have both positive and negative effects on organizations. Theoretically, those with these traits are defined as "a general tendency to maximize one's own personal utility—ignoring, accepting, or inciting unhelpful malice toward others—along with beliefs that serve as justifications." Such individuals are harmful and damaging to organizations. They may exhibit unethical behaviors and decisions. They are happy and satisfied with hurting others (Moshagen et al., 2020, 2018; Palhus, 2014). The following is a review of the research background. Tajik et al. (1402) conducted a comparative study of dark personality traits of managers on corporate sustainability in listed companies. The findings showed that dark personality traits of managers have a negative effect on corporate sustainability; narcissism has a positive effect on environmental preferences. Psychopathy has a negative effect on environmental preferences; narcissism has a positive effect on social preferences. Psychopathy has a negative effect on social preferences. Javadi et al. (1402) studied the effect of dark personality traits and willingness to share knowledge of auditors on their

skepticism and professional judgment. The findings showed that there is a negative and significant relationship between dark personality traits and auditor professional judgment. Knowledge sharing and skepticism play a partial mediating role in the above relationship; and the auditor's place of employment plays a partial moderating role; and its influence is greater in auditors working in audit organizations than in auditors working in audit firms that are members of the Iranian Society of Certified Public Accountants. Zolfi and Yazdanian (2014) studied the dark personality traits of auditors and their influence on fraud risk assessment. The findings of the study showed that Machiavellianism and narcissism of the auditor affect his performance in fraud risk assessment. Also, the Machiavellianism and narcissism of the auditor do not affect fraud risk assessment due to perceived conflict, but the dark factor of antisociality affects the auditor's performance in fraud risk assessment through the mediation of conflict. The general conclusion is that the dark personality triangle of auditors brings about various results in carrying out activities related to fraud risk assessment. Heidari et al. (1402) in their study investigated the relationship between dark personality traits and the tendency to fraudulent behaviors: testing the social trust theory.

. The findings showed that the dark personality traits of Machiavellianism, narcissism, antisociality, alienation, and resentment had a significant positive effect on the tendency to engage in fraudulent behaviors. Refahi Bakhsh and Mohammadi (1402) in their study examined the effect of Machiavellianism on moral anger of certified public accountants working in audit organizations and private audit firms. The findings of the study showed a negative and significant effect of Machiavellian personality on moral anger in both groups of certified public accountants working in the public sector and in the private sector.

Szabo et al. (2023) investigated whether the three dark personality traits are related to work attitudes, including work-related motivation, organizational identity, organizational commitment, and job satisfaction. The findings showed that each of the three dark personality traits has a distinct relationship with work outcomes. Subclinical narcissism is positively related to work attitude, while subclinical psychopathy is negatively related to work attitude. The relationship between Machiavellianism and work attitude was also confirmed. Plester and Schaltiger (2022) investigated the dark triad of managers and corporate sustainability by empirically analyzing the personality traits of 214 managers. The findings showed that managers who scored higher on the dark triad scale were less concerned about environmental issues and social responsibility. Aprilla et al. (2021) examined the impact of the dark triad of public accountants on their ethical behaviors in 26 Indonesian companies. They found that narcissism and sociopathy had a positive effect on ethical behavior, but Machiavellianism had a negative effect on ethical behavior. Ragazza and Sisayov (2020) investigated dark personality traits and their structure. They presented a wide range of dark trait measures that supported ideas such as that sociopathy and the dark triangle are independent constructs, and that 12 items measured the concepts of narcissism, sociopathy, and Machiavellianism, and that these levels were organized hierarchically; That is, Machiavellianism expresses an aspect of antisociality with a similar concept, the trait of narcissism, and ultimately these distinct levels are theoretically considered a model of relationship with personality traits and values; that is, narcissism and the dark trait are related to metatraits and higher values.

Previous studies on accountants' dark personality traits indicate that most of the research conducted has only focused on specific aspects of this concept and has mainly been conducted with a causal comparative approach. Given the neglect of antecedents and consequences, the present study has attempted to use quantitative and qualitative methods to present a model for the antecedents and consequences of the manifestation of accountants' dark personality traits.

## **RESEARCH METHODOLOGY**

The present study is a mixed-method exploratory study in which the qualitative part was conducted first and then the quantitative part. This study can also be considered an applied research objective that was conducted cross-sectionally in 1403. The population and statistical sample and sampling method in the two qualitative and quantitative parts are as follows:

A: Qualitative part) The participants in the qualitative part are experts with a PhD in accounting or psychology, faculty members, and at least one valid article in the field of dark personality traits. For this purpose, in this phase of the research, the opinions of 15 experts were used until theoretical saturation was reached. It should be noted that, given that dark personality traits are psychological in nature, experts in this field were also used.

B: Quantitative section) Statistical population The quantitative section of this research consists of members of the community of certified public accountants with at least a master's degree and at least 10 years of work experience.

Since official statistics on the community of this research are not available, the number of the statistical population can be assumed to be unlimited (Mahdavi and Zamani, 2018). Based on the formula for selecting the sample size in an unlimited population, the minimum sample size was determined to be 196 people:

$$N = (Z^2pq) / e^2 = \frac{5/0 \times 5/0 \times ^2 (96/1)}{^2 (07/0)} = 196$$

= Sample size e = Error rate (0.07 is considered in this study). P, q = Proportion of people who agree with/disagree with the hypotheses Z = Critical number of the 95% confidence level distribution (0.05 (a

It should be noted that due to the possibility of some questionnaires being unusable, 250 questionnaires were distributed; 222 questionnaires were returned. The sampling method in this section is convenience sampling.

The reason for selecting the aforementioned statistical population is that these individuals have relatively comprehensive information about the professional code of conduct of accountants and it can also be said that they are a source of accurate information that can be used to develop, test and study the current research model using their opinions. In addition, another reason for selecting the statistical population is the ease of access of the researcher to the members of the statistical sample due to geographical considerations. Table (1) shows the demographic information of the participants in the quantitative part of the research:

**Table 1: Demographic information of the participants in the quantitative part of the research**

Percentage of frequency	Abundance	Category	Demographic Characteristics
17/1	38	Female	Gender
82/9	184	Male	
34/7	77	Under 40 years old	Education
36/9	82	40-50 years old	
28/4	63	Over 50 years old	
86/5	192	Master's degree	Gender
13/5	30	Doctorate	
33/8	75	10-15 years old	Education
41	91	16-20 years old	
25/2	56	Over 20 years old	
100	222		total

As shown in Table (1), most of the subjects are male, aged between 40 and 50 years, have a master's degree, and have work experience between 16 and 20 years.

The data necessary to test the research questions were collected through the tools described in Table (2):

**Table 2: Specifications of data collection tools**

Purpose (Application)	Technique	Scale used	Data collection method	Instrument	Section
Determining the indicators of the model	Thematic Analysis	--	Field	Interview (record taking)	Qualitative
Determining the influence and influenceability of factors (examining the	Dematel	5-point scale (0 to 4)	Field	42-question researcher-made questionnaire	Quantitative

internal relationships between them)				
Determining the consequences of the manifestation of dark personality traits	--	--	Library	Research literature review
Examining the validity of the proposed model	Confirmatory factor analysis	5-point Likert scale (1 to 5)	Field	41-question researcher-made questionnaire
		5-point Likert scale (1 to 5)	Field	12-question standard questionnaire by Jennison and Webster (2010)

In order to validate the proposed model, confirmatory factor analysis technique was used. For this purpose, Lisrel software was used. The validity and reliability of the qualitative model section were confirmed using content validity and test-retest reliability index techniques. The validity and reliability of the quantitative section were confirmed using convergent construct validity and composite reliability, respectively.

**Research findings**

In this study, in order to present a model of the manifestation of accountants' dark personality traits, thematic analysis technique based on the Brown and Clark model (2006) was used, including five stages of "familiarization with data, creation of initial codes, search for themes, retrieval of themes, and definition and naming of themes". For this purpose, interviews with experts were used. In this regard, after interviewing 15 experts, the data reached theoretical saturation. In this step, 34 indicators were extracted from the text of the participants' interviews in the open interview. Next, based on the functional similarities of the basic themes, although the themes were placed in a category called "organizing themes". After the relationships between the organizing themes were identified using the DEMATEL technique, the organizing themes were also placed in a more general category called overarching themes based on their commonality. Therefore, the pattern of manifestation of accountants' dark personality traits has two overarching themes, 7 organizing themes and 44 basic themes (34 themes were extracted from the interview, 7 themes from the literature review, and the other three components are related to the dark personality components).

Table (3) shows the basic, organizing and overarching themes:

Table 3: Basic, organizing and overarching themes

Basic themes	Organizing
1. Moral threats, warnings, punishments and deviations	Deviation from Moral Requirements
2. Superiority and competitiveness	
3. Career and professional friction	
4. Receiving and giving gifts and directing the quality of	
5. Conflict of interest	
6. Promoting the potential for selfish behavior	
7. Hostile actions and reprimanding and reprehensible	
8. Failure to observe integrity and honesty	
9. Failure to observe justice, fairness and confidentiality	
10. Opportunistic and unconventional decision-making	
11. Motivation and pressure	

12. Opportunity	Cheating diamond
13. Justification	
14. Ability (ability)	
15. Failure to observe professional competence and care	Deviation from accounting and auditing standards
16. Failure to observe independence and impartiality	
17. Gathering insufficient and meaningful evidence on the basis	
18. Limitations on accounting procedures	
19. Failure to observe uniformity and adequate disclosure	
20. Failure to express an opinion on the totality of the financial	
1. Unusual tone writing management	
2. Lack of eloquence and rhetoric in descriptions and reports	
3. Unprofessional advertising and reporting	
4. Failure to observe qualitative characteristics related to the	
5. Weakness/lack of religious affiliation	Weakness of religiosity
6. Not being religious	
7. Weakness/lack of adherence to professional spirituality	
8. Weakness/lack of religious commitment	
9. Weakness/lack of family religiosity	
10. Negative affect	Personality disorder (psychological)
11. Heartbreak	
12. Opposition	
13. Disinhibition	
14. Psychopathy	

Also, the consequences of dark personality traits taken from the research literature review are as follows in Table (4):

Table 4: Negative professional consequences of dark personality traits taken from the research literature review

Source	Negative professional consequences of dark personality traits
Heidari et al. (1402)	Tendency to fraudulent
Azereh et al. (1399)	Organizational citizenship
Rezazadeh et al. (1399)	Fraudulent financial
Aymer and Gerkaz (1397)	Opportunistic decision-
Javadi et al. (1402)	Skepticism
Pourali and Azereh (1402)	Alarmism
Khan Mohammadi et al	Professional judgment

It is worth mentioning that in order to measure dark personality traits, a 12-question questionnaire by Jenseon and Webster (2010) was used. This questionnaire has three components: narcissism, Machiavellianism, and antisociality, with four questions for each component. In this study, the content validity index technique was used to examine the validity of the qualitative model. For this purpose, the opinions of 15 experts were used. The content validity index was introduced by Waltz and Bassel (1986). In this way, experts determine the “relevance”, “clarity”, and “simplicity” of each item based on a 4-point Likert scale. Experts determine the relevance of each indicator from their own point

of view from 1: “irrelevant”, 2: “somewhat relevant”, 3: “relevant”, to 4: “completely relevant”. The simplicity of the index is also quantified in the following order: 1: “not simple”, 2: “relatively simple”, 3: “simple”, to 4: “completely simple”. The clarity of the index is also determined in the following order: 1: “not clear”, 2: “relatively clear”, 3: “clear”, to 4: “completely clear” (Mirzaei, 2019).

The content validity index is quantified by the equation (1):

$$CVI = \frac{\text{Number of experts who gave the item a score of 3}}{\text{Total number of experts}} \tag{1}$$

The minimum acceptable CVI for the content validity index is 0.79, and if the content validity index is less than 0.79, that index should be removed. In this study, the content validity index of the model had an appropriate content validity index.

To measure reliability in this study, the test-retest reliability method was used; this index can be calculated when the coder has coded a text at two different times. To calculate the test-retest reliability, several interviews were selected from the interviews conducted and each of them was recoded at a fourteen-day interval. After comparing the codes specified at two time intervals for each of the interviews, the reliability of the research was calculated through the high level of agreement in the two coding stages. In addition, to calculate reliability, coding was done manually, and after coding was completed, the results of the two codings were compared with each other, and the Holst method was used to calculate reliability as described in equation (2):

$$PAO = 2M / (n1 + n2) \tag{2}$$

PAO means the percentage of agreement observed (reliability coefficient), M is the number of agreements in the two coding stages, n1 is the number of units coded in the first stage, and n2 is the number of units coded in the first stage and the number of units coded in the second stage. This figure varies between zero (no agreement) and one (complete agreement). The answer to the calculation result for the present study was calculated to be 0.711, which indicates that the themes have high reliability.

Next, the DEMATEL technique was used to complete the qualitative model and determine the relationships between the components of the qualitative model.

This method includes the following steps (Azar et al., 1400):

1-Forming the initial decision matrix that shows the degree of influence of the variables on each other (paired comparison matrix)

2-Normalizing the initial decision matrix (N)

3-Forming a new I-N matrix (I: identity matrix and N is the normalized matrix)

4-Forming the inverse of the matrix obtained in the previous stage; That is (I-N)<sup>-1</sup>

5-Multiply the normalized matrix (N) by (I-N)<sup>-1</sup>

6-Determine the final matrix based on comparing the elements of the last matrix obtained with the threshold value. In the final stage, the final matrix is formed based on comparing the elements of the last matrix obtained with the threshold value. The threshold value is the arithmetic mean of the elements of the last matrix in the DEMATEL calculations. In the final matrix, the elements that are greater than or equal to the threshold value take the value 1 and the rest take the value 0.

Table (5) shows the initial decision matrix:



**Table 4: Initial decision matrix**

Indicators	A	B	C	D	E	F	G	Total
Weakness of			3/18					3/18
Psychological factors			3/66					3/66
Dark personality				1/25				1/25
Fraud triangle (D)					2/57	2/14		4/71
Deviation from audit							2/99	2/99
Deviation from ethical							3/14	3/14
Negative professional								0
Total	0	0	6/84	1/25	2/57	2/14	6/13	

Table (6) shows the normalized decision matrix obtained by dividing the elements of the above matrix by the maximum row/column sum of Table (4), which is 6/84:

**Table 6: Normalized Matrix (N)**

Indicators	A	B	C	D	E	F	G
Weakness of religiosity	0	0	0/465	0	0	0	0
Psychological factors (B)	0	0	0/535	0	0	0	0
Dark personality traits	0	0	0	0/183	0	0	0
Fraud triangle (D)	0	0	0	0	0/376	0/313	0
Deviation from	0	0	0	0	0	0	0/437
Deviation from ethical	0	0	0	0	0	0	0/459
Negative professional	0	0	0	0	0	0	0

In the third step, the I-N matrix should be formed. Table (7) shows the I-N matrix (I: identity matrix and N is the normalized matrix):

**Table 7: I-N matrix**

Indicators	A	B	C	D	E	F	G
Weakness of religiosity (A)	1	0	-0/465	0	0	0	0
Psychological factors (B)	0	1	-0/535	0	0	0	0
Dark personality traits (C)	0	0	1	-0/183	0	0	0
Fraud triangle (D)	0	0	0	1	-0/376	-0/313	0
Deviation from accounting and auditing standards (E)	0	0	0	0	1	0	-0/437
Deviation from ethical requirements (F)	0	0	0	0	0	1	-0/459
Negative professional consequences (G)	0	0	0	0	0	0	1

Table (8) shows the inverse of the matrix obtained in the previous step, namely (I-N)<sup>-1</sup>:

**Table 8: Matrix (I-N)<sup>-1</sup>**

Indicators	A	B	C	D	E	F	G
Weakness of religiosity (A)	1	0	0/465	0/085	0/032	0/027	0/026
Psychological factors (B)	0	1	0/535	0/098	0/037	0/031	0/030
Dark personality traits (C)	0	0	1	0/183	0/069	0/057	0/056
Fraud triangle (D)	0	0	0	1	0/376	0/313	0/308
Deviation from accounting and auditing standards (E)	0	0	0	0	1	0	0/437
Deviation from ethical requirements (F)	0	0	0	0	0	1	0/459
Negative professional consequences (G)	0	0	0	0	0	0	1

Table (9) shows the (I-N)-1× N matrix:

**Table 9: (I-N)-1× N matrix**

Indicators	A	B	C	D	E	F	G	Influence (r)	r+d	r-d	Result
Weakness of	0	0	0/465	0/085	0/032	0/027	0/026	0/635	0/635	0/635	Influential
Psychological	0	0	0/535	0/098	0/037	0/031	0/03	0/731	0/731	0/731	Influential
Dark personality	0	0	0	0/183	0/069	0/057	0/056	0/365	1/365	-0/635	Influential
Fraud triangle (D)	0	0	0	0	0/376	0/313	0/308	0/997	1/363	0/631	Influential
Deviation from	0	0	0	0	0	0	0/437	0/437	0/951	-0/077	Influential
Deviation from	0	0	0	0	0	0	0/459	0/459	0/887	0/031	Influential
Negative	0	0	0	0	0	0	0	0	1/316	-0/316	Result
Weakness of	0	0	1	0/366	0/514	0/428	1/316				

In the final stage, the final matrix is formed based on the comparison of the elements of the last matrix obtained (Table 8) with the threshold value. The threshold value is the arithmetic mean of the elements of the current matrix, which is obtained in the above matrix equal to 0.074. Therefore, in the final matrix, the elements that are greater than or equal to 0.074 take the value 1 and the rest take the value 0.

Table (10) shows the final matrix:

**Table 10: Final Matrix**

Indicators	A	B	C	D	E	F	G
Weakness of religiosity (A)	0	0	1	1	0	0	0
Psychological factors (B)	0	0	1	1	0	0	0
Dark personality traits (C)	0	0	0	0	0	0	0
Fraud triangle (D)	0	0	0	0	1	1	1
Deviation from accounting and auditing standards (E)	0	0	0	0	0	0	1
Deviation from ethical requirements (F)	0	0	0	0	0	0	1
Negative professional consequences (G)	0	0	0	0	0	0	0

According to Table (10), the pattern of manifestation of dark personality traits is as shown in Chart (1):

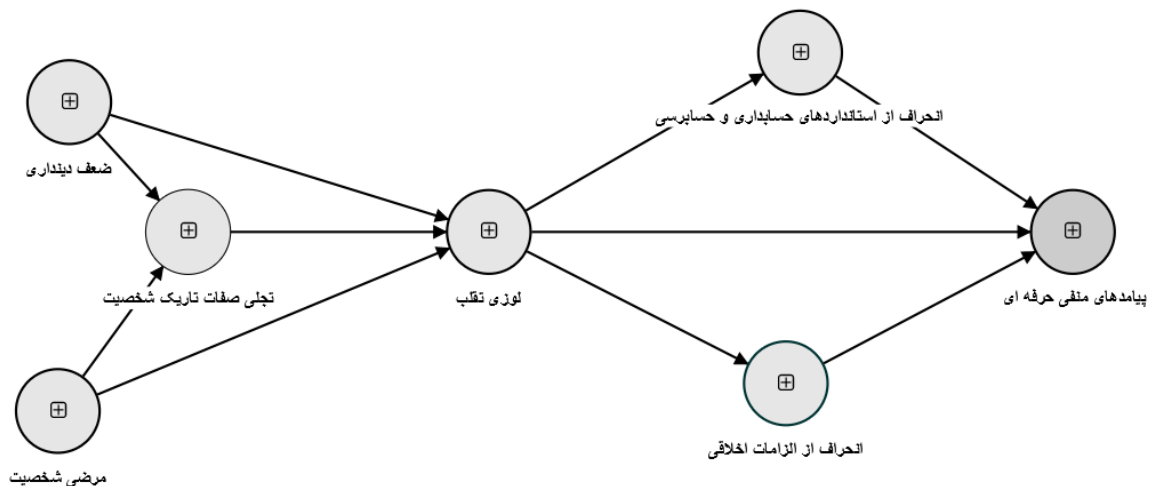


Figure 1: Causal relationships between components of the pattern of manifestation of dark personality traits (Source: Researcher's findings)

Based on the result of the DEMATEL technique, the qualitative pattern can be briefly completed as shown in Table (11):

**Table 11: Overarching themes of the pattern of manifestation of dark personality traits**

Organizing themes	Overarching themes
Weakness of religiosity	Antecedents of the manifestation of dark personality traits
Personality pathology (psychological)	
Deviation from ethical requirements	Consequences of the manifestation of dark personality traits
Fraudulent behavior	
Deviation from accounting and auditing standards	
Negative professional consequences	
Manifestation of dark personality traits	Central category

In order to validate the presented model, confirmatory factor analysis was used using LISREL software.

Table (12) shows the results of confirmatory factor analysis including factor loadings and t-statistics, convergent construct validity and composite reliability:

**Table (12): Results of confirmatory factor analysis**

Convergent construct validity	CR	AVE	T-status	Factorial load	Index	Criteria
Confirmation	0/898	0/472	10/27	0/64	Ethical threats, warnings,	Deviation from moral requirements
			9/37	0/60	Striking superiority and	
			12/19	0/73	Career and professional friction	
			12/39	0/74	Receiving and giving gifts and	
			14/51	0/83	Conflict of interest	
			11/60	0/70	Advertising the potential for	
			11/03	0/70	Hostile actions and reprimanding	
			10/90	0/68	Failure to observe integrity and	
8/58	0/56	Failure to observe justice, fairness				
Confirmation	0/861	0/611	10/36	0/65	Opportunistic and	Fraud Diamond
			10/17	0/64	Motivation and pressure	
			12/25	0/79	Opportunity	
			13/41	0/84	Justification	
Confirmation	0/898	0/471	14/06	0/84	Capability	Deviation from Accounting and Auditing Standards
			10/14	0/64	Failure to observe professional	
			8/48	0/57	Failure to observe independence	
			12/97	0/78	Gathering insufficient and	
			12/17	0/74	Limitations regarding accounting	
			12/93	0/78	Failure to observe uniformity and	
			10/40	0/67	Failure to express an opinion on	
			11/11	0/70	Management of writing in an	
			10/70	0/68	Lack of eloquence and rhetoric in	
8/62	0/58	Unprofessional advertising and				
10/36	0/69	Failure to observe qualitative				
			9/84	0/64	Weakness/lack of religious	

Confirmation	0/842	0/518	8/36	0/61	Non-religiousness	Weakness of religiosity
			12/09	0/75	Weakness/lack of adherence to	
			12/99	0/79	Weakness/lack of religious	
			13/01	0/79	Weakness/lack of family	
Confirmation	0/853	0/542	9/45	0/76	Negative affectivity	Personality disorder (psychological)
			10/67	0/69	Dissociation	
			14/22	0/90	Opposition	
			9/91	0/65	Disinhibition	
			9/98	0/65	Psychopathism	
Confirmation	0/844	0/444	9/42	0/60	Tendency to fraudulent behavior	Negative professional consequences
			10/29	0/66	Organizational citizenship	
			10/65	0/68	Fraudulent financial reporting	
			14/68	0/93	Opportunity decision-making	
			8/17	0/59	Skepticism	
			7/61	0/55	Warning	
			8/70	0/58	Professional judgment	
Confirmation	0/849	0/653	12/12	0/74	Narcissism	Manifestation of dark personality
			13/71	0/82	Antisocial	
			14/50	0/86	Machiavellianism	

As shown in Table (12), all factor loadings in the standard estimate are greater than or equal to 0.4. Also, based on the t-statistic values, it can be said that since the t-statistic values of all factor loadings are outside the range of -1.96 and +1.96, it can be concluded that the factor loadings are significant at the 5 percent confidence level. The composite reliability values of the model are greater than 0.7, which indicates the appropriate reliability of the proposed model. On the other hand, considering that the factor loading values of the indices are higher than 0.4 and significant; and also the value of the extracted mean variance index is greater than 0.4, therefore, the convergent construct validity is confirmed for all confirmatory factor analysis models. Table (13) also shows the fit indices of confirmatory factor analysis models:

**Table (13): Fit indices of confirmatory factor analysis models**

Chi2/df	RMSEA	NFI	CFI	IFI	RFI	GFI	Confirmatory factor analysis model
1/49	0/055	0/968	0/989	0/989	0/943	0/969	Deviation from ethical requirements
1/59	0/051	0/996	0/998	0/998	0/976	0/996	Fraud diamond
0/977	0/000	0/987	1	1	0/962	0/986	Deviation from accounting and auditing standards
0/525	0/000	0/998	1	1	0/989	0/998	Weak religiosity
0/660	0/000	0/997	1	1	0/986	0/998	Personality pathology (psychological)
1/34	0/039	0/987	0/997	0/997	0/960	0/989	Negative professional consequences
--	0/000	1	1	1	1	1	Manifestation of dark personality traits

Given that the fit indices in Table (13) have acceptable values, it can be said that the confirmatory factor analysis models of the proposed model have a good fit.

## **DISCUSSION AND CONCLUSION**

In this study, a model of manifestation of dark personality traits was presented using a qualitative approach of content analysis and a review of the research literature. In this regard, the presented model includes two overarching themes, six organizing themes, and 44 basic themes as follows:

The overarching theme of the antecedents of manifestation of dark personality traits includes two organizing themes of "weak religiosity and personality pathology (psychological)":

1) Personality pathology (psychological): Despite the potential relationship of personality traits with clinical problems and disorders, in recent decades, increasing attention has been paid to assessing the relationship between personality and personality disorders (Hopwood et al., 2013; Yousefi et al., 2015). The pathological personality dimension model proposed by Krueger et al. (2012) identifies pathological personality dimensions and, in addition to dimensions, also covers the underlying traits in personality disorders. The pathological personality dimension model includes five dimensions of negative affectivity, dispassion, oppositional, disinhibition, and psychoticism (Krueger et al., 2012). A theoretical review of the pathological personality dimension model shows the conceptual overlap of these dimensions with dark personality traits; for example, it is assumed that traits such as ruthlessness and deceitfulness are characteristic of Machiavellianism, narcissism, and sociopathy; impulsivity and risk-taking are indicative of sociopathy; grandiosity and attention-seeking are indicative of narcissism; and finally, deceitfulness is indicative of Machiavellianism (Jones & Pallas, 2014; Grigoras & Weil, 2017). They discovered how the pathological personality dimension model is related to narcissistic personality disorder and clinical antisocial personality disorder (Miller et al., 2013; Strickland et al., 2013).

2) Since, in addition to financial predictions, it is possible to prevent fraud, religiosity and religious beliefs are one of the most important behavioral factors that affect this phenomenon. In fact, accountants who have religious beliefs and have not used religion as a means to achieve other goals are more immune to fraud in financial reporting. Therefore, strengthening religious attitudes can be a protective factor against abuses and fraud, promoting the health of financial reporting and the confidence of creditors, shareholders and other users of financial statements. Given the religious and Islamic conditions of Iran, accountants are expected to have a higher level of religiosity and consider the satisfaction and otherworldly aspects of preparing reports outside of accounting principles and misleading users of financial statements (Khoshbakht et al., 1401).

The overarching theme of the consequences of the manifestation of dark personality traits includes two organizing themes: "deviation from ethical requirements, fraud, deviation from accounting and auditing standards, and negative professional consequences": Deviation from ethical requirements: The current world developments have made the need for an ethical approach in various professions, including accounting, an undeniable necessity. The important responsibility of professional accountants to society requires that they observe the general principles of professional ethics and adhere to the code of professional conduct in order to be trusted and respected (Basir and Nazari, 2012). On the other hand, the principles of professional ethics in the field of accounting require that managers publish financial statements transparently, in compliance with accounting standards, and free from any fraud or misrepresentation; However, the financial scandals that have occurred in the past have questioned the validity of professional ethics in preventing such scandals in order to protect the interests of the company's stakeholders. The obvious failure of professional ethics in reporting units at the time of preparing financial statements can be sought in the field of behavioral accounting (Kabli et al., 2010). Therefore, it is obvious that the accounting and auditing profession, in order to regain its proper position and restore its prestige, must gain the public trust of society by observing the principles of professional ethics at all levels of the organization as much as possible (Aghazadeh, 2017). Therefore, accountants and auditors need to use appropriate mechanisms to examine the level of desirability of the financial information provided and protect themselves against increased audit risks, and in this regard, observing ethics, rules, and professional care helps a lot in this regard (Bashirimanesh and Samimi, 2012). Therefore, professional ethics can affect the readability of financial reporting. In recent years, remarkable progress has been made in developing the technical ability of accountants, but this profession still faces many challenges in the field of professional ethical principles (Aghazadeh, 2017). The accounting profession is exposed to fraud and financial corruption due to its professional nature, so accounting ethics can act as a solid barrier, as a major factor in preventing

potential financial crimes. Compliance with ethical values in accounting has a significant impact on various variables such as professional behavior, ethics training, organizational climate and culture, fairness, and individuals' attitudes towards reporting errors, which play an important role in preventing fraud and financial corruption in organizations (Hosseinzadeh, 2017).

Fraud Diamond: The fraud diamond, which includes "motive and pressure, opportunity, justification, and capability," is a common framework used to describe the elements that usually exist when fraud occurs. Many research studies show that fraud occurs more often when someone has a motive (pressure) to commit fraud, weak control or supervision provides an opportunity for the individual to cheat, and the individual can rationalize fraudulent behavior. The fraud triangle was first developed by Professor Donald Kersey (1953) and formally adopted by the US accounting profession as part of Accounting Standard 2401; Wolf and Hermanson (2004) later expanded the fraud triangle framework by adding a fourth element (capability) of capability into a fraud diamond (Wolf and Hermanson, 2004). Management has many incentives to overstate profits. These motives are the result of pressure, the desire to conceal an unfavorable financial situation, the desire to violate the terms of contracts, the desire to attract external financing at minimal cost, the desire to provide expected profits, the desire to demonstrate competence and enhance the reputation in the profession, the desire to keep stock prices high to achieve the benefits of compensation (e.g., compensation for shareholders' rights, etc.), and the preservation of internal business position and interests. These are some of the factors that motivate management's intention to commit fraud. But employee fraud also occurs due to motivation and opportunity. The motivation may be financial need or greed, self-interest, behavioral inconsistencies, or neuroticism. Most workplace fraud has economic reasons. Motivations and opportunities influence each other: the more severe the financial need, the less laxity in internal controls is required to make fraud possible, and the more weak the controls, the weaker the motivation to commit fraud (Nazari and Sayadi, 2013). Among the pillars of the fraud diamond, opportunity is one of the drivers that can effectively increase the risks of fraud. This important factor in the occurrence of fraud can be contained and managed by designing a control environment that detects, prevents, and ultimately eliminates the occurrence of fraudulent behavior. A strong and truly independent audit committee, conducting a detailed fraud risk assessment, developing tools for effective reporting of inappropriate and suspicious activities, having an anti-fraud policy and appropriate training, and responding to potential fraud allegations are five key anti-fraud controls that companies can implement (Tazari and Sayadi, 2013). Justifications are tools that fraudsters use to misappropriate and embezzle assets. In general, where personal survival depends on competitive conditions, these conditions may provide incentives for both honest and dishonest behavior. Where someone's survival is at stake, dishonest methods may be adopted, or honest methods may be adopted. When competition is intense and

The stronger will eliminate the weaker, and dishonesty can be easily justified. Deception then becomes a weapon in the struggle for survival. In other words, deceptive behavior often arises from the struggle for economic, social, or political survival (Bologna et al., 2013). Capability refers to the personal characteristics and abilities of an individual that determine whether or not the individual can turn potential fraud into reality (due to the presence of the other three elements). These characteristics include intelligence, access due to position in the company, self-confidence, immunity to stress, effectiveness in lying, and coercive skills. For example, in order for a person to commit fraud, they must be intelligent enough to understand and exploit weaknesses in internal control and then use their position, function, or authorized access to personal information to do so. If collusion is required, the person must have a persuasive personality to convince others to confront the fraud or simply look the other way. If it is necessary to deceive auditors or supervisors, the person must have the knowledge and ability to tell a convincing lie (Nazari and Sayadi, 2013).

Deviation from accounting and auditing standards: Accounting standards are fundamental and practical concepts in the accounting profession. Accountants or those who intend to enter this profession should have sufficient knowledge of these standards, especially the widely used accounting standards. Accountants can use accounting standards as needed in recording, maintaining, and reporting financial events. Accounting standards are written policies issued by professional accounting organizations or governments or other regulatory bodies that cover the aspects of recognition, measurement, presentation, and disclosure of accounting transactions in financial statements and their purpose is to provide financial information to investors, lenders, creditors, partners, and others. These standards

help accountants to carry out financial activities in a systematic and documented manner and to prepare financial reports in a manner that can be compared and analyzed. The auditing profession has also been developed from several specific ethical rules and principles that are a standard for the way auditors behave in the profession. In the wake of recent financial scandals and events involving the largest and most reputable companies, the auditing profession has established requirements and rules that go beyond simple compliance with the law (DiGabriel, 2011). For example, ISA 240 addresses the auditor's responsibility regarding fraud in an audit of financial statements. The requirements of this standard are designed to assist the auditor in identifying and assessing the risks of material misstatement due to fraud and designing procedures to detect such misstatements. Specifically, this standard explains how to apply ISAs 315 and 330 to the risks of material misstatement due to fraud. According to ISA 200, the auditor should maintain an attitude of professional skepticism throughout the audit, accepting the possibility that material misstatement due to fraud may exist, regardless of prior experience with the integrity of the entity's management and those charged with governance (see paragraphs A-7 and A-8). According to ISA 200, the auditor should maintain an attitude of professional skepticism throughout the audit, regardless of the auditor's prior experience of the integrity of the entity's management and those charged with governance, accepting the possibility that material misstatement due to fraud may exist. According to ISA 315, the auditor should identify and assess the risks of material misstatement due to fraud at the financial statement level, and at the assertion level for classes of transactions, account balances, and disclosures.

**Negative professional consequences:** By reviewing the research literature, seven variables "propensity for fraudulent behavior, organizational citizenship behavior, fraudulent financial reporting, opportunistic decision-making, skepticism, alarmism, and professional judgment" were identified as negative professional consequences of the manifestation of accountants' dark personality traits:

- **Managers' opportunistic decision-making:** It can be concluded that managers with unpleasant social personality traits, lack of guilt, irritability, sensitivity, and need for power, which are characteristic features of the dark personality triad, can manipulate accounting information to promote the company and themselves in the market. Financial misconduct can be related to individual differences in the dark personality triad; for example, sociopaths tend to manipulate their financial outcomes for promotion, rewards, and other benefits; it is also expected that people with a high level of Machiavellianism will make false reports if they have sufficient opportunity and motivation (Eimer and Gerkes, 2018).
- **Warning:** Because Machiavellian people tend to influence others and are reluctant to warn, whether inside or outside the organization, by using flattery and abusing others, these people will be less affected by warning as long as it is in their own interest to follow their leaders. On the other hand, people with antisocial behavior are arrogant and impulsive people who have little empathy for others, which causes disruption in their interpersonal relationships, which has a negative impact on destructive and unethical behavior. People who are usually managers with poor leadership in terms of ethics, while being ready to cheat and disregard the welfare of others, will ignore the needs of others in order to be noticed and praised themselves, will be less inclined to warn (Pourali and Azare, 1402).
- **Fraudulent financial reporting:** Regarding the effect of dark personality traits on fraudulent financial reporting, it can be said that with an increase in the level of narcissistic, Machiavellian, and antisocial traits, the manager's tendency to engage in fraudulent behaviors in financial reporting will increase. Narcissists are attention-seeking grandiloquent individuals, Machiavellians are strategic manipulators, and antisocials are thrill-seeking impulsive individuals. This is because managers have strong, impulsive, and unpredictable dark personality traits. These individuals are also characterized by traits such as self-centeredness and deceptive behavior, and they use any method to achieve their goals. Rather than believing in their abilities in a healthy and pro-social way, these individuals think more about what healthy and unhealthy methods they can use to achieve their goals. They have a strong tendency to deceive others and always seek their own personal interests (Rezazadeh et al., 2010).
- **Organizational citizenship behavior:** Since organizational citizenship behavior is a social and voluntary behavior that prioritizes others and the group over the individual, there is little likelihood that individuals with high levels of the dark triad personality traits will engage in organizational citizenship behavior. Accordingly, Machiavellian individuals are prone to manipulation and deception.

L. By prioritizing themselves, even at the expense of others, they engage in less organizational citizenship behavior. The sense of entitlement of narcissists may lead to the perception that their high self-reliance prevents them from voluntary helping behaviors such as organizational citizenship behavior. On the other hand, the lack of attention to others in antisocial individuals makes it very unlikely that such individuals will engage in voluntary helping behaviors that promote the well-being of the organization and other colleagues (Azereh et al. (2019)).

- Auditor's professional judgment: The code of professional conduct prohibits psychopathic (antisocial) behavior. In this regard, people with the highest levels of antisocial personality disorder are characterized by arrogance and criminal thinking instead of pressure and rational justification. As a result, it can be stated that antisocial behavior can have a negative impact on professional judgment. Behavioral disorders cause the audit process to be unable to collect sufficient and reliable audit evidence, and the auditor has made incorrect decisions in the absence of sufficient and reliable audit evidence. Narcissism has the ability to affect managers' judgments about the possibility of various outcomes. They waste a lot of time and money with their incorrect decisions and will create problems for the organization (Khan Mohammadi et al., 1402).

- Tendency to fraudulent behavior: Dark personality traits are an important factor in the tendency to fraudulent behavior. It is recalled that holders of dark personality traits may be unaware of the existence of the aforementioned traits. It is likely that the governing bodies and other officials and supervisors in the organizations are aware of them. But they abuse them for their own interests. As a result, this issue refers to ethical negligence in organizations. In this case, it will be a big challenge for everyone, because different expectations will lead to different behaviors from employees and managers who have more of these traits (Heidari et al., 1402).

- Skepticism: Recent financial scandals have caused the auditing profession to pay serious attention to skepticism; and the need for auditors to increase levels of skepticism is increasingly felt. The less the manifestation of dark personality traits in an individual, the higher skepticism and performance we can imagine, and as a result, it will help improve the quality of auditing. Conversely, people with dark personality traits have lower performance and skepticism than other professionals (Javadi et al., 1402).

The following are practical suggestions:

- In general, it can be said that since companies whose accounting managers have dark personality traits are more involved in fraudulent financial reporting, it is recommended to use personality tests to select accounting managers, selecting people who are free from personality disorders such as narcissism, Machiavellianism, and antisocial personality. In general, measures should be taken to limit the employment of individuals with high dark personality traits in organizations. Or, if they exist, they should be subject to the necessary and periodic control and monitoring. One of the important structures in this regard is to observe the control environment in the internal control system in using appropriate, honest, competent, capable, generous, trustworthy employees, free from conflicts of interest in all departments and organizational structures. As a result, increasing awareness of the existence of individuals with dark personality traits and the various individual and organizational roles they can play will be valuable for financial and administrative policymakers, regulatory bodies, governance bodies, and shareholders.

- Also, since having dark personality traits has a negative effect on the reputation of accounting managers, it is suggested that they test themselves for personality traits such as narcissism, Machiavellianism, and antisociality at regular annual/six-monthly intervals, and if they have such behavioral traits, they should overcome these negative traits using the strategies of experienced psychologists and not allow their reputation, the organization, and the accounting profession to be damaged.

- Furthermore, it is suggested that organizations and institutions related to the selection, evaluation, and quality control of independent auditors should hold training workshops for professionals to remind them of the destructive effects of dark personality traits in their professional duties; so that they are aware of the disadvantages of these social traits in their performance.

This research also faced some limitations. In this regard, the conservatism of individuals in answering questions related to the dark three personality traits of "narcissism, Machiavellianism, antisociality" can be attributed to their concern about their opinions or behavior being identified. Another limitation is related to the inherent limitation of



the questionnaire in data collection. Accordingly, respondents may not be sufficiently accurate/focused when answering the questionnaire questions for various reasons, or their conditions, moods, and spirits may change under the influence of environmental conditions in such a way that they do not understand the answers correctly, which is beyond the researcher's control. The last limitation is that the present study is spatially limited to a specific part of Iran and cannot be considered a complete representative of the entire country.

It is recommended that future researchers conduct research on "Providing a qualitative model of the manifestation of accountants' dark personality traits using a grounded theory approach, the application of the quality house matrix, and the analytic hierarchy process in order to examine and provide solutions for the manifestation of accountants' dark personality traits."

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