



PREDICTING LEADERSHIP STYLES BASED ON ACHIEVEMENT MOTIVATION

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Article History: Received on 17th May 2020, Revised on 2nd August 2020, Published on 17th September 2020

Abstract

Purpose: The fields of motivation and leadership are very wide, and there is a large number of factors that mediate their relationships. The research aimed to examine is there a correlation between leaders' achievement motivation and their leadership styles (transformational, transactional, and passive), and whether the achievement motive can be a predictor of leadership style.

Methodology: Quantitative research was conducted in 4 companies from the territory of Serbia. Leaders and their subordinates completed two questionnaires, MLQ (Multifactor Leadership Questionnaire) and AMI (Achievement Motivation Inventory). The MLQ was used to measure transformational, transactional, and passive leadership style. AMI is a psychological test that was used to evaluate the expression of achievement motivation.

Main Findings: The results showed that there is a correlation between achievement motivation and passive ($r = -.544$; $p < .01$; $N = 30$), transactional ($r = .381$; $p < .05$; $N = 30$), and transformational leadership style ($r = .412$; $p < .05$; $N = 30$). Regression analysis determined the equations by which those leadership styles can be predicted based on achievement motivation.

Applications: The possibility of predicting leadership styles can contribute to the process of selection of employees in companies, especially those who come directly to management positions, and employee development process.

Novelty/Originality of this study: Assessing motivation for achievement as a personality trait among employees and predicting the type of leadership style based on that.

Keywords: Leadership, Motivation, Achievement Motivation, Leadership Styles, Transformational, Transactional.

INTRODUCTION

Many researchers have addressed the topic which factors affect the performance and satisfaction of employees in a work environment (Triwahyuni & Ekowati, 2017; Sayed, 2018; Tung et al., 2019; Waleerak, 2020). Two factors that are mentioned in a lot of researches are the type of leadership and personal motivation (Anah et al., 2020). Motivation is a factor that can determine and explain someone's performance, commitment, and work satisfaction (Kehr et al., 2018), and there is a lot of factors in the workplace that facilitate motivation (Bahmanabadi, 2015). Researchers analyzed how different leadership styles affect an employee's motivation. Leadership style can be explained as the pattern of attitudes that leaders embrace and behaviors they exhibit (Anderson & Sun, 2015). Fiaz et al. (2017) showed that an autocratic leadership style exhibits a significant negative relationship with employees' motivation, whereas the democratic leadership style is shown to positively predict the motivation of employees. One of the reasons can be that democratic leaders share decision making with the group (Abeh Ukaidi, 2016) which contributed significantly to organizational performance. Manik (2016) in his research showed that transformational leadership influences motivation, organizational climate, and employee satisfaction. Other researches also agree with the assumption that transformational leaders work to clarify and share a vision with their employees which is expected to result in increased employee motivation (Andersen et al., 2016). Motivated workers work better and have higher morale (Sharma et al., 2016). The conclusion from those researches could be that leadership styles can affect an employee's motivation.

On the other side, there is a question about leaders' motivation and how motivation influences leadership style. Quarratul (2018) stated that motivation gives the strongest influence on the manager's performance, commitment, and leadership skills. It is interesting to look into McClelland's research that has shown that 86% of the population is driven by one, two, or all three motives defined by socio-anthropological theory - motive for affiliation, power, and achievement (Chalfoun, & Davidaviciene, 2018). That doesn't mean that all people can be categorized into one of three types, people are motivated by all of these needs in varying degrees and proportions (Brandon, 2015). Some researchers suggest that achievement motivation is very important for individuals in the work environment, since it has positive impacts on job satisfaction, commitment, and work-life balance (Metz, 2018), and positive regression towards working performance (Utomo et al., 2017). The idea of this research was to examine whether the achievement motive has an impact on the leadership style and whether the achievement motive can be a predictor of leadership style.

Research conducted by Clipa and Serban (2018) suggested that there are some significant positive correlations between certain motivation dimensions and leadership styles among teachers in educational institutions. This research aimed to examine is there a correlation between achievement motivation and leadership styles in a business environment, in the companies in Serbia. In the research, the psychological questionnaire for achievement motivation (AMI) was used to

assess a leader's motivation. Since there are a large number of leadership styles, in this study the focus was on transformational and transactional leadership styles. Both styles have a significant impact on job performance and the performance of employees (Ozcan & Ozturk, 2020). There is also a significant relationship between transformational and transactional leadership styles and job satisfaction (Djami et al., 2019). A multifactor leadership questionnaire (MLQ) was used to examine leadership style.

The results should show does achievement motivation has an impact on the leadership style and whether the achievement motive can be a predictor of leadership style. The possibility of predicting leadership styles can contribute to the process of selection of employees in companies, especially those who come directly to management positions, but also the development of employees.

THEORETICAL BACKGROUND

There are multiple attempts of scholars to create models for predicting leadership styles based on some leadership traits, characteristic behaviors, or motives that drive them toward the goals. The first attempts of predicting leadership behavior based on the source of their motivation and needs were given by McClelland through a three-factor model for predicting leadership behavior (McClelland, 1985). McClelland states that man's behavior is motivated by his needs. The needs of the individual are based on personality and evolve according to the environment.

Achievement Motivation Theory

According to McClelland (1961), each person has one of the following three needs/ motives: a motive for affiliation, power, and achievement. These needs motivate individuals, actually shape their behavior. Therefore, the assumption is that behavior can be predicted based on the expression of certain needs. For example:

- Persons who have a dominant motive for affiliation have a pronounced interpersonal sensitivity. They are striving for close relationships with others, wanting to be loved by others, and enjoying social activities. Satisfying this need for relatedness makes them happier, whereas social rejection produces negative feelings (Hofer & Hagemeyer, 2018). People with a high need for affiliation are more concerned about what other people think about them. It has been noted that they have a poorly expressed need for power and because of that they don't like management roles and positions, they prefer to be part of the team (Subiyantoro et al., 2017).
- Persons who have a dominant motive for power need to hold control and authority over the other person or persons and to influence and change their decisions according to their own needs or desires. Individuals who have a pronounced need for power are driven by the need to improve self-esteem and reputation. Often, the most successful managers and executives are characterized by a great need for power. Some researches show that managers who are predominantly power motivated to enhance organizational effectiveness (Andersen, 2018; Ismail et al., 2020; Sengphet et al., 2019).
- Persons who have a dominant motive for achievement are usually characterized as individuals who wish to take personal responsibility for problem-solving. They are looking for excellence by setting moderate, realistic, and achievable goals. People with a high need for achievement do well in new and challenging situations. The achievement motive can contribute to both personal development and efficiency, job satisfaction, commitment, and work-life balance (Metz, 2018; Jam et al., 2018; Sejera, 2018; Nucharee & Teeradej, 2019), as well as the effectiveness of the team or group and entire organization.

Following McClelland's research and findings on how motivation can influence the behavior of individuals and leaders in the work environment, and consequently the results of work, many scholars have proposed their models for predicting behavior. In 1999, Scholl and coworkers proposed one of the typologies of a source of motivation, which was later operationalized and tested to predict leadership behavior (Barbuto & Scholl, 1999; Barbuto et al., 2002). In two independent studies that examined the behavior of executives in the work environment, five sources of motivation were identified that could better predict executives' behavior than the McClelland Three-Dimensional Model (Barbuto et al., 2002). According to this typology, managerial behavior is predicted based on five sources of motivation: intrinsic motivation, instrumentality, internal and external self-motivation, and goal orientation (Barbuto, 2005).

For this research, we will stay on McClelland's model of predicting executives' behavior and examine whether executives' leadership styles (transformational, transactional, and passive) can be predicted based on achievement motive. The achievement motive is operationalized through the AMI questionnaire and includes the following characteristics of an individual: investing extra effort in work, competitive spirit, confidence in success, dominance, desire to learn, engagement, fearlessness, flexibility, creativity, goal setting, independence, intrinsic motivation, perseverance, a tendency to work toward more difficult tasks, pride in success, self-control, striving for status. All these traits can be grouped into three factors that are significant to an individual's success in the work environment: self-confidence, ambition, and self-control (Schuler et al., 2002).

Transformational and Transactional Leadership Styles

The subject of research is leadership styles defined by transformational-transactional leadership theory, as well as the achievement motive observed within McClelland's theory of motivation, to test whether leadership styles can be predicted based on achievement motivation.

Transformational leadership style: Defining transformational leadership began in 1972 by James McGregor Burns who conducted a qualitative analysis of the biographies of various political leaders and wanted to identify the characteristics that make those leaders successful. Burns explains the concept of transformational leadership through the relationship between the manager and his teams. Transformational leader/manager manages the vision of the future, successfully transfers it to subordinates, stimulates them intellectually, and pays great attention to each of them. There is a lot of researches that show a positive impact of transformational leadership on employees and organization. [Al Khajeh \(2018\)](#) shows that the transformational leadership style has a positive relationship with the organizational performance and enhances the capabilities and abilities of the people, and even innovative behavior ([Hansen & Pihl-Thingvad, 2019](#)). A transformational leader establishes trust and enhances confidence among employees ([Chandra & Priyono, 2016](#)). Employees are motivated by justice and the results from the [Deschamps et al. \(2016\)](#) research shows that transformational leaders influence each type of organizational justice. They also allow employees to communicate, as that further motivates them ([Rose-Grant, 2016](#)). Transformational leaders have an impact on employee organizational commitment ([Yahaya & Ebrahim, 2016](#)). [Delegach et al. \(2017\)](#) showed that transformational leadership is positively associated with employee's promotion focus, which in turn was positively associated with their general and affective commitment ([Rusliza & Fawzy, 2016](#)). The transformational leadership style has a positive effect on job satisfaction ([Asghar & Oino, 2018](#)).

Transactional leadership style: In distinction to the transformational leadership style, the construct of transactional leadership was set. The transactional leadership style is also based on the leader-subordinate relationship, except that in this approach, the leader has the role to "negotiate" with employees what behaviors and performance are expected of them, and to ensure that the employee complies with the leader's request. This approach very unlikely to produce commitment ([Nwokocha & Iheriohanma, 2015](#)). Transactional leaders motivate followers through their interests and rewards to complete tasks and achieve work goals. While leaders who apply other leadership styles are more geared to motivate and inspire employees toward above-average performance, transactional executives strive to achieve solid, consistent performance that meets agreed goals and performance standards. Even though, some researchers have shown that transactional leadership impacted knowledge sharing in organizations, whereas transformational leadership did not ([Masa'deh et al., 2016](#)) and transactional leadership is positively related to followers' creative behaviors ([Ma & Jiang, 2018](#)).

Passive leadership style: This leadership style refers to a failure to perform a leader function. In its passive form, the leader either waits for problems that arise and only then takes some action or do not take any action at all, and consciously avoids his obligations. Passive executives avoid, for example, refining agreements, clarifying expectations, securing goals and standards to be followed by followers.

The assumption in this research is that individuals who are motivated by achievement tend to pass that approach, or pursuit of achievement and excellence, to their team members. Motivated executives will be more willing to pay more attention and care to their subordinates, to learn and develop with them. This further leads to the assumption that there will be a positive correlation between achievement motivation and transformational leadership style, but also a negative correlation between achievement motivation and passive leadership style.

METHOD AND MATERIAL

The study aims to examine differences in expression of achievement motivation among leaders of different leadership styles and to examine whether leadership style is related to achievement motivation and whether the concept of achievement motivation can be a predictor of leadership style. The results of this research can advance the processes of selection, development of employees in companies. If the research results confirm the hypothesis, a new procedure for predicting leadership style may be developed.

H1: There is a positive correlation between the transformational leadership style and the expression of the motive for achievement, so the achievement motive can be a predictor of the transformational leadership style.

H2: There is a positive correlation between the transactional leadership style and the expression of the motive for achievement, so the achievement motive can be a predictor of the transactional leadership style.

H3: There is a negative correlation between the passive leadership style and the expression of the motive for achievement, so the achievement motive can be a predictor of a passive leadership style.

Variables

An independent variable in research is an achievement motive. The dependent variable is the leadership style: transformational, transactional, and passive leadership style.

The goal is to determine when processing the results, the correlation coefficients between the independent (achievement motive), and the dependent variable (leadership style).

If it is proved that the variables are correlated, then information about one variable can be obtained indirectly, also about the other variable. In this case, the predictor variable would be the achievement motive, and the criterion variable, the value of which is predicted by the regression analysis process, is the leadership style (transformational, transactional, passive).

Sample Description

The survey was conducted on the territory of the Republic of Serbia. 90 employees participated in the survey, from the industry of information and telecommunication technologies, digital marketing, as well as from the industry of production and bottling of water and soft drinks. Of the 90 respondents, 30 consisted of managers and executives completing the AMI and MLQ (self-assessment) questionnaires, and 60 were employees evaluating managers, completing only the MLQ questionnaire (assessment questionnaire).

In the research, the focus was on managers and executives, that is, the sample being analyzed is 30. The sample consists of 16 female and 14 male respondents, aged 24 to 52 years, who manage groups and teams from 2 to 50 members. The leadership range of work experience of these executives was from 1 to 21 years. Regarding education, the group of respondents includes executives who have completed high school education, as well as those who have completed master academic studies. All executives work in the private sector in Belgrade. 60 employees participated in the assessment of managers (two for each manager). The sample of evaluators contains 29 female respondents and 31 male respondents, aged 21 to 52 years, with working experience of 1 to 25 years.

Data Collection and Analysis

Psychological questionnaires were used to assess leadership style (MLQ) and achievement motivation (AMI). In these questionnaires, the questions are the items and the answers are the forms of behavior, that is, the respondents' reactions to the mentioned items. All questions are closed and the answers are treated as values of the observed variable, they are numeric and represent the degree of agreement of the respondents with the stated attitude.

Instruments

AMI- Achievement Motivation Inventory (H. Schuler, G. C. Thornton III., A. Frintrup, R. Mueller-Hanson, 2002)

The psychological questionnaire for achievement motivation is based on the concept of achievement motivation as personality traits. It is used in the selection and development of employees, career guidance, and professional consulting. The questionnaire contains 170 Likert-scale claims that are cobbled together in 17 dimensions, so the questionnaire measures: extra effort, competitive spirit, confidence in success, dominance, desire to learn, engagement, fearlessness, flexibility, creativity, goal setting, independence, intrinsic motivation, perseverance, a tendency toward difficult tasks, pride in success, self-control, striving for status. All these traits can be grouped into three factors that are important for an individual's success in the work environment: self-confidence, ambition, and self-control.

Regarding the metric characteristics of this questionnaire, the reliability for the total score is Cronbach alpha = .96, and for each factor ranges from Cronbach alpha = .66 to Cronbach alpha = .83. The validity of the questionnaire was demonstrated by correlation with similar scales, such as the Five-Factor Personality Inventory (ranging up to $r = .72$). These results were performed on a sample of 2172 persons ($N = 2172$) ($N = 335$ American students; $N = 410$ American workers; $N = 1,267$ German students; $N = 166$ German workers), and are presented in the AMI Questionnaire manual from 2002 ([Schuler, et al., 2002](#)).

MLQ- Multifactor Leadership Questionnaire (Avolio & Bass, 2004)

A multifactor leadership questionnaire is a questionnaire that examines the components of leadership across a range of leadership styles and results in three possible leadership outcomes - a transformational, transactional, or passive leadership style. This questionnaire enables self-assessment and evaluation by other persons (superiors, subordinates, associates in the same hierarchical relationship, team members).

The three dimensions examined by the questionnaire that relate to transformational leadership are ([Avolio & Bass, 2004](#)):

- Charisma, as the ideal leadership impact on employees;
- Individual observation of employees, individual care of each employee;
- Intellectual stimulation.

Two dimensions of the questionnaire represent the characteristics of transactional leadership:

- Conditional reward;
- Active exception management.

Features that indicate a passive leadership style are listed:

- Passive exception management;
- Laissez-faire.

The reliability of each MLQ factor indicating leadership style ranges from 0.74 to 0.94, which is proven on a sample of 2154 respondents (N = 2154) (Avolio & Bass, 2004). Also, Bas and Avolio reported reliability of the internal consistency of the MLQ questionnaire from Cronbach alpha = .69 to Cronbach alpha = .85. Other researchers have also checked the metric characteristics of this test and the results show that the instrument is appropriate for evaluating leadership style (Avolio & Bass, 2004). The MLQ questionnaire has been administered and tested in more than 300 research projects and studies, appearing in journals, dissertations, book chapters, conference papers, and technical reports.

Data Processing

The basic procedures of descriptive statistical analysis, Pearson's correlation coefficient, and regression analysis were used in the data processing. The correlation aspect refers to determining the extent to which a correlation exists between variables (achievement motive and leadership styles), and the regression aspect refers to determining the extent to which a dependent variable (leadership style) can be estimated or predicted based on an independent variable (the achievement motive) as well as setting up a mathematical formula by which that dependence can be expressed.

RESULTS AND DISCUSSION

All three hypotheses related to the link between achievement motivation and stated leadership styles (transformational, transactional, and passive). The results show that all three hypotheses are proven because there is a positive correlation between achievement motive and transformational and transactional leadership style, and a negative correlation between achievement motive and passive leadership style.

Table 1: Correlation of achievement motive and leadership styles (transformational, transactional, and passive styles)

Leadership styles:		Passive	Transactional	Transformational
Achievement motive	Pearson Correlation	-.544**	.381*	.412*
	Sig. (2-tailed)	.002	.038	.024
	N	30	30	30

Source: SPSS Statistics

As it has been confirmed that there is a positive correlation that occurs between achievement motive and transformational (r = .412; p < .05; N = 30), or transactional leadership style (r = .381; p < .05; N = 30), but at a lower level of significance, equations can be derived to predict these leadership styles.

The regression equation shows that a transformational leadership style can be predicted based on the motive for achievement in 17% of cases (R² = .170; p < .05, N = 30). This is a very small percentage, and the reason for this may be the small sample on which the survey was conducted. Besides, there is a small percentage of cases in which the achievement motive may be the only criterion for predicting a transformational leadership style because the leadership style is influenced by several other factors. In any case, the expressive motive for achievement certainly is a positive characteristic of leaders and managers because it leads to a transformational and transactional leadership style, not the passive one (with which it is negatively correlated).

Table 2: Regression analysis, achievement motive, and transformational leadership style

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	S.g.	Beta			LB	UB
1 (Constant)	1.511	.961		1.573	.127	-.457	3.479
AM	.484	.202	.412	2.394	.024	.070	.899

Source: SPSS Statistics

The regression equation for predicting the transformational leadership style is:

$$\text{TRANSF} = 1.511 + 0.484 \times \text{AM}$$

TRANSF- transformational leadership style

AM - achievement motive

To better understand the relationship between the transformational leadership style and the achievement motive, the following is a graphical representation.

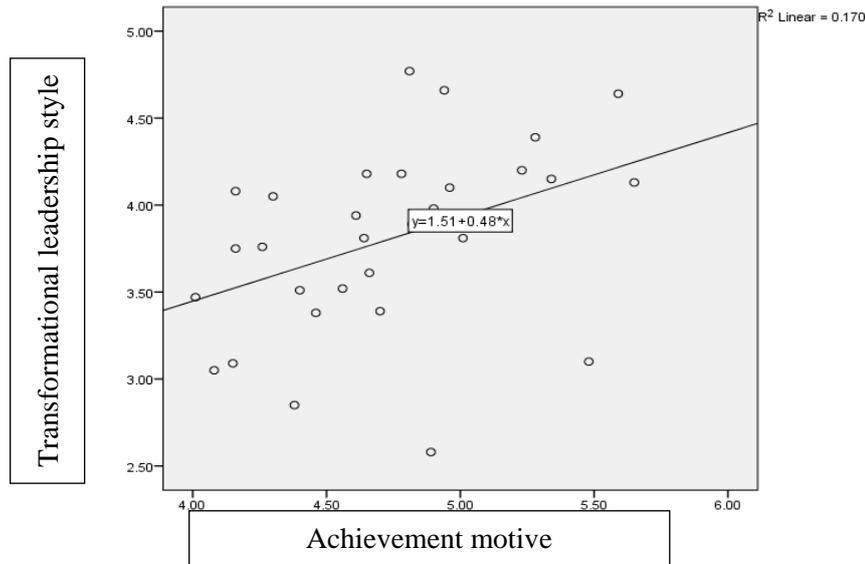


Figure 1: Geometric representation of the relationship between achievement motive and transformational leadership style

Source: SPSS Statistics

The regression equation can also be derived to predict the transactional leadership style. Based on this equation, achievement motive can be a predictor of transactional leadership style in approximately 15% of cases ($R^2 = .145$; $p < .05$, $N = 30$).

Table 3: Regression analysis, achievement motive, and transactional leadership style

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	S.g.	Beta			DG	B
1 (Constant)	1.747	.957		1.826	.078	-.212	3.707
AM	.439	.201	.381	2.177	.038	.026	.851

Source: SPSS Statistics

The regression equation for predicting the transactional leadership style is:

$$\text{TRANSAC} = 1.747 + 0.439 \times \text{AM}$$

TRANSAC- Transactional Leadership Style

AM- Achievement Motive

Below is a graphical representation of the relationship between achievement motive and transactional leadership style

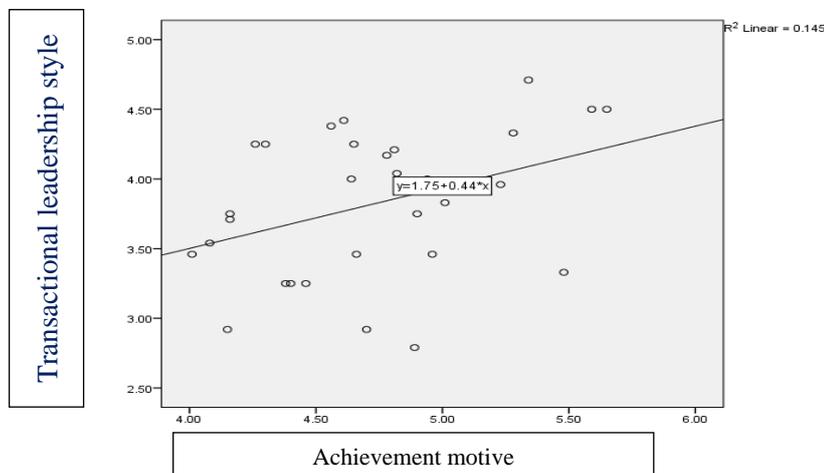


Figure 2: Geometric representation of the relationship between achievement motive and transactional leadership style

Source: SPSS Statistics

Research has shown that achievement motive is negatively correlated with passive leadership style ($r = -.544$; $p < .01$; $N = 30$), so executives who have a pronounced achievement motive will not practice this leadership style. Regression analysis revealed that a passive leadership style can be predicted based on achievement motives.

Table 4: Regression analysis, achievement motive, and passive leadership style

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	S.g.	Beta			DG	B
1 (Constant)	5.636	.978		5.764	.000	3.633	7.639
AM	-.706	.206	-.544	-3.429	.002	-1.128	-.284

Source: SPSS Statistics

The regression equation shows that passive leadership style can be predicted based on achievement motives, in approximately 30% of cases ($R^2 = .296$; $p < .01$, $N = 30$).

$$\text{PASSIVE} = 5.636 - 0.706 \times \text{AM}$$

PASSIVE - Passive leadership style

AM - Achievement motive

To better understand the relationship between passive leadership style and achievement motive, the equation can also be represented graphically using a geometric straight line with two parameters.

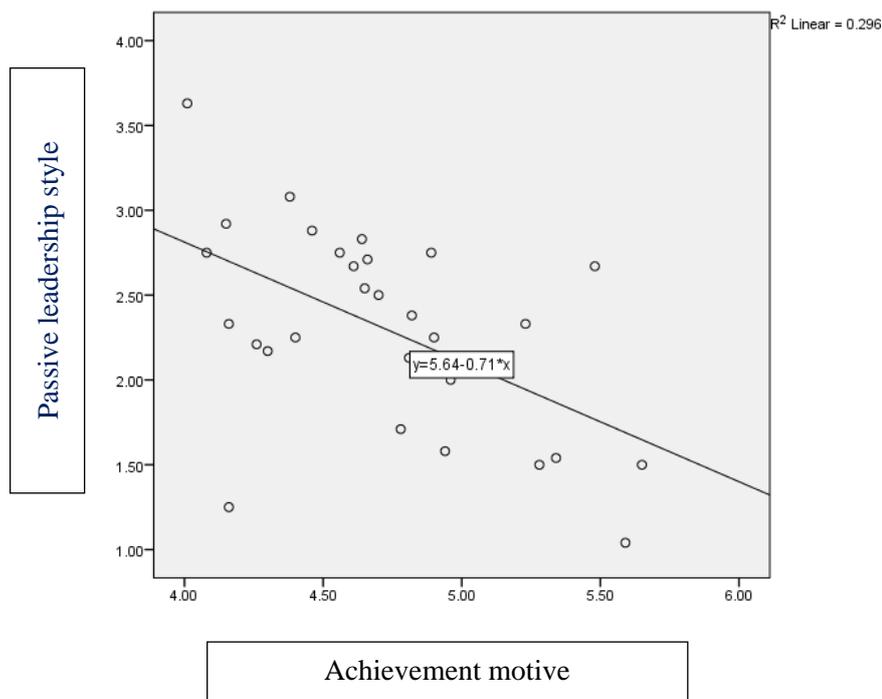


Figure 3: Geometric representation of the relationship between achievement motive and passive leadership style

Source: SPSS Statistics

A sample of 90 respondents (30 managers and 60 employees who assessed managers) showed that the motive for achievement as a personality trait has an influence on which leadership style a particular leader will apply. Executives and managers who express an achievement motive are not likely to apply passive leadership style because there is a negative correlation between achievement motive and passive leadership style ($r = -.544$; $p < .01$; $N = 30$). Features of motivation for achievements such as ambition, self-control, and self-confidence are not present in executives who are inclined to passive leadership style. Passive executives either wait for problems that arise and only then take some action or take no action at all and consciously avoid their obligations.

Executives and managers with a pronounced motive for achievement will strive to apply a transactional and/or transformational leadership style. There is a correlation of greater intensity between achievement motive and transformational leadership style, which means that executives with a pronounced achievement motive will pay attention to their followers, involve them in decision-making processes, make them more aware of the significance and value of task outcomes, encourage them to go beyond their boundaries and mutual interests for the sake of the team, which will

affect both individual and team performance. This is consistent with all research highlighting the positive effects of achievement motivation and transformational leadership (Chandra & Priyono, 2016; Deleghach et al., 2017; Al Khajeh, 2018; Hansen & Pihl-Thingvad, 2019). That there is also a positive correlation with a transactional leadership style that also leads to positive outcomes, except that transactional executives will devote their attention to clearly defining goals and expectations that followers will strive to achieve solid, consistent performance that meets agreed goals, always rewarding and rewarding employee awards (Masa'deh et al., 2016; Ma & Jiang, 2018; Nwokocha & Iheriohanma, 2015).

The analysis of the results also answered the second research question, which is that the achievement motive can be a predictor of leadership style. Regression analysis defines equations that can predict passive style (PASSIVE = 5.636 - 0.706 x AM), transformational style (TRANSF = 1.511 + 0.484 x AM) and transactional leadership style (TRANSAC = 1.747 + 0.439 x AM). The regression equation shows that passive leadership style can be predicted based on achievement motive in approximately 30% of cases, transformational leadership style in approximately 17% of cases, and transactional leadership style in approximately 15% of cases.

CONCLUSION

The actuality of the topics of motivation and leadership constantly increasing, as human resources in companies are constantly evolving, showing new needs but also the potential to achieve higher performance and better results. It is very important how leaders treat employees, and which leadership style is used. Leadership style depends on the personal traits and motives of leaders.

The possibility of a prediction of leadership style can contribute to the process of selection of employees, especially the ones who come directly to management positions in the company, as well as to the process of creating a plan for the development and promotion of employees in the organization. Based on the Achievement Motivation Inventory (AMI), in the selection process, employers could predict whether a potential employee (future leader) would aspire to a passive, transactional or transformational leadership style (of course taking into account other factors that may influence leadership style). Also, a position inheritance plan could be done based on an assessment of the achievement motives, all of which affect the effectiveness of the business.

LIMITATION AND STUDY FORWARD

There are several limitations to this study. First of all, the research is not included a wider population. The sample is small, with only 30 executives and managers and their 60 associates, and all surveyed executives and employees are from the territory of Belgrade and the private sector. Second, the research is not included variables that can influence the motivation and leadership process, to obtain a more representative picture. Motivation and leadership are very broad processes and include a large number of factors that mediate their relationships, so it should be emphasized that the achievement motive is not the ultimate factor in leadership success. Many factors affect the leadership process and should be examined in greater detail, both in the domain of individual characteristics and in the domain of situational variables.

ACKNOWLEDGEMENT

We thank the publishing house *SINAPSA EDICIJE* for providing us the standardized AMI and MLQ questionnaires for this research.

AUTHORS CONTRIBUTION

Author Ivana Milinković designed the study, developed the theory, conducted a questionnaire in companies, entered data, and performed the computations. Author Ivana Kovačević was involved in planning and supervised the work, helped I.M. to design the study, verified the analytical methods, encouraged I.M. to investigate a specific topic, and supervised the findings of this work. All authors discussed the results and contributed to the final manuscript.

REFERENCES

1. Abeh Ukaidi, C.U. (2016). The influence of leadership styles on organizational performance in Nigeria. *Global Journal of Human Resource Management*, 4(4), 25-34.
2. Al Khajeh, E. H., (2018). Impact of leadership styles on organizational performance. *Journal of Human Resources Management Research*, 2018, 1-12. <https://doi.org/10.5171/2018.322892>
3. Anah, S., Widayati, C. C., & W., A. (2020). The effect of transformational leadership style, work motivation and discipline on employee performance. *Dinasti International Journal of Digital Business Management*, 1(2), 290-301. <https://doi.org/10.31933/dijdbm.v1i2.159>
4. Andersen, J. A. (2018). *Managers' motivation profiles: Measurement and application*. SAGE Open. <https://doi.org/10.1177/2158244018771732>
5. Andersen, L. B., Bjørnholt, B., Bro, L. L., & Holm-Petersen, C. (2016). Leadership and motivation: A qualitative study of transformational leadership and public service motivation. *International Review of Administrative Sciences*, 84(4), 675-691. <https://doi.org/10.1177/0020852316654747>

6. Anderson, M. H., & Sun, P. Y. (2015). Reviewing leadership styles: Overlaps and the need for a new 'full-range' theory. *International Journal of Management Reviews*, 19(1), 76-96. <https://doi.org/10.1111/ijmr.12082>
7. Asghar, S., & Oino, I. (2018). Leadership styles and job satisfaction. *Market Forces*, 13(1), 1-13.
8. Avolio, B. J., & Bass, B. M. (2004). *Multifactor leadership questionnaire. Manual and sampler set (3rd ed.)*. Redwood City, CA: Mindgarden.
9. Bahmanabadi, S. (2015). *A case study of the impact of leadership styles on bank employees' job satisfaction* [Unpublished Bachelor's thesis]. Södertörn University.
10. Barbuto, J.E., Scholl, R.W. (1998). Motivation sources inventory: development and validation of new scales to measure an integrative taxonomy of motivation. *Psychological Reports*, 82. 1011- 1022. <https://doi.org/10.2466/pr0.1998.82.3.1011>
11. Barbuto, Jr., J. E. (2005). Motivation and transactional, charismatic, and transformational leadership: A test of antecedents. *Journal of Leadership & Organizational Studies*, 11(4), 26-40. <https://doi.org/10.1177/107179190501100403>
12. Barbuto, Jr., J. E., Fritz, S. M., Marx, D. (2002). A field examination of two measures of work as predictors of leaders' influence tactics. *The Journal of Social Psychology*, 142, 601-616. <https://doi.org/10.1080/00224540209603921>
13. Barbuto, Jr., J. E., Scholl, R. W. (1999). Leaders' motivation and perception of followers' motivation as predictors of influence tactics. *Psychological Reports*, 84, 1087-1098. <https://doi.org/10.2466/pr0.1999.84.3c.1087>
14. Brandon, C. (2015). McClelland's *need theory*. Boundless Management.
15. Chalfoun, F. & Davidaviciene, V. (2018). Internet and aging population. *International Journal of Humanities, Arts and Social Sciences*, 4(6), 227-234. <https://doi.org/10.20469/ijhss.4.10001-6>
16. Chandra, T., & Priyono, L. (2016). The influence of leadership styles, work environment and job satisfaction of employee Performance. *International Education Studies*, 9 (1), 131-140. <https://doi.org/10.5539/ies.v9n1p131>
17. Clipa, O., & Serban, M. G. (2018). Relations of style of leadership and achievement motivation for teacher. *Revista Romaneasca Pentru Educatie Multidimensionala*, 10(4), 55-64. <https://doi.org/10.18662/rrem/72>
18. Delegach, M., Kark, R., Katz-Navon, T., & Dijk, D. V. (2017). A focus on commitment: The roles of transformational and transactional leadership and self-regulatory focus in fostering organizational and safety commitment. *European Journal of Work and Organizational Psychology*, 26(5), 724-740. <https://doi.org/10.1080/1359432X.2017.1345884>
19. Deschamps, C., Rinfret, N., Lagacé, M. C., & Privé, C.(2016). Transformational leadership and change: how leaders influence their followers' motivation through organizational justice. *Journal of Healthcare Management: May 2016*, 61 (3), 194-213. <https://doi.org/10.1097/00115514-201605000-00007>
20. Djami, M. E. U, Hardhienata, S., & Tukiran, M. (2019). Improvement of job satisfaction through transformational leadership, personality, and achievement motivation by using scientific identification theory of operation research in education management (SITOREM). *International Journal of Managerial Studies and Research*, 7(4). <https://doi.org/10.20431/2349-0349.0704009>
21. Fiaz, M., Su, Q., Amir, I., & Saqib, A. (2017). Leadership styles and employees' motivation: Perspective from an emerging economy. *The Journal of Developing Areas*, 51(4), 143-156. <https://doi.org/10.1353/jda.2017.0093>
22. Hansen, J. A., & Pihl-Thingvad, S. (2019). Managing employee innovative behaviour through transformational and transactional leadership styles. *Public Management Review*, 21(6), 918-944. <https://doi.org/10.1080/14719037.2018.1544272>
23. Hofer J., Hagemeyer B. (2018) Social Bonding: Affiliation Motivation and Intimacy Motivation. In: Heckhausen J., Heckhausen H. (eds) *Motivation and Action*. Springer, Cham. https://doi.org/10.1007/978-3-319-65094-4_7
24. Ismail, U., Pervaiz, M. K., & Saif-ur-Rehman, M. (2020). Distributive justice towards innovative work behavior with mediating effects of human resource management practices in the hotel industry of Pakistan. *International Journal of Business and Administrative Studies*, 6(3), 136-149. <https://doi.org/10.20469/ijbas.6.10002-3>
25. Jam, F. A., Singh, S. K. G., Ng, B., & Aziz, N. (2018). The interactive effect of uncertainty avoidance cultural values and leadership styles on open service innovation: A look at Malaysian healthcare sector. *International Journal of Business and Administrative Studies*, 4(5), 208-223. <https://doi.org/10.20469/ijbas.4.10003-5>
26. Kehr H.M., Strasser M., Paulus A. (2018) Motivation and volition in the workplace. In: Heckhausen J., Heckhausen H. (eds) *Motivation and Action*. Springer. https://doi.org/10.1007/978-3-319-65094-4_19
27. Ma, X., & Jiang, W. (2018). Transformational Leadership, Transactional Leadership, and Employee Creativity in Entrepreneurial Firms. *The Journal of Applied Behavioral Science*, 54(3), 302-324. <https://doi.org/10.1177/0021886318764346>
28. Manik, E. (2016). The influence of transformational leadership on achievement motivation and organizational climate and employee performance. *International Journal of Academic Research in Business and Social Sciences*, 6(12). <https://doi.org/10.6007/IJARBS/v6-i12/2522>
29. Masa'deh, R., Obeidat, B.Y. & Tarhini, A. (2016). A Jordanian empirical study of the associations among transformational leadership, transactional leadership, knowledge sharing, job performance, and firm

- performance: A structural equation modelling approach. *Journal of Management Development*, 35(5), 681-705. <https://doi.org/10.1108/JMD-09-2015-0134>
30. McClelland, D.C. (1961). *The achieving society*. Free Press. <https://doi.org/10.1037/14359-000>
 31. McClelland, D.C. (1985). How motives, skills, and values determine what people do. *American Psychological Association, Inc.* 40(7), 812-825. <https://doi.org/10.1037/0003-066X.40.7.812>
 32. Metz, J. D. (2018). *The impact of achievement motivation, job satisfaction and work-life balance among retail managers*. <https://digitalcommons.pepperdine.edu/etd/992>
 33. Nucharee, S., & Teeradej, P. (2019). Roles of expectancy on employee engagement and job performance. *Journal of Administrative and Business Studies*, 5(2), 88-98. <https://doi.org/10.20474/jabs-5.2.3>
 34. Nwokocha, I., & Iheriohanma, E.B. (2015). Nexus between leadership styles, employee retention and performance in organizations in Nigeria. *European Scientific Journal, ESJ*, 11, 1-11.
 35. Ozcan, O., & Ozturk, I. (2020). Impact of organizational culture and leadership styles on employee performance: A research study on the banking industry. *Pressacademia*, 7(1), 45-55. <https://doi.org/10.17261/Pressacademia.2020.1187>
 36. Qurratul, A. (2018). Motivation, Commitment and Leadership skill in Affecting Performance Hospital Managers. *The Journal of Social Sciences Research, Academic Research Publishing Group*, 4(12), 707-710.
 37. Riedle, D. (2015). *Transformational vs. transactional leaders: How different leadership behaviors and communication styles affect levels of employee motivation in the financial industry*. <https://search.proquest.com/docview/1696043546?accountid=142908>
 38. Rose-Grant, L. (2016). *Exploring the relationships between leadership styles and job satisfaction among employees of nonprofit organizations* (Unpublished PhD thesis). Regents University.
 39. Rusliza Y., Fawzy, E. (2016). Leadership styles and organizational commitment: Literature review. *Journal of Management Development*, 35(2), 190-216. <https://doi.org/10.1108/JMD-01-2015-0004>
 40. Sayed, M. H. (2018). Employees satisfaction of government and non-government banks in Tangail City, Bangladesh. *Journal of Investment and Management*, 7(2), 53-58. <https://doi.org/10.11648/j.jim.20180702.12>
 41. Schuler, H., Thornton, G.C.III., Frintrup, A., Mueller-Hanson, R. (2002). *Achievement Motivation Inventory (AMI)*. Hans Huber Publishers.
 42. Sejera, S. G. (2018). Culturally derived leadership qualities: Dispositional resilience among societies. *Journal of Administrative and Business Studies*, 4(2), 81-89. <https://doi.org/10.20474/jabs-4.2.3>
 43. Sengphet, P., Hui, L., & Phong, L. B. (2019). The pathway to improve innovation capacity for Lao firms: The roles of transformational leadership and psychological resources of employees. *International Journal of Business and Administrative Studies*, 5(2), 224-239. <https://doi.org/10.20469/ijbas.5.10004-4>
 44. Sharma, P., Kong, T.T.C., & Kingshott, R.P. (2016). Internal service quality as a driver of employee satisfaction, commitment and performance: Exploring the focal role of employee well-being. *Journal of Service Management*, 27(5), 773-797. <https://doi.org/10.1108/JOSM-10-2015-0294>
 45. Subiyantoro, S., Sulistyono, E. T., Yulianto, N., & Prameswari, N. G. (2017). A study of the level of management knowledge of woodcraft artisans in Indonesia. *Journal of Advances in Humanities and Social Sciences*, 3(5), 238-246. <https://doi.org/10.20474/jahss-3.5.1>
 46. Triwahyuni, R. & Ekowati, V. M. (2017). The Effect of Employee Satisfaction on Employees Performance Through Organizational Commitment. *Management and Economics Journal (MEC-J)*, 1(1). <https://doi.org/10.18860/mec-j.v1i1.4525>
 47. Tung, H. T., Anh, N. T. V., Linh, N. T. T. & Hoi, L. T. B. (2019). The Factors Affect Job Satisfaction of Workers at Vietnam State Bank. *Journal of Economics and Business*, 2(3), 1-10. <https://doi.org/10.31014/aior.1992.02.03.143>
 48. Utomo, J., Nanere, M., & Sutono, S. (2017). The effect achievement motivation, leadership character and internal culture towards employee's performance a case corporate from Indonesia. *Jurnal Aplikasi Manajemen*, 15(1), 1-9. <https://doi.org/10.18202/jam23026332.15.1.01>
 49. Waleerak S., (2020). Factors affecting job satisfaction of employees in pharmaceutical industry: A case study of Thailand. *Sys Rev Pharm*, 11(3), 125-133.
 50. Yahaya, R. & Ebrahim, F. (2016). Leadership styles and organizational commitment: Literature review. *Journal of Management Development*, 35(2), 190-216. <https://doi.org/10.1108/JMD-01-2015-0004>