The Microfoundations of Physicians’ Managerial Attitude

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Research article

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Abstract

Background. Accountable care has profoundly changed the organizational models adopted by health care organizations and, consequently, the skill set required for doctor-managers who have become middle managers and must deal with the operational management of their units. The aim of this study was to identify the psychological microfoundations (i.e., traits) of physicians’ managerial attitude. Specifically, we analysed the roles played by narcissism, specialization choices and identification with the organization.

Methods. We collected primary data on a population of ward unit heads in the Italian National Health Service. A logistic regression model predicting the levels of managerial attitude was employed.

Results. The results indicate that high levels of narcissism and identification with the organization are related with higher managerial attitude (instead of clinical attitude). Additionally, we found that physicians with a technique-oriented specialization present a higher probability of manifesting managerial attitude (in comparison to clinical attitude).

Conclusions. Hospital managers can benefit from the use of these findings by developing a strategic approach to human resource management that allows them to identify, train and select the right mix of technical knowledge and managerial skills for middle management roles.

Background

Accountable care has changed the organizational arrangements adopted by health care organizations and, consequently, the skill set required for doctor-managers who have become middle managers and must deal with the operational management of their units [1]. An appropriate example in the literature is represented by unit heads, who are physicians tasked with a managerial role [2]. Unlike clinical directors, who are responsible for the general vision of an entire organization, unit heads act as a link between the operational and strategic levels of a hospital [3]. In their hybrid roles, they are responsible for clinical and managerial activities, including technology management, the control of clinical mistakes, the management of discharge programmes, budget negotiations, and the evaluation of results [4].

By taking into account the behavioural perspective, doctors in middle management positions have been reported to face substantial difficulties attempting to perform the tasks assigned [5]. Specifically, doctor-managers are characterized by a lack of managerial skills, which refers to the limited use of acquired competencies; and also a lack of interest in managerial issues, which is related to scarce knowledge about the roles and tasks within organizational structures [6]. Moreover, they experience time pressures on their ongoing clinical activities [7], which are substantially unpredictable and heterogeneous due to the managerial duties assigned.

These evidences raised questions about which professional model makes these new hybrid middle-management roles more effective [1,7]. Empirical evidence suggests that despite professional
competencies, technical knowledge and expertise play pivotal roles [8-9], effectiveness also strongly depends on individual traits and managerial attitude, which act as important drivers in the transition of professionals into managerial positions [10-11]. In this paper, we employ the construct of managerial attitude as a useful concept to explain why some doctor-managers have more effective capabilities at anticipating, interpreting and responding to challenging environments than others.

Research addressing physicians’ managerial attitude is emergent and growing. The possession of certain personality traits has been associated with better individual performance, career success and professional attainment [12-17]. However, most of these studies focused on the consequences of managerial attitude, and we found a dearth of studies analysing its antecedents, i.e., how physician managerial attitude originates and develops. In other words, there is a shortage of studies that explore the so-called microfoundations of managerialism in healthcare [18-19]. The relevance of a study on the microfoundations of physicians’ behaviour is also related to the knowledge gap generated by previous studies, which have focused mostly on the traits and behavioural skills of top figures such as chief executive officers or clinical directors [20]. Meanwhile, there is very little empirical evidence related to mid-level management roles, which are becoming ever more crucial in the performance and accountability of healthcare organizations. The aim of this article is to address these research gaps by formulating specific research hypotheses and testing them using the middle managerial roles that doctor-managers perform within hospitals.

**Hypotheses Development**

A first individual trait that has received scarce attention in the health care management literature is narcissism. Narcissism is broadly defined as an exaggerated yet fragile self-concept of one’s importance and influence [21]. Narcissists are naturally attracted to organizational leadership roles due to their desire to leave behind a grand, admirable legacy of achievement [22], especially when the context is particularly challenging [23]. Ignoring the negative characteristics associated with narcissism and focusing on the positive narcissistic characteristics, scholars have demonstrated that healthcare professionals are equipped with the right amount of psychological capital to be able to moderate and positively use the effects of managers’ narcissism [24].

Generally, narcissism is strongly related with the achievement of high organizational successes [25]. The literature provides a number of examples about the connection between narcissism and challenging managerial tasks. Some examples are the relationship between narcissism and the degree of corporate social responsibility of an organization [26], internationalization decisions [27], and earning behaviours [28]. The connecting point among these contributions is that when managers are equipped with a certain amount of narcissism, they are able to achieve a higher managerial attitude. This is the reason why we decided to consider narcissism as the first of the microfoundations of managerial attitude that we considered in our analysis, thus resulting in our first research hypothesis:

HP1: The higher the narcissism trait of doctors-managers is, the higher their managerial attitude.
Another individual psychological trait related to the self-concept and that has received more attention recently – but nevertheless requires further study – is physicians' organizational identification with their hospital [29]. Organizational identification concerns the extent to which an individual's self-concept contains attributes identical to those of the perceived organizational identity. The strength of an individual's organizational identification depends on how well the image of an organization preserves the continuity of the individual's self-concept, provides distinctiveness, and enhances self-esteem [30]. When individuals adopt the values and goals of the organization, they develop decision-making approaches complementing the values and goals held by the organization [31]. From a managerial perspective, identification is advantageous since it ensures that employees’ decisions will be made in the best interest of the organization, even in the absence of supervision [32].

Organizational identification is correlated with a wide range of work-related positive attitudes and behaviours such as – among others – commitment and organizational citizenship behaviours (Riketta, 2005; van Dick et al., 2006). This is why organizational identification plays a fundamental role when a new organizational model is adopted within organizations. As affirmed by a number of authors (among others, Brunsson, 2009; Goodman and Dean, 1982) the mere design of a new organizational model or the introduction of innovative practices cannot leave aside the issue of actually managing the implementation of change, but it is necessary the actions and the behavioural changes of its members (Goodman and Dean, 1982). Employees need to identify themselves in the organization they belong to, thus truly contributing to the implementation of the changes (Barratt-Pugh et al., 2013; Gabutti and Morandi, 2019). In addition, when individuals adopt the values and goals of the organization, they develop decision-making premises complementing the value- and goal-based premises held by the organization (Barker & Tompkins, 1994; Tompkins & Cheney, 1983). From a managerial perspective, identification is advantageous as it ensures that employee decisions will be made in the best interest of the organization, even in the absence of supervision (Simon, 1976).

From a cognitive point of view, the shared interests between employees and their organization allow individuals to feel and to recognize themselves as a part of it [33]. In addition, identification with one's organization introduces a feeling of proudness. For example, when individuals highly identify with their organization, they will positively contribute to its success and perform extra roles behaviours [34]. This is expected from doctors serving in managerial positions that are asked to be good doctors and good managers at the same time [16; 35]. For this reason we considered organizational identification as the second microfoundation of managerial capabilities and hypothesize the following:

**HP 2:** *Highly identified doctors-managers recognize the importance of the managerial aspect of their work, thus showing a higher degree of managerial attitude.*

Finally, the third microfoundation we considered in our analysis is the specialization of physicians tasked with managerial roles. Within modern healthcare systems, due to the entrepreneurial profile of hospitals, competition on resources and patients is very high [36]. For these reasons, physicians serving in hybrid roles are increasingly required to reach high levels of performance. To achieve better results, physicians
need to develop and to fulfil their value through their activities. Therefore, if their work is more oriented to the intrinsic values (creativity and training), than to the extrinsic ones (earnings and career), their focus will be more oriented to the clinical side rather the managerial side and vice-versa. Diversified value structures based on an individual's background is a topic of particular interest in the field of organizational behaviour, as observed by Shapira and Griffith [37] who discussed the misalignment of work values in relation to individuals’ professional specialties. A number of prior studies focused on the relationship between medical specialty choices and working behaviours [38]. They explored the correlation between a medical specialty and career decisions, interest in the status and prestige of a work position [39], the establishment of good relationships with colleagues and “self-direction” in their own work [40].

Medical specialties can be classified into two broad categories: person-oriented and technique-oriented [41], as reported in Table 1.
| Specialty                              | Group P | Group T |
|---------------------------------------|---------|---------|
| Pathology                             |         | x       |
| Cardiovascular diseases               | x       |         |
| General surgery                       |         | x       |
| Diagnostic and surgical endoscopy     |         | x       |
| Surgical emergency                    |         | x       |
| Maxillofacial surgery                 |         | x       |
| Thoracic surgery                      |         | x       |
| Vascular surgery                      |         | x       |
| Haematology                           |         | x       |
| Endocrinology                         |         | x       |
| Diabetes and metabolism specialization|         | x       |
| Geriatric medicine                    |         | x       |
| Infectious diseases                   |         | x       |
| General medicine                      |         | x       |
| Nephrology and dialysis               |         | x       |
| Neurology                             |         | x       |
| Eye care specialist                   |         | x       |
| Dentistry                             |         | x       |
| Orthopaedic and traumatology          |         | x       |
| Obstetrics and gynaecology            |         | x       |
| Ear and throat specialist             |         | x       |
| Paediatrician                         |         | x       |
| Urology                               |         | x       |
| Anaesthesia, Reanimation, and Intensive Care |   | x       |
| Rehabilitation and physical medicine  |         | x       |
| Gastroenterology                      |         | x       |
| Oncology                              |         | x       |
In terms of their approach to work, person-oriented specialties focus on the holistic view of the patient and tend to emphasize the relational and empathic approach with the patient. In contrast, technique-oriented specializations are more focused on the technical skills, tools, and technologies that are needed to provide healthcare processes and activities. In terms of appreciation of the work, technique-oriented physicians are more interested in status, prestige and career, thus appearing to be more in line with a managerial profile in comparison to person-oriented physicians. For these reasons, we hypothesized the following:

HP 3: Technique-oriented specialized physicians have a higher managerial attitude in comparison to person-oriented specialized colleagues.

**Methods**

**Research setting and data collection**

Empirical analyses were carried out in hospital organizations within the healthcare service of Abruzzo in central Italy. The healthcare system of Abruzzo is part of the Italian National Health Service, a publicly funded universal health system that provides single-payer universal coverage. The central Italian government defines the core benefit packages and oversees the basic coverage being provided to the entire population, and each region is responsible for administering and organizing community healthcare services for its population.

The analysis draws on a range of rich data. The data were collected from questionnaires that were provided to public hospitals operating within the target region only. Based on reading the strategic plan and organizational chart of each public hospital, we were able to identify the number of ward units, which constituted our study sample size. Each unit has a director who is formally appointed as head of the unit, who is responsible for the organization of health services and who has both clinical and managerial responsibilities, including negotiating the goals of the units with the general manager of the hospital.

The data collection was made possible thanks to the collaboration of a wide range of actors, including CEOs, medical directors, and regional representatives of unit head unions. The questionnaire structure administered to the heads of ward units encompassed different sections. The first section collected personal data, including the respondent’s age, hospital affiliation, seniority, gender, type of medical specialization achieved, and his or her training programmes and career paths prior to their current
assignment. The second section collected data concerning doctor-managers’ motivational patterns and involvement in the goal setting processes. The third section was designed to capture the perceived level of organizational identification. The fourth section was a self-reported performance of narcissism. Finally, the fifth section examined managerial attitude.

Of the 332 unit heads operating within the 17 public hospitals in the region, 126 agreed to be interviewed (overall response rate of 37.95%). All interviews were conducted in person and on site, lasting from 17 minutes to 1 hour. During the interviews, middle managers were asked to respond with the first answer that comes to mind, and they were not allowed to use or consult reports and smartphones.

Variables

Dependent variable

The dependent variable, namely, managerial attitude, is a dummy variable. Developed according to Cicchetti’s (2005) work, it is based on 16 items concerning the bundle of managerial traits desirable for unit heads. It includes a number of dimensions such as autonomy (“My work is independent of that of others”), action-orientation (“I’m action oriented and I do not need to schedule my activities in advance”), and orientation to social interactions (“I’m prone to maintain a number of social and work interactions”). A 6-point Likert scale, wherein more positive values represented higher managerial traits while lower values represented a higher clinical orientation, was used to answer the questions. In the attempt to have a synthetic index, we calculated a mean value for each respondent. Successively, we computed the median value of the sample (4.38), which was used as a cut-off. When the individual mean value was less than 4.38, we assigned a value=0, thus indicating a clinical-oriented attitude; meanwhile, we assigned a value=1 when the individual mean value was over 4.38, thus indicating the presence of managerial attitude.

Explanatory variables

Organizational identification. These employees’ identification with their organization has been measured on the basis of Bergami and Bagozzi’s [33] approach. It uses a graphical instrument with two circles that vary in their overlap, ranging from being apart from each other to overlapping completely (with the latter indicating strong identification); and consists of 7 possible answers.

Narcissism. This measure is constituted by a single item derived from the work of Konrath et al. [42]. Specifically, respondents were asked to express their degree of accordance with the statement “I am more capable than other people”. A Likert scale ranging from 1= completely disagree to 5= completely agree was employed. Previous studies have employed proxies of narcissism based on publicly available information [23] or self-reported multi-item scales [25]. In this study, we decided to follow the suggestion of Ames et al. [43], which affirms that when the sample of respondents is characterized by professionals
(i.e., physicians) with limited time available and when the questionnaire must necessarily have a limited number of questions, a single item dimension of narcissism can be adopted [42-43].

*Technique oriented specialization.* This is a dummy variable. Based on the classification provided by the literature about person-oriented specializations and technique-oriented specializations [38,41], we established two groups of respondents: “Group P” (person oriented) and “Group T” (technique oriented). Table 1 provides the exact distribution of the specialties between the two groups. We assigned a value of 1 to physicians with a technique-oriented specialization and 0 to the physicians with a person-oriented specialization. Person-oriented physicians were used as a control variable just within Model 3.

*Male.* We assigned value 1 for male respondents and 0 for female respondents.

*Academic experience.* This is a dummy variable employed in order to assess respondents’ previous experience as scholars within medicine and surgery courses. A value of 1 was assigned if respondents reported having these experiences and 0 otherwise. During academic experiences, scholars may enlarge their patterns of knowledge about healthcare systems. Currently, medicine and surgery academic courses are progressively projected as multidisciplinary since they are not just focused on a clinical vision of healthcare organizations and systems, but they are also focused on managerial implications [44].

*Tenure.* A continuous measure of the length of time (in years) that a unit head has been in charge was employed as a control variable.

Table 2 presents the descriptive statistics for the independent variables and the pairwise correlation indexes.
Table 2
Descriptive statistics of the independent variables and their pairwise correlations

|       | Mean | Std dev | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   |
|-------|------|---------|-----|-----|-----|-----|-----|-----|-----|-----|
| 1     | Managerial attitude | .531 | .500 | -   |     |     |     |     |     |     |
| 2     | Male | .873 | .334 | -.023 | -  |     |     |     |     |     |
| 3     | Academic experience | .325 | .470 | .040 | .112 | -  |     |     |     |     |
| 4     | Tenure | 8.38 | 6.85 | -.071 | .120 | .172 | -  |     |     |     |
| 5     | Narcissism | .619 | .487 | .213* | -.004 | -.013 | .144 | -  |     |     |
| 6     | Organizational identification | 5.71 | 1.37 | .117 | -.062 | -.151 | .112 | -.068 | -  |     |
| 7     | Technique-oriented | .595 | .429 | .165 | .122 | -.048 | -.036 | .085 | -.148 | -  |
| 8     | Person-oriented | .404 | .492 | -.165 | -.122 | .048 | .036 | -.085 | .148 | -1 |

Estimation technique
Due to the dichotomous nature of the dependent variable, managerial attitude, we performed a logistic regression [45]. We analysed three models: the first model named “Model 1” includes only the control variables; and Model 2 adds the variables narcissism, organizational identity and technique-oriented specialization to Model 1. Finally, just to demonstrate how managerial attitude decreases according to the different typologies of specializations, we introduced an alternate technique-oriented specialization variable, the person-oriented specialization variable, in Model 3.

Results
The empirical results of the logistic regression estimations are presented in Table 3. Model 1 reflects the inclusion of only the control variables. Model 2 adds all the explanatory variables to Model 1. As expected, narcissism is positively related to the dependent variable ($\beta = 1.06, p \leq .01$), indicating that the higher the narcissism trait of physicians is, the higher their probability to present a managerial attitude instead of a clinical attitude. Organizational identity increases respondents’ probability of presenting a managerial attitude instead of a clinical attitude, ($\beta = .325, p \leq .05$). The identified physicians deeply perceived the importance attributed to managerial challenges by healthcare organizations. It implies physicians’ higher openness to managerialism in comparison to a more traditional approach in which physicians focused more on the clinical side of their work. This increases the pressure on managerial attitude in comparison to the more traditional clinical attitude. Finally, within Model 2, the parameter for a
technique-oriented specialization is positively related to the dependent variable ($\beta = .807; p \leq .05$). This result indicates that physicians with a technique-oriented specialization present a higher probability of manifesting a higher managerial attitude in comparison to a clinical attitude. As expected, since a person-oriented specialization is the opposite of a technique-oriented specialization, physicians with a person-oriented specialization have a lower probability of having a managerial attitude compared to a clinical attitude ($\beta = -.807; p \leq .05$).

Table 3
Logistic regression results

| Dependent variable = Managerial attitude = 1 | Model 1 | Model 2 | Model 3 |
|---------------------------------------------|---------|---------|---------|
| Male = 1                                    | -.124   | -.195   | -.195   |
|                                             | (.54)   | (.57)   | (.57)   |
| Academic experience = 1                     | .244    | .522    | .522    |
|                                             | (.39)   | (.42)   | (.42)   |
| Tenure                                      | -.023   | -.043   | -.043   |
|                                             | (.02)   | (.02)   | (.02)   |
| Narcissim                                   | -       | 1.06**  | 1.06**  |
|                                             | (.40)   | (.40)   |         |
| Organiz. identification                     | -       | .325*   | .325*   |
|                                             | (.156)  | (.156)  |         |
| Technique-oriented = 1                      | -       | .807*   | -       |
|                                             | (.39)   |         |         |
| Person-oriented = 1                         | -       | -       | -.807*  |
|                                             |         |         | (.39)   |
| # observations                              | 126     | 126     |         |
| Nagelkerke Likelihood                       | .011    | .154    |         |
| p \leq 0.001***, p \leq 0.01**, and p \leq 0.05* |         |         |         |

Discussion

Healthcare reforms in publicly funded universal health systems must revise hospital organizational roles. Very important tasks have been delegated to middle managers who are considered to connect the
strategic and the operational levels of an organization [2]. In hospitals, middle managerial roles are occupied by doctor-managers who have to deal with dual roles (managerial and clinical) [46]. These professionals are experiencing dramatic changes in their working conditions [1, 7], and empirical evidence suggests that the effectiveness of such changes strongly depends on their abilities [8–9]. Although clinical technical knowledge and expertise are still fundamental [1, 20], physicians enrolled in managerial roles also need to possess other individual skills, namely, managerial capabilities [10–11]. This is a useful concept to explain why some managers have more effective capabilities at anticipating, interpreting and responding to challenging environments than others.

The literature shows that there is a growing interest on studies analysing the psychological microfoundations of physicians’ managerial attitude. In fact, within healthcare contexts, improvements are driven by individuals and their abilities, which the literature refers to as microfoundations [47]. By following this perspective and considering the specificity of healthcare organizations, this study has focused on three individual microfoundations, namely, narcissism, organizational identification, and specialization, as determinants of managerial attitude.

This research found that the managerial attitude of doctor-managers is positively affected by the presence of a narcissistic trait. This extends the results of previous management studies to the healthcare sector [42] and seems to suggest that managers who are equipped with the right amount of narcissism can help their organization to solve complex and challenging situations. This result also highlights an aspect often not considered during the recruitment processes and the definition of the career paths of middle managers within hospital organizations.

This research found that also organizational identification is closely related to managerial attitude. The results show that the higher that one’s organizational identification is, the higher the likelihood that a given physician will develop a managerial attitude. This extends the results of Salvatore et al.’s [29] study on organizational identification. This research seems to suggest that when doctors-managers actively take part in the strategic goals of the organization to which they belong and they have a strong focus on the strategic and entrepreneurial activities in line with their double role, this in turn implies the development of the managerial side of their work. Managerial attitude can increase when doctors-managers truly understand, share and identify with the strategic goals of the organization.

Finally, this research found that a technique-oriented specialization for physicians positively affects the level of managerial attitude. By virtue of the principle of value congruence, we confirm that physicians need to meet their needs within the workplace, especially when they are asked to perform extra role behaviours [35]. There is a strong relationship between a medical specialization and the meaning attributed to the role of “doctor” [38, 40]. Person-oriented physicians are more interested in the clinical side and in the social aspects of the work. Their colleagues that specialize in technique-oriented fields are instead more interested in the status aspects of the work, such as the acknowledgement of their colleagues; and they are more prone to accepting managerial responsibilities since these responsibilities
amplify their need to achieve a status in their organization that gratifies their professionalism and provide additional opportunities to access more sophisticated, strategic, and costly technologies [39].

Although the present study adds a fresh perspective to the debate of medical management and provides new insights into how to develop managerial attitude among hospitals’ middle managers, it is not free from limitations providing opportunities for future research. First, we considered physicians working in public healthcare organizations. The same study assessing the managerial attitude of employees within a private context could naturally provide different results. Second, we do not consider the “dark side” of narcissism, and thus we have no information on the negative consequences connected to the presence of this behavioural trait. Third, we use a cross-sectional approach, and we do not consider any changes due to time. Finally, we do not control for a performance index in order to understand if the presence of a managerial attitude within doctor-managers may increase the results achieved by the organization. Further research is encouraged to explore the effects of microfoundations on physicians’ managerial attitude in order to extend the application of longitudinal models to other healthcare settings. Despite these limitations, we believe that the problem addressed remains of general interest and relevance for hospital managers and health policy makers.

**Conclusions**

This study provides novel insights into understanding the microfoundations of managerial attitude and highlights a nascent research avenue with diverse development opportunities. Physicians in middle management positions must deal with the operational management of their units; and to perform better the assigned tasks, they need to develop an adequate managerial attitude. Among the antecedents of managerial attitude, some psychological traits of the individual, such as narcissism, identification with the organization and the type of specialization, play fundamental roles.

This study has a number of implications for hospital managers. In the recruiting phase, many organizations focus solely on clinical skills without considering candidates’ managerial skills and psychological traits. In addition, many hospital organizations do not carry out structured analyses of physicians’ training needs and/or do not have resources available to invest in training activities, leaving training to an individual’s own initiative without specified content or objectives. Finally, in defining career paths, the choices relating to middle management positions are often more tied to seniority aspects than to those who demonstrate a certain aptitude for carrying out that specific role. Our work supports the development of a strategic approach to human resource management that allows one to identify, train and select the right mix of knowledge and managerial skills to cover a middle management role.

**Declarations**

**Ethics approval and consent to participate:**
Ethics approval and consent to participate were not necessary for this study according to national and European regulations (Directive 2001/20/EC, European Parliament).

**Consent for publication:**

Not applicable.

**Availability of data and material:**

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

**Competing interests:**

The authors declare that they have no competing interests.

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**Authors' contributions:**

FDV and FM contributed to the conception of this paper; FDV, FM and DA designed the study. FM extracted data and conducted the statistical analysis. All authors made substantial contributions to the interpretation of results and have seen and approved the final version. All authors read and approved the final manuscript.

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