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Mid-level leaders as boundary managers and team effectiveness: The impact of functional heterogeneity and mid-level leaders' personality traits from the Big Five typology

Oren Abergel

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School of Education, Bar-Ilan University.**

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Abstract

Over the past few decades, we have witnessed the gradual change in school leadership processes. These changes occur in the different layers of schools due to the increasing administrative complexity over the years and the multiple demands made on them. Principals are required to identify teachers with leadership skills, who are required to lead school leadership processes and assist in addressing complex issues that require complex skills. This process is characterized by a decentralization of authority from the school principal towards the mid-level leaders, a change that helps the organization meet the goals set. Incorporating leadership forces that drive the school toward its goals may increase the degree of school effectiveness. This leadership subordinate the school principal is characterized by a single leader who is responsible for a team of several teachers who share identical goals. There are several types of teams: management teams, discipline teams, inter discipline teams, therapeutic teams and more. Each of these teams has a defined area of responsibility and the same mid-level manager leads to the goals and objectives set, avoids potential difficulties and solves problems that arise in the team environment in their daily work.

The current study focuses on the team characteristic most studied in the literature: "Functional Heterogeneity." Functional heterogeneity refers to the variety of organizational roles embodied in team members and defines the requirements that shape the interpersonal leader's tendencies to take internal or external activities. Although heterogeneous teams are more exposed to information resources from external sources that contribute to accessing new and diverse knowledge, research showed that teams with high levels of functional heterogeneity do not always realize their full potential due to poor social behavior and interactions and conflicts among team members. Therefore, the present study suggests the mid-level leaders engage in boundary activities, internal and external, in order to meet the many needs of highly heterogenous teams, enabling effective teamwork manifested in raising their level of performance and innovation.

The current research focuses on mid-level leaders, their roles as team leaders and boundary managers, and draws upon the 'functional leadership approach' to management according to which the leader's central role is to regulate, organize and provide the team with

all the needs and resources that enables it to achieve its goals in order to function effectively. Therefore, mid-level leadership requires a deep observation capable of identifying future problems that may impede team from achieving their goals, acting to prevent them as much as possible, and addressing social problems in the process. Effective mid-level leaders focus on 'Boundary Activities' to enable the team to fulfill its mission. Mid-level leaders, in their role as team leaders, engage in boundary activities which encompass both internal and external activities related to the team. The mid-level leaders' boundary activities can be classified into two main activities: "Internal activities" which are activities that take place within the team boundaries directed towards the team and include the mid-level leaders' focus on team processes, such as building trust in the team and caring for team members' need. The "external activities" include activities such as building positive relationships between the team and the team environment (such as other team within the school, parents and community) in order to acquire resources, achieve innovation, and protect the team all of which to promote team performance. The present study is in line with the notion put forth by Benoliel's typology (2017, 2018) adopted in the educational context from Druskat and Wheeler's (2003) which suggests that educational leaders' internal activities include four activities: relating, scouting, persuading and empowering. External activities include three activities: relating, scouting, and persuading. Effective mid-level leaders are leaders who are aware to environmental events that may delay or block the team from achieving its mission. That is, mid-level leaders who engage in both internal and external activities according to the needs of the team facilitate team effectiveness.

In line with Input-Process-Output model of team effectiveness, the purpose of this study is to examine through a mediator-moderator model how team characteristics and mid-level leaders' characteristics influence the mid-level leaders' tendency toward internal and/or external activities and how these boundary activities contribute to improving team effectiveness (team performance and innovation). Specifically, the first objective of the study is to examine how functional heterogeneity (input) will influence the tendency of mid-level leaders to engage in internal and/or external boundary activities (process) and how these boundary activities will contribute to team effectiveness (performance and innovation; output). The second objective of the study is to examine the moderating influence of the personality traits of mid-level leaders: Extraversion, Conscientiousness, Openness to experience, Agreeableness and Neuroticism from the Big Five typology on the relationship between functional heterogeneity and internal and external activities. The third objective of the present study is to examine through the mediator-moderator model how mid-level leaders' boundary activities mediate the interaction between team characteristics of functional heterogeneity and mid-level leaders' personality traits, and team effectiveness (performance and innovation).

The data was collected from a sample that included 47 mid-level leaders and 150 team members. Data was collected from two different sources to minimize problems associated with same-source biases and because it was an efficient method to collect a large amount of data without overburdening respondents. Data collection was performed in several steps. After the research project was approved by the Ministry of Education, schools were randomly chosen from a list provided by the Ministry of Education. First, the principal was contacted, the purpose of the study explained, anonymity was guaranteed and the importance of candid answers was emphasized. After their contentment to have their school participate, the questionnaires were distributed. Mid-level leaders filled out the Big Five personality traits and team effectiveness questionnaires (innovation and performance) and team members filled out the internal and external activities questionnaires. Both mid-level leaders and team members provide demographic information.

The data analysis consisted of several steps: First, analyzes were conducted to present descriptive statistics that include averages and distributions of the internal and external activities. Second, in the research hypotheses, the team is identified as the unit of analysis. Therefore, team innovation and team in-role performance were assessed by the team leader, the mid-level leaders. Mid-level leaders' internal and external activities were represented by an aggregate of team member responses. Third, descriptive statistics were examined to determine the mean, frequency, and distributions of internal activities as well as Pearson correlations across all study variables. Fourth, data analysis was performed using a structural equation model (SEM) (using AMOS 21.0). Fifth, regression analyzes were performed using SPSS using the PROCESS macro command to examine whether the personality traits from the Big Five typology moderate in the relationship between functional heterogeneity and boundary activities. Finally, using SEM, an integrative model examined the relationship between the functional heterogeneity, boundary activities, and personality traits of the mid-level leaders (extraversion, conscientiousness, openness to experience, agreeableness and neuroticism) and team performance. To examine the strongest predictor of the proposed variables, stepwise multiple regression analyzes were conducted.

The findings of the present study showed: First, when examining the averages and distributions of the mid-level leaders' boundary activities, a high level of internal activities was found in relation to relating, scouting, persuading and empowering, as well as a high level of external activities, in relation to relating, scouting and persuading. Second, the findings of the study showed that the boundary activities (internal activities) of a mid-level leaders' mediate the relationship between functional heterogeneity and effectiveness when there is a negative relationship between functional heterogeneity and internal activities and a positive relationship

between internal activities and team effectiveness (performance and innovation). No significant relationship was found regarding external activities. Third, no moderating effect of the mid-level leaders' personality characteristics: extraversion, conscientiousness, openness to experience, agreeableness and neuroticism from the Big Five typology on the relationship between functional heterogeneity and internal and external activities was found. Finally, additional analysis that examined an integrative model showed a relationship between functional heterogeneity, internal activities and the mid-level leaders' personality traits of extraversion, openness to experiences and agreeableness to team effectiveness (team performance).

This study has several conclusions: First, the average of internal and external activities was high for each of the boundary activities, which is in line with previous studies (Benoliel, 2017) that emphasize the importance of the mid-level leaders' internal and external activities for team effectiveness. The results emphasized the high tendency of the mid-level leaders to engage in relating activities both for internal and external issues relative to team which reflects their high tendency to build team trust but also to connect the team with its external surrounding. Yet, the internal activities of persuading has been found to be the most essential activity to promote team effectiveness. Therefore, one conclusion to be drawn might be encouraging, during processes and training of mid-level leaders, the use of persuading activities aimed at encouraging team members to advance priorities that are consistent with the organization's goals. Second, results showed the partially mediated effect of the mid-level leaders' internal activities on the relationship between functional heterogeneity and team effectiveness (performance). However, no significant relationship was found for external activities. This finding may be due to the study sample, which examines disciplinary and interdisciplinary teams, and mid-level leaders appears to be different from the sample of previous studies examining the internal and external activities of school principals toward their senior management teams. It can be said that the school principal's external activities apparently reduce the need for the mid-level leader to engage in external activities aimed at building and maintaining positive relationship between the team and external constituencies to the team. Finally, examining the integrative model showed a negative relationship between functional heterogeneity and team performance. These findings indicate that teams with high levels of functional heterogeneity often fail to be effective. This may be because of poor internal cohesion of the team. Regarding the positive relation between mid-level leaders' internal activities and team performance, it can be concluded that mid-level leaders' internal activities can differentiate the team from its environment by creating positive norms and objectives that distinguish the team from the rest of the school's team. These activities sharpen

the boundaries of the team from within, equip the team as a single unit and strengthen the foundation for collaborative teamwork, building a team identity and to a great extent increase team performance. About the relationship between mid-level leaders' personality traits of extraversion and team performance, one can conclude that extraverted mid-level leaders, who are perceived as energetic, ambitious and charismatic leaders, tend to be sociable and assertive leaders that greatly increase team performance. The overall findings suggest two ways to improve team effectiveness. One is through mid-level leader's personality trait, supported by trait theory, and the other through leadership style and management practices of mid-level leaders.

The present research has theoretical and practical contributions. This research is first and unique of its kind that examines, through an innovative and integrative model, the internal and external activities of mid-level leaders toward their team. The present research attempts to supplement the existing lack of research knowledge on boundary activities enacted by mid-level leaders. The study combines both mediating factors (the mid-level leaders' boundary activities) and moderating factors (personality traits) focusing on their impact on the tendency of mid-level leaders toward boundary activities. From a theoretical point of view, the study, firstly, allows to deepen the understanding regarding the extent and frequency at which mid-level leaders engage in internal and external activities. Second, the present research focuses on the antecedents and consequences of the mid-level leaders' boundary activities that act as boundary bridges between the teams and the external environment of the team. Finally, the present research contributes to the understanding about the mediating effect of boundary activities on the relationship between functional heterogeneity and team performance and the direct influence of personality traits: extraversion, openness to experience and agreeableness of mid-level leaders on team effectiveness. Therefore, from a practical point of view, the present study may therefore have implications for policies involving the design and implementation of leadership skills and practices. The present research helps to understand that a team composition and mid-level leaders' characteristics are key factors in increasing team effectiveness. This study highlights the importance of mid-level leaders' internal activities and personality traits in promoting team performance.

However, there are a few limitations in the current study that warrant further attention in future research. The research sample is mostly composed of disciplinary and interdisciplinary team members who are first and foremost teachers. Also, the small size effect which might be explain by the small sample size may call for future research to examine the findings in larger and more diverse samples. Finally, further attention in future studies might, for example, examine the impact of other antecedents at the organizational level, such as

organizational learning, and team level, such as intra-team goal interdependence and other studies examining other outcomes of the mid-level leaders' boundary activities such as team learning and school effectiveness.