Motivation to Lead Among University Students: Influence of Perceived Self-efficacy, Leadership Experience, and Career Anchors

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ABSTRACT

The aim of this research study was to examine the connection between motivation to lead and its antecedents – general and leadership self-efficacy, career anchors, and leadership experience. We also wanted to examine how the antecedent variables will make a significant contribution to the explanation of motivation to lead and its dimensions of affective identity, social normative, and noncalculative motivation. This study utilised quantitative analysis survey methods to gather data. 151 respondents participated in the online survey (M = 41, F = 110), with the average age being 23.78 (SD = 3.17). All the participants were students of different universities in Europe (LU = 62, UNIRI = 42, UNIZG = 11, other = 36). The statistical data analysis showed motivation to lead and its dimensions significantly positively correlate to each other, and to the antecedent variables in the study, in accordance to the research hypotheses. Demographic variables of age, gender, and academic level are not significantly correlated to motivation to lead or its dimensions.

Contribution of general and leadership self-efficacy, general managerial career anchor, and leadership experience to the explanation of variance in motivation to lead was examined through four hierarchical analyses with motivation to lead and its subscales as dependent variables. The model which explained the highest percentage of variance is the model where the dependent variable was the result of the Motivation to Lead measure, where the predictors explained 45.2% of the total variance. Higher motivation to lead is more common among students with high general and leadership self-efficacy and more leadership experience.

This study provides useful insights into proximal and distal antecedents of leadership in university students. These findings can be used to improve educational programmes and organisational practices that aim to improve leadership attributes and ensure successful leadership outcomes in future leaders.

Key words: motivation to lead, antecedents, leadership self-efficacy, general managerial career anchor, leadership experience

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Sincerely,
Maja Jugovac & Jingyi Wu

1. INTRODUCTION

In the study of leadership, much focus has traditionally been placed on the characteristics and behaviours of established leaders. This approach has provided important insight into the characteristics that define good leadership. However, the development of leadership ability, particularly among individuals during university, has received less attention (Chan & Drasgow, 2001; Rosch & Collins, 2020). As industries and organisations change, the need for skilled leaders who are capable of handling complicated challenges from the early stages of their careers grows, as does the need for identifying who those future leaders will be. This necessity requires further investigation into the variables that motivate people to assume leadership positions. Leadership outcomes are, through motivation to lead, affected by personal characteristics, self-conceptualisation, personal beliefs and past experiences (Avolio et al., 2009; Badura et al., 2020). Exploring the motivation to lead means more than describing or understanding the aspirations of individuals, it requires an understanding of how those factors affect motivation.

Studies which have covered this topic focus mainly on adults, or do not give enough focus to their student participants and how the specifics of that population affect the established models of motivation and leadership outcomes. For example, students do not have the same amount of experience in leadership positions as established leaders, or the same influences on motivation as adult employees. There is a significant amount of potential future leaders among university students, and that population should not be ignored. Furthermore, the European student population has gone mostly unexplored. By concentrating on the early stages of university students' leadership development, that is on the antecedents of motivation to assume leadership roles, among university students in Europe our study aims to address these gaps.

We are looking to confirm the well established relationship between motivation to lead and belief in one's competency and leadership skills, as well as experience in leadership (Baum & Locke, 2004), on a university student population. We are also curious to see how students' orientation towards specific management and leadership tasks in a future job affects their motivation as well, given the lack of research in this area (Eva et al., 2019). All of these factors influence motivation to lead in different ways, which is why we consider them important to investigate. This is important to study because it allows for preparation and adjustment of leadership development strategies for effective leadership. Leaders who are prepared and motivated from the beginning of their careers are more necessary than ever because of the

complexity of the world in which we live in, as well as the rapid pace of technological advancement (Conger & Riggio, 2012.). Organisations and educational institutions committed to leadership development are and should be interested in learning how these motivational aspects and influences look like in student populations in order to better adapt their approaches. Future leaders can be better supported and given the resources they need to succeed in their leadership careers if we can identify and comprehend their motivating factors.

In this thesis, we explore the relationship of motivation to lead in different dimensions to its antecedents, examining how those factors impact motivation among university students in Europe. Insights gained from this can be used to conduct further research and construct more effective leadership development programmes. Identifying and understanding these variables allows educators and organisational leaders to better effectively develop prerequisites and leadership qualities in the next generation of leaders, ensuring they have the skills and confidence to navigate and lead in an increasingly complicated world.

1.1 Research Aim and Purpose

The purpose of our study is to identify and describe the relationship among university students' motivation to lead and the antecedents of motivation. Gaining knowledge of the early phases of leadership development is essential since it provides insight on how to better recognise, nurture, and prepare potential leaders in their student years. By exploring these connections, we contribute to the current research on leadership among student populations.

Our study will incentivise future research in the field, and consequently provide interested parties, such as university programs or organisations, with data which can help them recognize and develop future leaders. Utilising insights about factors which affect motivation, more successful leadership training programs can be created. Students will be better prepared to assume leadership positions in their future occupations by this in turn. Furthermore, organisations that want to hire and nurture young talent can create better onboarding and development programs on the basis of our findings and produce a new generation of capable leaders by learning more about what drives students to lead.

1.2 Research Question

The main question motivating this research is: *What is the relationship between motivation to lead and its antecedents?*

More specifically, we aim to find an answer to the question: *What is the relationship between motivation to lead and its dimensions, leadership motives, general and leadership self-efficacy, and the general managerial career anchor among university students, and how do these variables influence their future leadership potential?*

1.3 Outline of the Thesis

We start the thesis with the Introduction which describes the context of the research, the challenge and relevance of the research, and the aims of the thesis. This is followed by a literature review in the Theoretical Framework that consists of previous research on motivation to lead, including in-depth analysis of the construct among students, as well as its antecedents. This chapter includes a review of the constructs of general and leadership self-efficacy, as well as individuals' experience in leadership positions and the correlations of their experience to both self-efficacy and motivation to lead. Further, the chapter introduces the construct of career anchors and the possible connection of certain anchors to the construct of motivation to lead. Throughout the chapter, after the review of each construct, the research hypotheses are introduced. In the Methodology chapter we describe the methodological approach and measures utilised in the study, the process of obtaining participants and information about them, as well as the procedure used to collect data from participants. The Results chapter consists of the statistical analysis of the collected data, presenting the results of correlation, *t* tests, and hierarchical regression for the identified variables. In the Discussion, we present the results of the conducted study in regards to the stated hypotheses, putting the results into context. We discuss the implication of the results for the theory of motivation to lead and its correlates, as well as the implications for practice. Then, the chapter highlights the importance and contributions of the study, while pointing out the limitations of our research. Finally, the chapter ends with suggestions for future research. The Conclusion summarises the main findings of the study, as well as their practical implications for theory and contributions to research, ending with final remarks.

2. THEORETICAL FRAMEWORK

In the theoretical framework section, we draw on established theories within the fields of psychology, business management, and educational leadership to explore how motivation to lead and its correlates interact to influence leadership development among university students.

Leadership, defined as the process or ability to set a vision, motivate employees, efficiently manage resources, and maintain a cohesive strategy (Northouse, 2021). Leadership in universities is about more than just executive capabilities; it is also about cultivating a culture of creativity, accountability, and inclusiveness among students. Universities play an important role in nurturing future leaders by giving them opportunities to develop these talents via both academic and extracurricular activities (Astin & Astin, 2000). This is especially vital in nowadays globalised society when leaders have to manage the complex challenges and rapid technology advances.

Studying leadership at a university is especially important since it acts like a representation of the larger society in which students will ultimately operate and work. The interaction of various student groups offers a chance to develop inclusive and culturally sensitive leadership qualities (Dugan, 2011). According to studies, early leadership experiences have a huge impact on a student's self-efficacy and leadership efficacy, which are important indicators of future leadership participation (Komives, Lucas, & McMahon, 2013). Also, leadership studies help in identifying the early qualities and motives that predict successful leadership, allowing universities to design programmes that improve these characteristics in potential leaders (Chan & Drasgow, 2001).

Leadership development concerns the ability of the individual to take on leadership roles and perform effectively (Day & Dragoni, 2015). The formation and development of effective leaders is one of the fundamental factors behind creating functional leadership processes (Day et al., 2014). Zaccaro et al. (2013) categorise the attributes necessary for an individual to effectively take on leadership roles into three categories: cognitive, social, and motivational factors. Despite motivation playing a key part in leadership development and effective leadership outcomes, research in this area has been sparse (Badura et al., 2020; Santos & Porto, 2023). The motivational aspect is essential for leaders, since it allows them to manage challenges brought by their role and maintain effectiveness while utilising the other two categories of attributes.

The following section introduces the concept of motivation to lead and discusses it in greater detail, outlining the different dimensions of the construct and its relevance in leadership development. Then, we explore the antecedents of motivation to lead, their intercorrelations and connection to the construct of motivation among university students.

2.1 Motivation to Lead

An individual's desire to attain leadership roles and put in effort to fulfil the requirements of those roles is conceptualised as motivation to lead (Badura et al., 2020). It plays an important role not only in forming one's intention to assume leadership positions, but also in effective leadership outcomes later on. It is a core component of leadership process, with researchers placing it as an intermediary in the relationship between individual differences of leaders and leadership behaviours (DeRue et al., 2011; cited in Badura et al., 2020). Based on DeRue et al. (2011) and Kanfer's (1992; cited in Badura et al., 2020) ideas, Badura et al. (2020) introduce the Distal-Proximal Model of Motivation and Leadership, with motivation as a direct proximal antecedent to various leadership outcomes. Studies have shown that motivation to lead is a predictor of both leadership role occupancy and the development of leadership expertise (Arvey et al., 2007; Lord & Hall, 2005).

Even if the concept is acknowledged as an essential part of leadership development (Chan & Drasgow, 2001), researchers have not shown much interest in it lately. Partially, this is due to difficulties in conceptualisation and measurement of motivation to lead, and lack of clarity about the role of motivation in explaining variance in leader outcomes (Badura et al., 2020). Chan (1999) proposed the construct of motivation to lead (MTL) to encompass motivational attributes connected to effective leadership, renewing interest in this field of research.

Among different conceptualisations and measures, Chan and Drasgow (2001) introduced a three-dimensional model of MTL. They differentiate between Affective Identity (AI), Social Normative (SN), and Noncalculative (NC) motivation to lead. Affective identity motivation to lead concerns an individual's view of themselves as a leader, as well as their enjoyment in leadership roles. People with high levels of affective identity MTL are more intrinsically motivated to lead (Chan & Drasgow, 2001) and prefer being in leadership rather than follower roles. Students with strong AI MTL are more likely to serve in leadership roles in a variety of organisations, and are often more extroverted, social, competitive, and achievement-oriented in comparison with students who score lower in this dimension (Chan & Drasgow, 2001). In contrast, people's feelings of responsibility or obligation to the group are the primary sources

of social normative motivation to lead. Social normative MTL encompasses the feeling of duty connected to leadership. Individuals high on this dimension tend to believe there is not much flexibility in the roles of leaders and followers. Noncalculative MTL refers to the evaluation of costs and benefits of leadership by individuals before assuming such a position, or rather the lack of evaluation for those who score high in this dimension. Individuals high in NC MTL tend to view leadership opportunities favourably despite minimal personal benefits of potential costs of leadership. Some researchers also call this dimension calculative MTL to eliminate misunderstandings and complexity brought by the negation (Bobbio et al., 2006), defining people high on calculative MLT as individuals who evaluate the costs and benefits of a leadership role.

Critics of the model proposed by Chan and Drasgow (2001) point out that the three dimensions of MTL might function better when considered as separate constructs. Some researchers report inconsistencies in measuring MTL and point to the low correlation of the NC dimension to other dimensions of MTL as support for this viewpoint (Solinger et al., 2008). Despite criticisms of the MTL construct (Santos & Porto, 2023), the model is to this day still widely used in research and applied in practice (Bobbio et al., 2006). Alongside that, the MTL Scale is a fairly robust measure, validated through many studies on a variety of samples (Badura et al., 2020). We expect the three types of MTL to positively correlate with each other and with the general MTL measure.

> H1: MTL is significantly positively correlated to (a) AI MTL, (b) NC MTL, and (c) SN MTL. (d-f) The three types of MTL are significantly positively intercorrelated.

2.1.2 Motivation to Lead Among University Students

Understanding Motivation to Lead among college students is critical for shaping the future environment of leadership and workforce development. To better equip them to face the complicated challenges of the future, it is crucial to understand students' leadership motivation and invest in developing it (Cho et al., 2015; Komives et al., 2006). Motivation to assume leadership roles in the future can influence students' willingness to participate in leadership training and education (Chan and Drasgow, 2001), as well as the more proximal indicator of leadership emergence - intention to lead. Understanding the aspects that motivate students to lead allows for customisation of programmes to provide useful leadership development opportunities (Dugan & Komives, 2010). Gardner et al. (2020) and Northouse (2021) found

that opportunities for learning through leadership experiences play a role in developing students' leadership skills and self-awareness.

With the bulk of research on MTL being on adult participants in leadership positions (Badura et al., 2020), motivation to lead among students remained relatively unexplored, with comparatively few studies looking into student populations (Cho et al., 2015; Hamid & Krauss, 2013; Pepper, 2009; Rosch et al., 2015; all cited in Badura et al., 2020). Research on students confirms the impact of MTL on leadership outcomes,

According to research that explored varied educational settings, students from every background influenced by their own cultural and social realities may display MTL in various ways (Garcia et al., 2018). Kanfer (1992; as cited in Badura et al., 2020) considers demographic variables to indirectly impact leadership outcomes through more proximal motivational mechanisms, in this case AI, NC, and SN MTL. This underlines the necessity of implementing inclusive leadership programmes that address the varied motivational profiles of students from different demographics.

A metanalysis by Badura et al. (2020) found significant positive correlations between gender and all three types of MTL in multiple reviewed studies. In a study on US American university students, Cho et al. (2015) found significant effects of gender on motivation to lead, specifically in the Noncalculative (NC) dimension of MTL. Male participants were more likely to consider extrinsic motivators, such as benefits of taking on leadership roles, than female participants. The same study found no differences in AI or SN dimensions of MTL based on gender of participants. These findings were confirmed in a larger study by Rosch et al (2015), conducted on over thousand undergraduate students, which also found no gender differences between participants in motivation to lead. Researching MTL and leadership efficacy, Bobbio and Manganelli (2009) found no differences in MTL or its dimensions based on gender of participants when they examined a sample of students. Interestingly, when analysing motivation to lead among an adult sample, the authors found significant differences between genders, with men scoring higher than women on the AI and SN measures, while women scored higher on the NC subscale.

Given the fact that research with significant impact of gender was conducted mostly on adult samples, and the size of the study on student populations which found no significant effect of gender on MTL results among student populations, when conducting the study on university

students in Europe we expect no significant differences in MTL based on gender of participants.

> H2: There are no statistically significant differences between male and female participants in (a) MTL, or in the (b) AI, (c) NC, and (d) SN dimension of MTL.

Chan and Drasgow (2001) found that people's motivation to lead changes throughout their social learning process, but almost no research has been conducted on the impact of academic level on differences in motivation to lead. Cho et al. (2015) found that the year of study has an effect on motivation to lead among students. Students in higher years of their academic education scored higher on affective identity motivation to lead than students in lower years of university. This finding presumes that as students are progressing through their education their motivations for leading become more intrinsic than in younger students. This is consistent with research about the development of intrinsic motivation in students in higher years of university, showing that intrinsic motivation increases as students progress through academic years provided certain needs are met (Shin and Bolkan, 2021; Taylor et al., 2014). Shin and Bolkan (2021) find that students are more likely to acquire intrinsic motives for leadership in their later years of schooling, based on their stronger involvement and conviction in their talents.

If differences in motivation between students of different years are significant, then our assumption is that differences in motivation to lead exist between students of different academic levels – bachelor or master programmes.

> H3: There are no statistically significant differences between bachelor and master students in (a) MTL, but (b) there is a statistically significant difference between bachelor and master students in AI MTL, with master students being more motivated than bachelor students. There are no statistically significant differences between bachelor and master students in (c) NC, and (d) SN dimension of MTL.

Cho et al. (2015) proposed the age of participants as a possible explanation for the obtained differences, but the correlation between age and MTL done in the same study was not significant. According to the study by Hong (2005; as cited in Cho et al., 2015), younger age groups had a higher level of noncalculative MTL than older age groups, suggesting that individuals become more calculative and rational in regard to leadership as they age and progress through their education. The author acknowledges that, due to the study being conducted on a narrow sample of university students, this result may be misleading and come

as a result of sampling. For this reason, we hypothesise that age will have no connection to motivation to lead.

> H4: (a) Motivation to lead or (b-d) any of its dimensions are not significantly correlated to age of participants.

2.2. Antecedents of Motivation to Lead

In our desire to examine the characteristics and behaviours of future leaders, current university students, we have chosen to place the focus of our study on antecedents of motivation to lead, rather than the leadership outcomes.

Badura et al. (2020) examined the relationship between the three dimensions of MTL, as well as the relationship of all types of MTL to potential antecedents of the construct. A number of antecedents have been identified as theoretically relevant to motivation to lead (DeRue et al., 2011; Triandis & Gelfand, 1998; all cited in Badura et al., 2020), including demographic variables, personality characteristics, self-concept traits, intelligence, and cultural values. Besides touching on cultural and demographic influences, available through demographic data collected about our participants, we chose to focus on self-concept traits, past experiences, and introduce career orientation as some of the key antecedents of motivation to lead among students. These variables have been chosen for their importance to the construct of motivation to lead and the value of further exploring their connection to motivation.

Self-efficacy is one of the more robust correlates of MTL, as well as a strong predictor of variance in MTL. Bandura (1997) claims it is a critical factor in understanding individuals' motivations to assume leadership roles. Moreover, some researchers situate self-efficacy between individual characteristics and MTL variables (Yeo & Neal, 2008; cited in Badura et al., 2020), making it a key variable in any research on motivation to lead. It would be remiss of us to study antecedents of motivation to lead and not examine the role self-efficacy plays.

Individuals' career orientation or anchor was chosen as the individual characteristic of participants to be examined because previous research on the connection of career anchors and MTL is all but non-existent, despite the constructs being related to similar outside variables and antecedents (Tiraieyari et al., 2014). Understanding career orientation helps in forecasting leadership motivation since it incorporates both intrinsic and external elements that motivate people to seek positions of leadership within their career processes. We are interested in

exploring the relationship between a specific anchor and motivation to lead and potentially uncovering a connection that hasn't been previously explored.

Lastly, previous leadership experience is one of the stronger predictors of motivation to lead and addresses the behavioural aspect of motivation (Avolio et al., 2021; McCormick et al, 2002). Experience is connected not only to motivation to assume similar roles and repeat experiences, but also to an individual's belief in their own capabilities for those tasks. Past experiences, particularly in leadership situations, influence a person's impression of their abilities and willingness to lead. We are curious how leadership experience and its relationship to motivation to lead will play out among a population that has considerably less experience in leadership roles in the workplace – university students, and if that difference will affect the connection between the two in any way.

In the following part we will provide a review of the aspects that affect motivation to lead, specifically general and leadership self-efficacy, general managerial career orientation, and past leadership experience. We will focus on the way these constructs interact with MTL and its dimensions in student context and posit hypotheses for our study.

2.2.1 Self-efficacy

Self-efficacy concerns the strong personal belief in skills and capabilities of an individual to mobilise their motivation and cognitive resources, initiate a task, and lead it to success (Bandura, 1997). Unlike locus of control, which concerns belief about one's power over the outcomes of situations, self-efficacy is confidence about one's ability to accomplish tasks. (Boyd & Vozikis, 1994; cited in Bobbio & Manganelli, 2009). Self-efficacy can be generalised to a wide variety of tasks or performances - general self-efficacy (GSE) (Chen et al., 1998; Chen et al., 2013), but it can also be domain specific and vary across tasks and situations (Wilson et al., 2007). Researchers noted that general self-efficacy tends to spread to specific situations as well, with individuals who have higher general self-efficacy expecting to succeed in specific domains more often than those with lower perceived GSE (Eden, 1988; Sherer et al., 1982; all cited in Chen et al., 2013). A growing amount of research has focused on self-efficacy in domain-specific areas (Bobbio & Manganelli, 2009).

Leadership self-efficacy (LSE) could be defined as one's judgement of their success in leadership through setting directions for group work, building relationships with followers in order to change group goals, and working with people to overcome obstacles (Paglis & Green, 2002). Bobbio and Magnanelli (2009) describe it as a specific form of efficacy related to

leadership behaviours and individual self-efficacy beliefs to successfully take on and accomplish leadership roles in groups, naming several important leadership functions and crucial competences which LSE encompasses. The first area refers to leadership as change and adaptation, where leaders have the responsibility of setting a direction for the group in a rapidly changing environment (Paglis & Green, 2002). The second area of leadership concerns the credibility and consensus of the group about a leader, while the third area includes social and management competences, self-awareness, and confidence (Northouse, 2021). Finally, the fourth conceptual area refers to influence over group members, ability to implement new ideas and change behaviour of group members (Brown, 2000; Yukl, 2006).

Since the construct of general self-efficacy is a broader construct than the domain-specific leadership self-efficacy, but they still share a conceptual background (Bobbio & Manganelli, 2009), and GSE experiences "bleed-over" to efficacy beliefs in different contexts, our assumption is that the two will be positively correlated to each other.

> H5: (a) GSE and LSE are significantly positively correlated to each other. Participants with higher general self-efficacy also exhibit higher leadership self-efficacy. GSE is significantly positively correlated with (b-g) all subscales of LSE.

The construct of self-efficacy has been named the central motivational construct essential for prediction of behaviours (Ng et al., 2008), as individual's beliefs about their ability to complete specific tasks or goals strongly affect their motivation to engage in those tasks (Chan & Drasgow, 2001). Similarly, the construct of LSE is highly correlated to leadership outcomes. LSE (leadership self-efficacy) as the strongest predictor of leadership behaviour, and some conceptualisations place it as a direct antecedent of MTL (Yeo & Neal, 2008; cited by Badura et al., 2020). Individuals who perceive themselves as more self-efficacious are more likely to take on leadership roles (Bobbio & Manganelli, 2009).

Research points to the existence of strong correlations between self-efficacy and motivation to lead in a variety of contexts (Smith & Betz, 2000; Chan & Drasgow, 2001; Badura et al., 2020). Studies conducted on university students support the connection of self-efficacy and motivation to lead (Rosch & Collins, 2020). Moreover, self-efficacy has a far-reaching effect on students' motivation to lead, as students with higher levels of self-efficacy tend to actively seek out leadership opportunities and perform increased confidence in their leadership capabilities (Stajkovic & Luthans, 1998).

We expect both general and leadership self-efficacy to positively correlate with MTL and all its dimensions, with LSE and MTL having somewhat higher correlations than GSE and motivation to lead (Bobbio & Manganelli, 2009)., as leadership self-efficacy is more specific to the leadership field.

> H6: GSE is significantly positively correlated with (a) MTL, (b) AI, (c) NC, and (d) SN types of MTL. Participants with higher perceived general self-efficacy will score higher on MTL and its subscales. GSE will have a significant positive contribution to the explanation of variance in (e) MTL, (f) AI, (g) NC, and (h) SN types of MTL.

> H7: LSE is significantly positively correlated with (a) MTL, (b) AI, (c) NC, and (d) SN types of MTL. Participants with higher perceived leadership self-efficacy will score higher on MTL and its subscales. LSE will have a significant positive contribution to the explanation of variance in (e) MTL, (f) AI, (g) NC, and (h) SN types of MTL.

2.2.2 Career Anchors

Career anchors are the important elements of a person's career self-concept which cover needs, values, and talents that influence people's careers selections and other work-related factors (Schein, 1975; 1990). Schein (1990) states that individuals develop career preferences based on their increasing awareness of interests, knowledge, and concept of self.

Schein's (1990) model of eight different career orientations or anchors represents the wide range of motivations and values that drive individual career choices. According to the model, people who succeed in certain technical or functional domains lean towards the technical/functional anchor because they find fulfilment in refining their knowledge and putting their abilities to use rather than seeking for general organisational positions. Those who are inclined towards the autonomy/independence anchor in their work avoid environments that are overly structured or controlled. On the other hand, individuals concerned about job security in the workplace are likely to gravitate to the security/stability anchor. Entrepreneurial creativity is a quality possessed by those who are eager to take chances, develop, and build new businesses, and who perform well in the fast-paced, uncertain world of startups and company turnarounds. Contributing to society in a beneficial way, whether through social work or education, is fulfilling for those with a work/dedication to a cause anchor. People who like problem-solving, frequently in high-stakes or dangerous situations, are the ones who have a strong pure challenge anchor. Those who value flexibility and work-life balance in order to maintain personal well-being and family obligations with job objectives are described by the

lifestyle anchor (Schein, 1990). Finally, individuals with a strong general managerial anchor (GMCA) typically aim for positions of leadership where they can have an impact on various organisational activities, they demonstrate a strong need for leading and managing people and situations (Shazla, 2015). GMCA is connected to effective leadership outcomes in a number of studies. Suutari and Taka (2004) find strong general managerial anchors among managers and individuals in leading positions. Managerial-focused people are especially drawn to organisational cultures that prioritise developmental and transformational leadership strategies and allow for strategic input (Day et al., 2008; Hannah et al., 2011). These surroundings allow people to engage in their leadership roles more, increasing their effectiveness and satisfaction. Tiraieyari et al. (2014) postulate that an individual's interests in the content of their job, such as leadership tasks, are related to their motivation to take roles that might enable them to fulfil those interests, such as leadership roles. Their findings show that career orientations act as a significant predictor of MTL. The same study by Tiraieyari et al. (2014), conducted on a sample of over 700 undergraduate students in Malaysia, examined the connection between career orientations and leadership motivations in student populations and found variable results, with correlation varying between different anchors. Some career orientations had no significant correlation to MTL measures, and some showed significant but weak correlation, like technical, services/dedication, security/stability, entrepreneurial creativity, pure challenge, and lifestyle career orientations. The strongest correlation of MTL and career anchors was between the general managerial orientation (GMCA) and MTL, where a moderately strong positive correlation was found. Similarly, a regression analysis found that the general managerial and pure challenge career orientations were the only significant predictors of MTL, with GMCA explaining over 40% of the variance in MTL while pure challenge explained a much smaller 11%.

Due to a lack of research exploring the connection between career anchors and MTL, as well as the weak correlations between orientations and motivation found in one of the few conducted studies, we have chosen to focus on the anchor with the strongest relationship to MTL - general managerial career anchor. We hypothesise that participants' scores on this measure will positively correlate to their motivation to lead.

> H8: GMCA is significantly positively correlated with (a) MTL, (b) AI, (c) NC, and (d) SN types of MTL. Students with stronger general managerial career anchor are more motivated to lead. GMCA will have a significant positive contribution to the explanation of variance in (e) MTL, (f) AI, (g) NC, and (h) SN types of MTL.

Besides a connection between GMCA and MTL, general managerial career anchor is closely related to self-efficacy (Bandura, 2013), with a stronger emphasis on LSE. Chan and Drasgow (2001) note that people with a strong managerial orientation are more likely to have high leadership self-efficacy and actively pursue leadership development opportunities. We assume that the correlation of general managerial career orientation to both general and leadership self-efficacy will be found among the sample of university students in this study.

> H9: GMCA is significantly positively correlated with (a) GSE, (b) LSE. Participants with stronger general managerial career anchors exhibit higher perceived general and leadership self-efficacy.

2.2.3 Leadership Experience

Previous leadership experience plays an important role in establishing people' preparation for leadership roles, giving them the abilities, insights, and confidence required for effective leadership (McCauley & Van Velsor, 2004). People who have been in leadership roles before have a wealth of knowledge and experience to learn from, allowing them to face complicated organisational challenges head-on and make effective decisions more effectively than people with little to no experience in leadership roles (Antonakis et al., 2003). Research highlights the importance of hands-on leadership experiences in preparing individuals for the demands of leadership positions. Gardner et al. (2020) and Avolio et al. (2021) found that people with past leadership experience had greater levels of leadership efficacy and were better able to negotiate complicated organisational dynamics in a variety of situations. In addition, important leadership qualities like communication, decision-making, and team management are developed by earlier leadership experience. An individual's ability to inspire and motivate teams, facilitate collaboration, and resolve conflicts—skills that are crucial for driving organisational success—is enhanced by previous experience in leadership, according to Day et al. (2015). Further, leaders gain self-awareness from their leadership experiences, which helps them adjust their approaches to the specific requirements of their teams and companies and be more effective leaders (Van Velsor et al., 2018).

Former leadership experience acts as a motivator for increasing people's motivation to lead, perceived self-efficacy, and alignment with career anchors. According to Judge and Bono (2004) and Murphy and Johnson (2011), individuals who have been exposed to leadership responsibilities are inclined to have a strong motivation to lead, which is motivated by their positive experiences and achievements in past leadership initiatives. These individuals have a

direct understanding of the rewards and challenges of leadership, which drives their innate motivation to pursue additional leadership chances.

Leadership experience (LE) is strongly connected to all types of motivation to lead (Badura et al., 2020; Chan & Drasgow, 2001). Cho et al. (2015) find that individuals who score higher on AI MTL have more past leadership experience, while Chan et al. (2001) report on the positive correlation between SN MTL and leadership experience. We expect to find a positive correlation between previous leadership experience and motivation to lead in all dimensions.

> H10: LE is significantly positively correlated to (a) MTL, (b) AI, (c) NC, and (d) SN types of MTL. Students with more previous leadership experience will demonstrate greater motivation to lead in all dimensions than those with less experience. LSE will have a significant positive contribution to the explanation of variance in (e) MTL, (f) AI, (g) NC, and (h) SN types of MTL.

It's obvious that past leadership experience positively affects future leadership success. Not only does it strengthen one's leadership capabilities, but it also raises one's self-efficacy and resilience, which are vital for succeeding in unpredictable and ever-changing contexts (Luthans & Avolio, 2003; Bono & Judge, 2004). Organisations with a priority on leadership development and experience recognition are positioned to develop leaders who are self-assured, knowledgeable, and able to lead the team to motivate innovation, collaboration, and success. People' perceived self-efficacy, or confidence in their ability in carrying out leadership roles, is improved by leadership experience. Higher levels of confidence in leadership abilities were observed among those who have effectively navigated leadership challenges in the past, according to Avolio et al. (2022). This confidence is built through a process of experiential learning and feedback in which people gradually strengthen their leadership competency and techniques in response to a variety of situational demands (Stajkovic & Luthans, 1998). McCormick et al. (2002) also found the construct of LSE to be in correlation with the number of experiences in the leadership role as well as the frequency with which individuals attempt to assume that role. A positive correlation between GSE, LSE and leadership experience was found by Bobbio and Manganelli (2009), contributing to the findings that show prior leadership experiences play a factor in improving one's motivation to lead.

In accordance with research, we expect to find significant correlations between prior leadership experience and general and leadership self-efficacy of participants.

H11: LE is significantly positively correlated with (a) GSE and (b) LSE. Participants with more previous leadership experience will have higher general and leadership self-efficacy.

Additionally, career anchors, or their basic values and motivations that direct their career decisions, are formed by leadership experience. According to Schein (1990), successful leaders tend to transition into roles that mirror their previous leadership responsibilities, Those with an experience of success in managerial careers might gravitate towards a general managerial career anchor, concentrating on leadership positions that offer opportunities for similar roles and tasks.

H12: LE is significantly positively correlated with GMCA. Participants with more previous leadership experience will have a stronger general managerial career anchor.

2.3 Summary of Theoretical Framework

In this section, we gave a brief overview of the theoretical framework guiding our research. We reviewed the existing literature on motivation to lead (MTL) and its dimensions as factors which impact leadership outcomes. Affective identity (AI), social normative (SN) and noncalculative (NC) types of motivation to lead all capture different aspects of MTL and correlate to the general construct. Research among student populations shows that motivation to lead is not expected to be under the influence of gender or age of individuals, but rather has other predictors. Following this, we explored specific antecedents of MTL: general and leadership self-efficacy, career anchors, and leadership experience as the strongest predictors of motivational variation. Self-efficacy encapsulates the personal belief in one's capabilities to initiate tasks and successfully lead them to completion. General self-efficacy (GSE) is a broader construct addressing beliefs in a variety of contexts, while leadership self-efficacy (LSE) focuses on a narrower domain concerning leadership behaviours and roles. The two constructs are closely related and show positive correlations to MTL. Career anchors are needs, values, and talents that affect job decisions. General managerial career anchor (GMCA), connected to a strong need for leadership and management of people and situations, positively correlates to motivation to lead and self-efficacy measures, as well as leadership experience. Particularly in academic environments, previous leadership experience (LE) influences students' MTL and self-efficacy, which are essential for their future leadership roles.

The literature is extensive on adult populations, but MTL can express itself differently among employees and current leaders, as research shows differences in the relationships of antecedents

to MTL, such as the significant correlation between gender and MTL in the adult sample being absent in the student population. Studies which have been done on university students' MTL have mostly been conducted on US or Asian students, while the population of European university students has not been well researched. This is a knowledge gap we aim to fill with our findings.

The purpose of our study is to explore the relationship between motivation to lead and its antecedents, self-efficacy, career anchors, and leadership experience, among university students. Specifically, our objectives are to: examine the correlation between MTL and its subscales (AI, SN, and NC MTL); examine the difference in MTL and its subscales based on demographic variables (gender, age, and academic level); examine the correlation between MTL and its subscales to the antecedents of general and leadership self-efficacy, general managerial career anchor, and leadership experience; correlation between all antecedent variables; and examine the contribution of antecedent variables in explaining MTL and its dimensions.

To fulfil our objectives, we propose several hypotheses based on previous research in the field and currently available knowledge. We expect MTL and its subscales to be significantly positively correlated to each other; we do not expect significant differences in MTL and its subscales based on demographic variables of age, gender, and academic level. Then, we expect to find significant positive correlations between antecedent variables and MTL and its subscales, as well as significant contributions of those variables to the explanation of MTL and its subscales. Finally, we expect positive correlations between the antecedent variables of general and leadership self-efficacy, general managerial career anchor, and leadership experience.

In conclusion, our theoretical framework gives a comprehensive understanding of the relationship between antecedent variables and motivation to lead among university students. Through conducting quantitative research, we aim to give more reliable insight to the variables that influence motivation to lead.

3. METHODOLOGY

This section will present the methodology of our study, beginning with the quantitative research approach we have chosen to best answer the research question of the relationship between motivation to lead with self-efficacy, career anchors, and leadership experience. Then, we will describe the research design of the study, from the instruments utilised for the purposes of answering our research question to the process of conducting our research, as well as introduce the participants whose responses we analysed. Then, we will address the problems and challenges faced while conducting our study.

3.1 Research Design

In order to effectively research the relationship between motivation to lead and its antecedents among university students, we have opted for a quantitative approach.

Quantitative studies offer a numerical description of the construct being investigated through statistical analysis. They belong to the category of empirical research that rests on the basis of theory or hypothesis which they aim to test (Milas, 2009).

Unlike a qualitative analysis which is exploratory and relies on a deeper description of the phenomena, often being utilised as a first step in getting to know and defining the problem area, our approach aims to add insight to an already defined problem. A somewhat shallower depth of research is a drawback of the quantitative approach, but since motivation to lead is a well-researched area, explorative studies are not the priority. Instead, we want to focus on the relationship between already well-defined phenomena in new contexts. A broader scope and greater number of participants in quantitative research offers the ability to generalise to a greater degree than with qualitative methods (Milas, 2009), which serves our purpose well.

Since research relies on numerical analysis, and the data is coded according to already standardised definitions, quantitative methods also offer greater accuracy of results and higher objectivity (Aron et al., 2013). A great feature of quantitative methods is that research can be repeated in the future or analysed in comparison to similar research for greater insight and validity of results.

Since we are looking into attitudes and opinions of a certain population – university students, their intentions regarding leadership, and examining how widespread our findings are among them, we decided on conducting a survey. The survey method concerns the non-experimental type of quantitative research design where the source of data is self-expressed opinions,

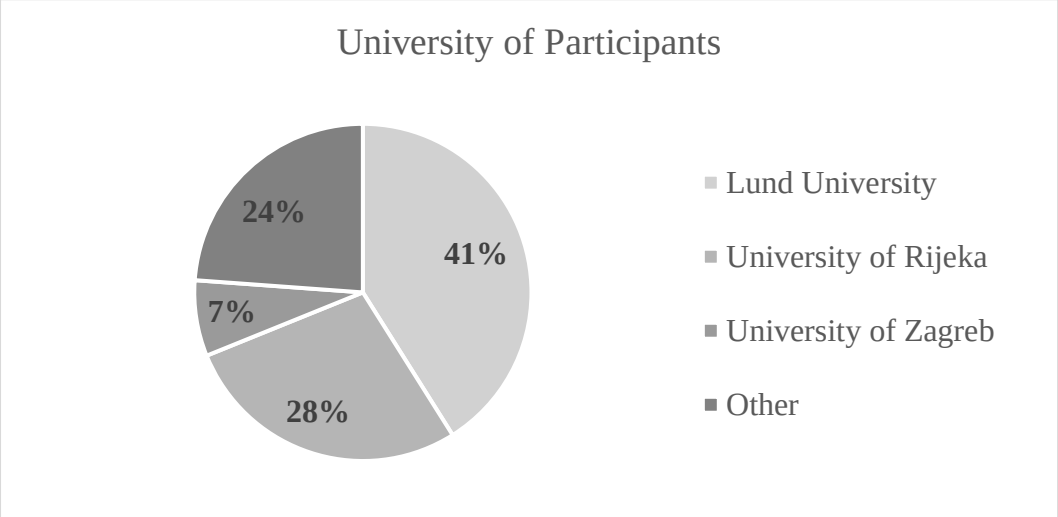
thoughts, feelings, attitudes, or behaviour, gathered through a standardised set of questions (Milas, 2009).

Furthermore, surveys are fast, easy to use and to analyse, capable of gathering a large number of responses in a small amount of time with a relatively simple instrument in comparison to other quantitative methods. For a sample of university students across different institutions in Europe, this is the most appropriate method.

3.2 Participants

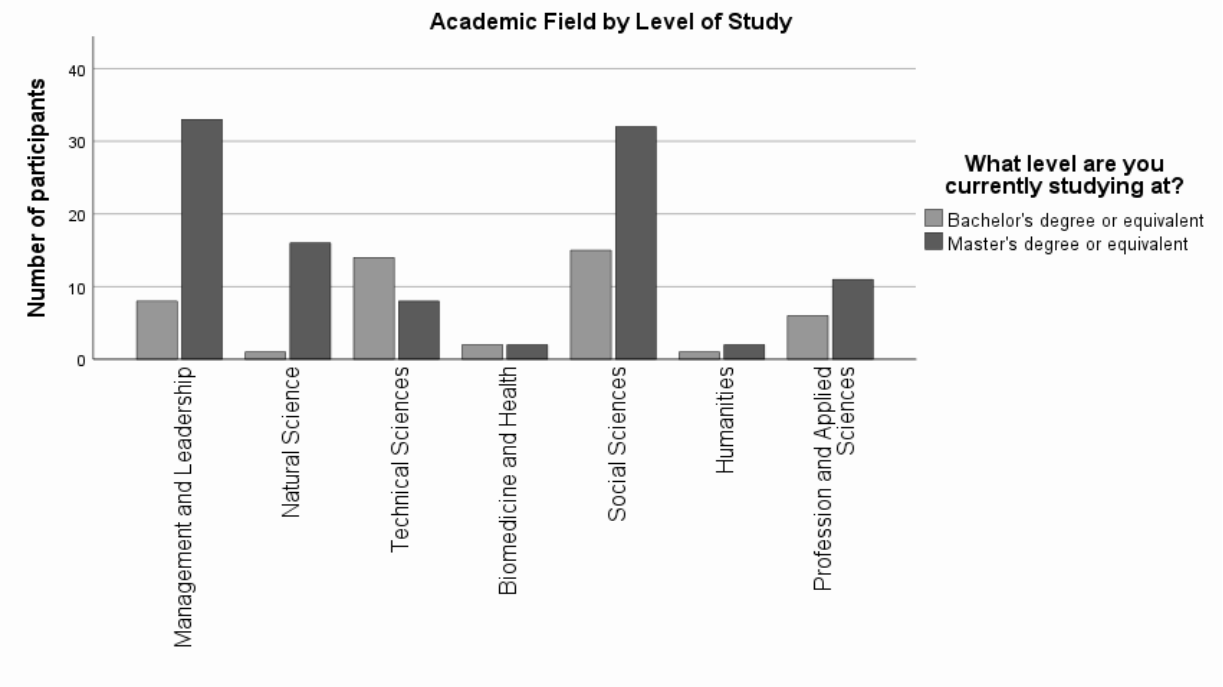
The participants in this study were 151 university students from different universities (62 students from Lund University, Sweden, 42 from University of Rijeka and 11 from University of Zagreb, Croatia, with 36 students from various other universities and countries), as shown in Figure 1. Out of all respondents, there were 110 female (72.8%) and 41 male (27.2%) participants. 104 participants (68.5%) were Master students, while the rest were Bachelor students (31.4%). The participants were between 18 and 40 years old (M = 23.78, SD = 3.17).

Figure 1. Participants divided by the university they attend, shown in percentages (%)



Talking about their academic fields of study, 41 participants (27.2%) were students of management and leadership related programmes, 47 were students in the field of social sciences (31.1%) and 17 in natural sciences (11.3%), 22 students in the technical field (14.6%), 17 participants were in the field of applied sciences or professions (11.3%), 4 people studied biomedicine and health (2.6%), and finally, 3 participants studied humanities (2%). The academic field breakdown by academic levels is shown in Figure 2.

Figure 2. Academic field of participants dependent of their academic level



3.3 Instruments

For the purposes of this research, besides collecting demographic data (age, gender, university, academic level, and field of studying), participants were given several measures to complete. The survey we have prepared utilises several existing measures, constructed and validated by researchers on similar populations. The measures are chosen for their suitability in obtaining the data needed to answer the research question of our study, as well as for their high validity, reliability, and fit with other measures in our survey.

Firstly, leadership experience was assessed through three statements adapted from Bobbio and Manganelli (2009). The first two items ("*In the past, how often have you occupied leadership positions in groups, associations, institutions, etc. (e.g., leader in a sport team, coordinator of cultural or political groups, leader on a work project, etc.)?*"; "*How frequently in your current position are you required to assume leadership roles or positions?*") were on a Likert scale ranging from 1 ("Never") to 5 ("Very Often"). The items assess an individual's experience in leadership. The third item ("*Carefully consider your personal experience – at university, in extra-curricular activities or at work. How much experience in leadership roles do you have in comparison with your peers (e.g., the people of your age)?*") assesses one's experience in comparison to their peers on a scale from 1 ("Almost no leadership experience compared to my peers") to 5 ("A number of leadership experiences largely above average compared to my

peers"). These questions were chosen for their brevity in addressing the relevant aspects of leadership experience and the scale format of answering, which appears in later instruments too.

The Motivation to Lead Scale (Chan & Drasgow, 2001) was developed to assess different dimensions of individuals' motivation to lead. The Scale contains 27 items, equally divided into three subscales: affective-identity (AI), non-calculative (NC), and social-normative (SN) dimension. The affective-identity subscale measures the degree to which an individual enjoys leadership roles and views themselves as a leader (e.g. "*I am the type of person who likes to be in charge of others*"). The non-calculative subscale measures the degree to which one views leadership opportunities positively despite minimal personal benefits or potential costs of leadership (e.g. "*I would agree to lead other even if there are no special rewards or benefits with that role*"). The social normative subscale considers how much one views leadership as a duty and responsibility (e.g. "*I feel that I have a duty to lead other if I am asked*"). Participants were required to express their agreement with the presented items on a Likert type scale where 1 stands for "Strongly Disagree", 2 for "Disagree", 3 for "Neither Agree nor Disagree", 4 for "Agree", and 5 for "Strongly Agree". Composite scores were calculated for each of the three subscales by averaging the scores on all items for the total MTL score or each of the 9 items within a subscale after reverse coding the needed items. The Scale exhibits satisfying metric characteristics, with reliability of the measure and subscales ranging from .74 to a high .90 (Chan & Drasgow, 2001; Bobbio & Manganelli, 2009). Besides this, MTL Scale is the primary way of assessing the motivation to lead in research, which is why it was chosen for our study as well.

Two self-efficacy measures were utilised. General self-efficacy was measured using the General Self-Efficacy Scale (Chen et al., 2001). The Scale aims to assess one's perception of their ability to perform successfully in a wide variety of achievement situations through an eight-item measurement, where participants express their agreement to the statements on a Likert scale from 1 to 5. An example of the items is "*When facing difficult tasks, I am certain that I will accomplish them"* and *"I am confident that I can perform effectively on many different tasks*". The Scale has satisfactory metric characteristics, and good internal consistency (α = .85 - .88) across different studies (Chen et al., 2001), which is why we elected to include it in the survey. General self-efficacy is not the main construct we are observing, so a short, single factor measure is sufficient. Besides, online surveys need to be as succinct as possible to avoid respondent fatigue, so a short measure of GSE was preferable to other, longer options.

Leadership self-efficacy was assessed with the English version of the Leadership Self-Efficacy Scale created by Bobbio and Manganelli (2009), which aims to address the most important leadership functions and competencies. The Scale consists of 21 items which cover six dimensions of leadership self-efficacy: Starting and leading change processes in groups (LSE1), Choosing effective followers and delegating responsibilities (LSE2), Building and managing interpersonal relationships within the group (LSE3), Showing self-awareness and self-confidence (LSE4), Motivating people (LSE5), and Gaining consensus of group members (LSE6). The first subscale, Starting and leading change processes in groups, consists of three items (e.g. "*I can usually change the attitudes and behaviours of group members if they don't meet group objectives*"), the second subscale, Choosing effective followers and delegating, has four items (e.g. "*I would be able to delegate the task of accomplishing specific goals to other group members*"). The third subscale, Building and managing interpersonal relationships within the group, consists of three items (e.g. "*I can successfully manage relationships with all the members of a group*"), while the fourth subscale, Showing self-awareness and self-confidence, is the biggest with five items (e.g. "*I can identify my strengths and weaknesses*"). The fifth, Motivating people (e.g. "*I can usually motivate group members and arouse their enthusiasm when I start a new project*"), and sixth subscales, Gaining consensus of group members (e.g. "*I can usually lead a group with the consensus of all members*"), both consist of three items. Participants are given the instruction to express their agreement with the presented statements on a Likert type scale from 1 to 5, where 1 stands for "Strongly Disagree", 2 for "Disagree", 3 for "Neither Agree nor Disagree", 4 for "Agree", and 5 for "Strongly Agree". Composite scores were calculated for the whole Scale, and for each of the six subscales by averaging the scores on items within the appropriate subscale. The LSE Scale exhibits satisfying metric characteristics, good reliability of the measure and each subscale, ranging from .74 to .91 (Bobbio & Manganelli, 2009). Out of all leadership self-efficacy scales, this scale was chosen because it is thorough, and encompasses different areas of leadership self-efficacy best.

To assess the orientation of participants towards leadership and managerial aspects of work, the General Managerial subscale from the Short-Form Measure of Career Orientations by Igbara and Baroudi (1993) was utilised. The Measure itself is an attempt to create a shorter version of the 40-item Career Orientation Inventory (Schein, 1991), and covers all eight career anchors of the original. For the purposes of this research, only the relevant subscale was used, with three statements assessed on a five degree scale from 1 ("of no importance) to 5 ("of

central importance"). An example of the items used is "*The process of supervising, influencing, leading, and controlling people at all levels is…*". The Measure shows satisfactory metric characteristics. We use the subscale of the measure because the entire instrument is too long and tedious to fill out, especially when it is not our main focus of research, and since past research indicates that the general managerial anchor shows the highest connection to MTL.

3.4 Procedure

The study was conducted on an available sample of students from various academic fields studying at the university level at different universities in Europe. Participants were gathered by publishing the questionnaire link in student groups, forums, and websites for university students, by sending the questionnaire to individual student email addresses or key people with access to student emails (such as professors or student representatives) with the request of forwarding the questionnaire. Other participants were obtained through the *snowball* method, by requesting that participants forward the survey invitation to their acquaintances who are also university students. By clicking on the questionnaire link (https://limesurvey.srce.hr/285582?lang=en), participants accessed the questionnaire individually from their own devices (mobile phones, computers, or laptops). The questionnaire was created in LimeSurvey, an online survey software. After reading the instructions and purpose of the study, they gave their consent to participate by clicking on the button "Next". To fill out the questionnaire participants needed approximately 10 minutes. Their task was to fill out the demographic data, including information about their academic field and level of education, and data about their work and leadership experience. Then, participants filled out the Motivation to Lead scale (Chan & Drasgow, 2001), as well as the General and Leadership Self-Efficacy scales (Chen et al., 2001; Bobbio & Magnanelli, 2009), and the General Managerial subscale of the Short-From Measure of Career Orientations (Igbara & Baroudi, 1993). Every measure was preceded by a short explanation and instruction on the answering method. The participants' task was to evaluate their agreement with each item on the Likert scale from 1 to 5. Their answers were scored, and recoded if needed, for further analysis.

3.4 Challenges of Conducting the Study

There are several challenges that come along with conducting quantitative research, and survey research specifically.

When initially constructing a survey, a potential danger is not accounting for all outside variables that can influence the variables in the study (Aron et al., 2013). We mitigated this

with a careful analysis of past research, looking into what studies have included in their own measures. We accounted for possible influence of demographic variables, such as age or gender, by including them into the statistical analysis. This way, we aim to avoid incorrect interpretations of our results. Additionally, online surveys need to be focused and succinct, not longer than absolutely necessary (Milas, 2009), so we need to be careful about the number of questions included in the survey. For this reason, we opted for shorter versions of several scales, such as GSE and GMCA.

In the next step, while conducting research, a danger of choosing surveys as the method of gathering data is the low response rate (Milas, 2009). Despite sending the survey to a large number of students, student groups and class emails, the number of students who filled out the survey completely was small. Talking about the sampling method, it is extremely important that we try to capture an accurate representation of the population. A common danger in online surveys is the selectiveness of participants caused by the fact that every respondent needs to be technologically capable and able to fill out an online questionnaire. This was not a problem in our case since the population of university students, which we aimed to capture, is technologically proficient and uses technology daily in their studies.

Study participants, particularly in surveys when there are no researchers to encourage honest answers, are sometimes inclined to give socially desirable answers or "good" answers they think the researchers want to hear (Aron et al., 2013), which can skew the results. To avoid this, the measures we included used several purposefully opposite sounding statements to confuse the participant on what the desired answer is, and we worded the instructions in a way which avoids any leading or subjective language. Furthermore, the order of questions in a survey can influence participants' responses, such as them becoming more fatigued as they progress through the survey and giving less thought-out answers (Milas, 2009). In our survey we aimed to solve this by randomising the order in which items within each measure were presented, while keeping the items grouped together thematically.

Finally, when analysing and interpreting collected data, one needs to be aware of the somewhat limited value of the results (Aron et al., 2013), given that they are only numerical and give a "bare-bones" overview of an individuals' true state or opinion. We point out that self-evaluation scales, which contain statements participants express their agreement with, are the main method of predicting behaviour in research. It has been proven that people have the

capability to assign numbers to their own experiences fairly accurately, so this method is satisfactory to use in our own study as well.

A challenge of small sample sizes is the generalisation of results (Milas, 2009). The degree to which the results obtained with a particular sample can be generalised depends on how representative that sample is, that is, how well it reflects the population researchers are trying to study. We tried to ensure a representative sample with our sampling method, by sending the survey to students of different programmes, studying in different universities and even different countries. Given the fairly small sample size in our study, any insight gained should be taken with caution as our sample might not be representative of the whole student population.

4. RESULTS

The Results section will give an overview of the results of different statistical analysis methods, followed by a more detailed accounting of the procedure and output of each analysis. This quantitative study utilised descriptive statistics, correlation, t test of difference of means, as well as a series of hierarchical regression analysis.

Descriptive statistics are the first step of every analysis, giving initial information about the dataset (Aron et al., 2013; Tabachnick & Fidell; 2013). This helps us decide what kind of analytical methods are appropriate in later analysis. Following this, we conducted a correlation analysis with the goal of examining the connection of all the variables we included in this study. After that, we investigate the difference in MTL between different categories of participants, such as academic level or gender, using a *t*-test. Finally, we wanted to find out if the antecedents of MTL added to the explanation of variance of the MTL variable and its subscale, which is why we applied a regression analysis.

4.1 Descriptive Statistics

In order to analyse collected data, we used the statistical analysis program SPSS Statistics, v29.0.2.0, due to our familiarity with conducting analyses in the program.

Participant responses were downloaded from the LimeSurvey program, after which the database was prepared for statistical analysis. We excluded the responses with missing responses, checked for outliers and nonsensical answers. Then, we recoded the necessary items, and calculated the composite scores of each separate measure by averaging scores of every item of the scale.

Before performing any kind of statistical analyses, the suitability of the dataset for analysis needs to be determined. First, the normality of the distribution was checked, as well as skewness and kurtosis of the data set. Tabachnick and Fidell (2013) point out that the results are suitable for parametric analysis if skewness is within the ±2 range, while kurtosis parameters should be between ±7 (Ryu, 2011). All the variables fulfilled these requirements.

After confirming the suitability of the dataset, descriptive statistics were calculated first as this forms the basis for all later statistical analyses. Descriptive data usually contains information about the frequency, averages (arithmetic mean, mode, or median), and variability measurements (range of responses, standard deviation) (Aron et al., 2013). Descriptive data was calculated for each measure, as well as each subscale of the Motivation to Lead and Leadership Self-Efficacy scales. Data is shown in Table 1.

Table 1. *Descriptive parameters of the Motivation to Lead (MTL) scale and its subscales General Self-Efficacy scale (GSE), Leadership Self-Efficacy (LSE) scale and its subscales, General Managerial Career Anchor (GMCA), and Leadership Experience (LE)*

	k	***M***	***SD***	**Range**
MTL	27	3.26	.46	1 – 5
AI MTL	9	3.06	.73	1 – 5
NC MTL	9	3.46	.67	1 – 5
SN MTL	9	3.28	.49	1 – 5
GSE	8	3.85	.68	1 – 5
LSE	21	3.65	.62	1 – 5
LSE1	3	3.26	.78	1 – 5
LSE2	4	3.70	.71	1 – 5
LSE3	3	3.84	.80	1 – 5
LSE4	5	3.78	.69	1 – 5
LSE5	3	3.62	.81	1 – 5
LSE6	3	3.61	.69	1 – 5
GMCA	3	3.42	.91	1 – 5
LE	3	2.92	.95	1 – 5

Note. number of items (*k*); arithmetic median (*M*); standard deviation (*SD*)

4.2 Correlation Between Variables

Correlation measures the relationship between two variables and is the most common indicator calculated on survey or testing data. If the value of one variable changes and consequently, the value of another variable changes, we can conclude that there exists a relationship between those two variables (Aron et al., 2013). This relationship can be positive or negative. Positive

correlation means that increase in value of one variable means an increase in value in the other variable, and the reverse, while negative correlation describes one variable increasing in value which means a decrease in value of the other variable.

In order to check the correlation between the variables in this study, we calculated Pearson's correlation coefficient (r) between Motivation to Lead and its subscales (Affective identity, Noncalculative, and Social normative), General and Leadership Self-Efficacy, General Managerial Career Anchor, Leadership Experience, as well as gender, age, and academic level. The correlation coefficient is used to define the relationship between variables, but it does not show that one event or change in value originates from the other, as correlation is not causation. Its value can move between 0 and ±1: the closer the value is to 1, the stronger the correlation between variables is. The correlation coefficients for all variables are shown in Table 2.

Table 2. *Pearson's correlation coefficient of all variables*

Item	Gender	Age	Academic level	MTL	AI MTL	NC MTL	SN MTL	GSE	LSE	LSE1	LSE2	LSE3	LSE4	LSE5	LSE6	GMCA	LE
Gender	-																
Age	.23**	-															
Academic level	-.11	-.07	-														
MTL	-.02	.03	-.10	-													
AI MTL	.01	.04	-.07	.79**	-												
NC MTL	-.14	-.04	-.07	.66**	.17*	-											
SN MTL	.14	.07	-.10	.75**	.52**	.25**	-										
GSE	.02	.12	-.12	.35**	.26**	.19*	.34**	-									
LSE	-.03	.07	-.11	.61**	.56**	.26**	.54**	.68**	-								
LSE1	-.04	.09	-.11	.44**	.45**	.14	.39**	.47**	.80**	-							
LSE2	-.14	.06	-.17*	.51**	.44**	.23**	.46**	.63**	.86**	.62**	-						
LSE3	.08	.01	-.09	.45**	.42**	.16*	.43**	.50**	.80**	.58**	.60**	-					
LSE4	.01	.05	-.09	.49**	.47**	.17*	.47**	.69**	.86**	.58**	.71**	.59**	-				
LSE5	-.04	.03	-.05	.62**	.57**	.30**	.51**	.54**	.87**	.65**	.65**	.65**	.70**	-			
LSE6	-.01	.11	-.01	.54**	.44**	.31**	.45**	.53**	.82**	.63**	.66**	.61**	.57**	.71**	-		
GMCA	.02	-.02	-.15	.24**	.31**	-.08	.33**	.13	.28**	.28**	.22**	.24**	.25**	.32**	.11	-	
LE	-.06	.07	-.16	.53**	.53**	.30**	.31**	.31**	.50**	.38**	.41**	.34**	.40**	.49**	.43**	.12	-

Note. MTL – Motivation to Lead; AI MTL – Affective Identity MTL; NC MTL – Noncalculative MTL; SN MTL – Social Normative MTL; GSE – General Self-Efficacy; LSE – Leadership Self-Efficacy; GMCA – General Managerial Career Anchor; LE – Leadership Experience

*$p < .05$; **$p < .01$

Gender, age, and academic level are not significantly correlated to any of the measures used in our study. Gender and age have a positive correlation, likely the result of the sampling method used in this study, as well as the number of participants. The participants' gender, age, or the level they are currently studying at has no connection to their motivation, perceived self-efficacy, orientation to management career position, or the amount of leadership experience.

As seen in Table 2, the variable of Motivation to Lead (MTL) is statistically significantly positively correlated to all other construct variables. It exhibits strong correlations to its subscales, with moderate correlations to LSE, its subscales, and LE. The correlations of MTL to GSE and GMCA are weaker, but still significant. Participants with stronger motivation to lead perceive themselves as more self-efficacious, have more leadership experience and stronger general managerial career orientation.

The AI MTL variable is also statistically significantly positively correlated to all other variables besides gender, age, and academic level, as is the SN MTL variable. Unlike them, NC MTL exhibits weaker correlations to other variables, being only weakly correlated to AI and SN subscales. NC MTL has only weak positive correlations to LSE and its subscales and is not significantly correlated to LSE1 (Starting and leading change processes in groups) or the demographic variables. The correlation between GMCA and NC MTL is not significant.

Besides not being statistically significantly correlated to NC MTL, the GMCA variable is not significantly correlated to GSE, LE, or gender, age, and academic level. Weak, but significant, positive correlations exist between GMCA and MTL along with its subscales AI and SN MTL, as well as LSE and all its subscales besides LSE6 (Gaining consensus of group members).

GSE is statistically significantly positively correlated to all variables but the GMCA and demographic variables, with correlations to LE, MTL and its subscales ranging from weak to moderate, and moderate to strong correlations to LSE and its subscales. LSE and its subscales are strongly positively correlated.

4.3 *T* test of Independent Samples

We wanted to compare how female and male students score on our survey and see if there are any significant differences between them. Likewise, we were interested to see if the academic level of participants made a significant impact on the results. To test the existence of gender

differences and differences due to academic level in MTL, two independent sample *t* tests were performed. *T* tests are the most widely used methods in hypothesis testing (Milas, 2009). They work by comparing the average scores of two groups and determining whether the difference in the average scores of these groups is incidental or statistically significant.

The results of the statistical analysis revealed there are no significant differences in MTL scores or participant scores on any of the MTL subscales that could be explained by gender or academic level. This means that male and female university students did not differ in their motivation to lead. Likewise, MTL did not differ greatly between bachelor and master students who participated in this study.

> The results of the *t* test revealed that there are no statistically significant differences between male (M = 3.25, SD = .43) and female (M = 3.27, SD = .48) participants in the variables of Motivation to Lead (t = .18, p > .05). Similarly, the test revealed no statistically significant differences between male and female participants in their responses on the subscales of MTL, AI MTL (t = -.15, p > .05), NC MTL (t =1.78, p > .05), or SN MTL (t = -1.68, p > .05).
>
> The differences in motivation to lead between academic levels were also tested with an independent sample *t* test and there was no statistically significant difference between bachelor students (M = 3.33, SD = .48) and students of master programmes (M = 3.24, SD = .45) in their scores on the MTL measure (t = 1.06, p > .05) or on its subscales, AI MTL (t = 1.66, p > .05), NC MTL (t = -.80, p > .05), and SN MTL (t = 1.69, p > .05).

4.3 Hierarchical Regression

We wanted to determine the contribution of general (GSE) and leadership self-efficacy (LSE), leadership experience (LE), general managerial anchor (GMCA), as well as gender and age to the variance in participants' scores motivation to lead (MTL). To do this, we used a regression analysis.

A regression analysis is a method that allows us to predict the results of the criteria or dependent variable based on the known results of the predictor variables (Aron et al., 2013). This means that changes in the dependent variable, in our case MTL, as well as AI, SN, and NC MTL, are explained by through other variables – predictors. In this study, the predictor variables were the antecedents of MTL: GSE and LSE, GMCA, LE.

To perform a regression analysis, several requirements must be satisfied for the analysis to give viable results (Berry, 1993; Aron et al., 2013). Some of these assumptions were checked when calculating descriptive statistics, such as lack of extreme values, continuity and variability of variables in the regression. Besides those, we aim to avoid multicollinearity. Collinearity

occurs when two variables are in complete or high correlation to each other (over .90), and multicollinearity refers to the same happening between multiple variables. If it occurs, it means at least one predictor variable is redundant in relation to other variables and indicates that the regression results are not reliable (Berry, 1993). In our case, the predictor variables are not too highly correlated to each other, with all correlations being below .70. Looking into tolerance and variance inflection values, which are also indicators of collinearity, we can conclude that multicollinearity between predictor variables has been avoided, since the values are within bounds. Homoscedasticity was checked with scatter plot diagrams and that requirement is satisfied as well.

The basis of the analysis is an existing relationship between two or more variables, and an assumption that one variable depends on the others. As we have already checked the correlation between variables and found them to be closely related, we know that a relationship between them exists. This is precisely why the demographic variables of gender, age, and academic level were not included as predictors in the regression analyses shown below – there was no correlation between them and MTL variables. For the purpose of thoroughness, alternative regression analyses with those variables were conducted, but found no significant contribution of demographic variables to the explanation of variance above what other predictor variables already explained.

Finally, after determining the data is appropriate for this kind of statistical analysis and that the variables chosen are suitable, we can perform regression analysis. Specifically, we have chosen to conduct a hierarchical regression analysis on our data. This is a type of regression where predictor variables are added in several steps, resulting in several regression models. Each subsequent model contains all the variables added in the previous steps, as well as the new variables being added in that block. This approach brings valuable additional information that a simple one-step regression does not (Aron et al., 2013). By conducting a hierarchical regression analysis, we can see if each of the antecedents to MTL add more to the prediction of MTL and its subscales over and above what other predictor variables already predict.

For these reasons, we performed four separate hierarchical regression analyses to determine how the measures of GSE, LSE, GMCA, and LE explain MTL and its dimensions among university students. In the first analysis, the dependent variable was the variable of MTL, while in the subsequent regression analyses the dependent variables were its subscales (AI MTL, NC MTL, and SN MTL). Besides changing the dependent variable, the predictor variables were

the same in every analysis, as well as the order they were introduced in. In the first step the variable GSE was included, in the second LSE, in the third GMCA, in the fourth step LE.

The results of the first hierarchical regression are shown in Table 3. The dependent variable in this analysis was the participants' scores on the MTL measure. The regression analysis reveals a significant contribution of MTL antecedents to the explanation of variance in MTL. Put together, the antecedents explain a large part of scores in MTL. Separately, GSE and LSE are both significant predictors of MTL, although LSE is stronger and explains more variance than GSE does. Students with higher general and leadership self-efficacy show higher motivation to lead. GMCA alone does not add significantly to the prediction above what the self-efficacy variables already do, meaning that the orientation towards general managerial tasks does not predict higher scores in motivation to lead. On the other hand, more past experience in leadership positions is a predictor of higher MTL scores, as LE is a significant predictor of MTL, adding to the explanation of total variance in MTL.

> The overall regression model was statistically significant ($F_{(4,146)} = 30.16$, $p < .001$), with the predictor variables collectively explaining 45.2% of the total variance in the MTL variable.
>
> The GSE variable was a significant predictor of MTL in the first regression model, explaining 12.1% of the total variance ($F_{(1,149)} = 20.53$, $p < .001$). In the second step, the LSE variable was added, explaining an additional significant 25.8% of the variance ($\Delta F_{(1,148)} = 61.45$, $p < .001$), and bringing the total explained variance of the regression to 37.9%. The LSE variable continued to be a significant predictor of MTL in the following steps, while GSE ceased to be statistically significant with the addition of the LSE variable in this model. This might be due to LSE explaining the same part of the variance GSE previously did, or due to the underlying correlation between the GSE and LSE variables. In the next block, the variable of GMCA was added and did not explain a significant portion of the total variance ($\Delta F_{(1,147)} = .96$, $p > .05$), despite the third model still being significant ($F_{(3,147)} = 30.42$, $p < .001$). Finally, the variable LE was added in the fourth block, explaining a significant additional 6.9% of the variance ($\Delta F_{(1,146)} = 18.52$, $p < .001$).

Table 3. *Contribution of GSE, LSE, GMCA, and LE to the explanation of the total MTL score*

	Model 1			Model 2			Model 3			Model 4		
Variables	*B*	SEB	β	*B*	SEB	β	*B*	SEB	β	*B*	SEB	β
GSE	.24	.05	.35**	-.09	.06	-.13	-.08	.06	-.12	-.07	.06	-.12
LSE				.52	.07	.70**	.50	.07	.67**	.38	.07	.51**
GMCA							.03	.04	.07	.04	.03	.07
LE										.15	.03	.30**
R^2	.12			.38			.38			.45		
ΔR^2	.12			.26			.004			.07		
F	20.53**			45.15**			30.42**			30.16**		

Note. MTL – Motivation to Lead; GSE – General Self-Efficacy; LSE – Leadership Self-Efficacy; GMCA – General Managerial Career Anchor; LE – Leadership Experience

*$p < .05$; **$p < .01$

The second hierarchical regression is shown in Table 4. In this analysis, the dependent variable was the scores on the AI MTL subscale. The results of the regression analysis show that MTL antecedents collectively predict a significant amount of variance in AI MTL. GSE, LSE, GMCA, and LE are all consistently significant contributors to the explanation of variance this time, with LSE once again being the strongest predictor and explaining the highest amount of variance in AI MTL. These results signify that participants who have higher self-efficacy, stronger general managerial orientation, and more previous experience in leadership positions show higher AI MTL.

> The predictor variables collectively predict a significant 44% of the total variance in AI MTL ($F_{(4,146)} = 28.72$, $p < .001$).
>
> In the first step of the regression, GSE explained a significant 6.9% of the total variance ($F_{(1,149)} = 11.09$, $p = .001$). In the second block LSE was included, and the model explained an additional significant 26.7% of the total variance of AI MTL ($\Delta F_{(1,148)} = 59.59$, $p < .001$). Unlike the previous analysis, GSE remained a robust predictor of MTL in this and the following models. A small, but significant, additional 2% of the total variance was explained with the addition of GMCA in the third block ($\Delta F_{(1,147)} = 4.53$, $p < .05$. In the fourth block, including the LE variable significantly explained an additional 8.4% of the total variance ($\Delta F_{(1,146)} = 21.94$, $p < .001$), bringing the total explained variance of the regression to 44%.

Table 4. *Contribution of GSE, LSE, GMCA, and LE to the explanation of the AI MTL score*

	Model 1			Model 2			Model 3			Model 4		
Variables	*B*	SEB	β	*B*	SEB	β	*B*	SEB	β	*B*	SEB	β
GSE	.28	.09	.26**	-.24	.10	-.22*	-.22	.10	-.20*	-.20	.9	-.19*
LSE				.84	.11	.71**	.78	.11	.65**	.57	.11	.48**
GMCA							.12	.06	.14*	.13	.05	.16*
LE										.26	.06	.33**
R^2	.07			.34			.36			.44		
ΔR^2	.07			.27			.02			.09		
F	11.09**			37.52**			27.12**			28.72**		

Note. AI MTL – Affective Identity Motivation to Lead; GSE – General Self-Efficacy; LSE – Leadership Self-Efficacy; GMCA – General Managerial Career Anchor; LE – Leadership Experience

*$p < .05$; **$p < .001$

For the third hierarchical regression the NC MTL served as the dependent variable and the results of the analysis are shown in Table 5. MTL antecedents predict the variance of values in NC MTL, but do not explain as much variance as they do for other MTL dimensions and MTL overall. GMCA is not a significant predictor of NC MTL on its own, but rather becomes significant with the inclusion of LE to the model in the next step, signalling that stronger anchor to general managerial roles and tasks is not as relevant to the prediction of lower or higher NC MTL. GSE, LSE, and LE are all significant predictors, but explain a low percentage of NC MTL. Higher self-efficacy and more past experience in leadership roles indicate an individual will have somewhat higher motivation to lead.

> The predictor variables collectively explained 12.6% of the total variance of the NC MTL variable, a significant ($F_{(4,146)} = 5.25$, $p < .001$) but noticeably smaller percentage than in models where other subscales of MTL were dependent variables.
>
> The GSE variable in the first step explained a significant 3.5% of the total variance ($F_{(1,149)} = 5.35$, $p < .05$). In the second block, the variable of LSE was added and explained an additional 3% of the total variance ($\Delta F_{(1,148)} = 4.82$, $p < .05$). In the second model, GSE stopped being a significant predictor, as it did in the first regression analysis. In the next step, GMCA did not explain a significant amount of variance above other variables already in the model ($\Delta F_{(1,147)} = 3.75$, $p > .05$), although the LSE variable was still a significant predictor in the third model. In step four, LSE stopped being a significant predictor with the inclusion of LE, which explained a significant additional 3.7% of the total variance ($\Delta F_{(1,146)} = 6.22$, $p < .05$).

Table 5. *Contribution of GSE, LSE, GMCA and LE to the explanation of the NC MTL score*

	Model 1			Model 2			Model 3			Model 4		
Variables	*B*	SEB	β	*B*	SEB	β	*B*	SEB	β	*B*	SEB	β
GSE	.18	.08	.19*	.02	.11	.02	.004	.11	.004	.01	.10	.01
LSE				.26	.12	.24*	.32	.12	.30*	.20	.13	.18
GMCA							-.12	.06	-.16	-.11	.06	.22*
LE										.16	.06	.22*
R^2	.04			.07			.09			.13		
ΔR^2	.04			.03			.02			.04		
F	5.34*			5.16*			4.75*			5.25**		

Note. NC MTL – Noncalculative Motivation to Lead; GSE – General Self-Efficacy; LSE – Leadership Self-Efficacy; GMCA – General Managerial Career Anchor; LE – Leadership Experience

*$p < .05$; **$p < .001$

The last hierarchical analysis, shown in Table 6, was performed with SN MTL as the dependent variable. The regression analysis shows that MTL antecedents collectively explain a significant amount of variance in the values of SN MTL. Separately, GSE and LSE are both significant predictors of SN MTL, though GSE loses strength once LSE is added into the model and becomes less significant. Higher perceived self-efficacy predicts higher scores on the SN dimension of MTL. GMCA explains a significant amount of variance in SN MTL in this analysis, meaning that stronger GMCA expression predicts higher SN MTL. Unlike previous analyses, LE does not add to the prediction of SN MTL above what other variables already predict, signalling that the amount of leadership experience has no impact on the variance in values of SN MTL.

> Collectively, the predictor variables explained 33.1% of the variance in SN MTL ($F_{(4,146)}$ = 18.03, $p < .001$).
>
> The GSE variable in the first block explained a significant 11.5% of the total variance ($\Delta F_{(1,149)}$ = 19.29, $p < .001$), while adding LSE in the second block explained a significant additional 18.2% of the total variance ($\Delta F_{(1,148)}$ = 38.41, $p < .001$), bringing the total percentage of explained variance to 29.7%. Similarly to the previous regressions, the variable of GSE stopped being a significant predictor in the second model. In the third step, GMCA explained an additional 3.1% of the variance ($\Delta F_{(1,146)}$ = 6.81, $p < .05$). In this analysis, SN MTL was not significantly predicted by LE ($\Delta F_{(1,145)}$ = .54, $p > .05$), despite the positive correlation between the variables.

Table 6. *Contribution of GSE, LSE, GMCA, and LE to the explanation of the SN MTL score*

	Model 1			Model 2			Model 3			Model 4		
Variables	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β
GSE	.24	.06	.34**	-.04	.07	-.06	-.03	.07	-.04	-.03	.07	-.04
LSE				.46	.08	.59**	.41	.08	.52**	.39	.08	.49**
GMCA							.10	.04	.19*	.10	.04	.19*
LE										.03	.04	.06
R2	.12			.30			.33			.33		
ΔR2	.12			.18			.03			.002		
F	19.29**			31.27**			23.94**			18.03**		

Note. SN MTL – Social Normative Motivation to Lead; GSE – General Self-Efficacy; LSE – Leadership Self-Efficacy; GMCA – General Managerial Career Anchor; LE – Leadership Experience

*$p < .05$; **$p < .001$

4.5 Summary of results

Generally, the regression analyses show that the predictor variables of general and leadership self-efficacy, general managerial career anchor, and leadership experience collectively predict a significant amount of variance in motivation to lead and its dimensions. An overview of the results is shown in Table 7.

Table 7. *Percentage of total variance explained by predictors in each regression analysis*

	Dependent var. MTL	Dependent var. AI MTL	Dependent var. NC MTL	Dependent var. SN MTL
Variance explained (%)	45.2%	44%	12.6%	33.1%

Note. MTL – Motivation to Lead; AI MTL – Affective Identity MTL; NC MTL – Noncalculative MTL; SN MTL – Social Normative MTL

Leadership Self-Efficacy (LSE) has proven to be the most robust predictor of MTL, as well as AI, NC, and SN dimensions of MTL, indicating that individuals who perceive themselves as more self-efficient in leadership also show higher motivation to lead in all aspects. Similarly, General Self-Efficacy (GSE), while less strong, proved to be a predictor of MTL in all dimensions, indicating that higher perception of self-efficacy in general predicts higher motivation to lead.

General Managerial Career Anchor (GMCA) does not explain a significant amount of variance in MTL or its NC dimension, but it is a relevant predictor for the AI and SN dimensions of motivation to lead. People with a stronger GMCA are more intrinsically motivated to lead and feel a higher social obligation towards assuming leadership positions.

Leadership experience (LE) is a significant predictor of motivation to lead in general, as well as the AI and NC dimensions, but does not significantly contribute to the prediction of variance of the SN dimension. Individuals with more leadership experience are more motivated to lead, but do not have a higher sense of social obligation than those with less experience.

5. DISCUSSION

The goal of the conducted research study was to explore the relationship between motivation to lead (MTL) and its antecedents: general (GSE) and leadership self-efficacy (LSE), general managerial career anchor (GMCA), and previous leadership experience (LE), as well as demographic variables. Furthermore, the goal was to examine which of the antecedents contributed significantly to the explanation of motivation to lead and its dimensions, as well as to explore the correlations between antecedent variables.

In keeping with the main goals of our study, this part explores the Motivation to Lead (MTL) among university students, showing its dimensions and variables affecting it within this particular population.

5.1 MTL Among University Students

Chan and Drasgow's (2001) model of motivation to lead proposes a general factor of MTL which encompasses three dimensions — affective identity (AI), social normative (SN), and noncalculative (NC) motivation. They connect the three dimensions of MTL to each other, but emphasise that they capture separate aspects of people's motivation to lead.

This three-dimensional model was utilised as a basis for our research and tested on our sample of university students. We found that MTL is significantly positively correlated to each of its subscales, and the subscales (AI, SN, and NC MTL) exhibit significant positive correlations to each other, confirming the first hypothesis (H1). The correlation of noncalculative MTL to other types of MTL is considerably weaker than the intercorrelation of AI MTL and SN MTL, which is fairly strong. This result is not uncommon, as previous studies of MTL report similar findings (Santos & Porto, 2023), but the correlations between MTL subscales in this study call into question the current MTL model proposed by Chan and Drasgow (2001). The results suggest there is some credibility to the criticisms of the MTL construct (Bandura et al., 2020; Solinger et al., 2008). The relationship of NC MTL to other MTL dimensions lends support to claims that the types of MTL could operate as separate constructs (Badura et al., 2020), while the strong correlation between affective identity and social normative MTL poses the question of these covering similar or overlapping latent constructs (Solinger, 2008).

While there are certainly reasons for investigating the reliability of the MTL construct, an alternative explanation could be that the types of MTL are in fact correlated dimensions of the same overall construct as originally (Chan & Drasgow, 2001) proposed, and the reason behind

our findings lies in the MTL measure itself. The instrument used as part of our survey could be at fault for the results we see. The NC subscale of the MTL has the most reverse coded items in the measure, which could have affected the participants' responses. Items such as "*Leading others is really more of a dirty job rather than an honourable one*" could have been perceived as negative and socially undesirable answers, so the participants unintentionally differed in their answering in the NC subscale compared to other MTL subscales.

Demographic variables are considered to impact motivation to assume leadership positions in different ways. Bobbio & Manganelli (2009) point out that gender stereotypes and implicit role demands discourage women from taking up leadership roles and, thus, act demotivating for female potential leaders, while men would not be affected by the negative societal expectations. Previous research indicates that women and men differ in their perceptions of incentives and constraints associated with leadership roles (Cho et al., 2015; Gatzka et al., 2009), resulting in lower noncalculative MTL for male in relation to female participants. Based on an extensive metanalysis, Badura et al. (2020) conclude that gender is significantly connected to MTL. Contrary to this, our hypothesis was that gender would have no impact on differences in MTL (H2), given the fact that these results were not obtained on student populations. The studies done on students show there is no difference in motivation between male and female students (Bobbio & Manganelli, 2009; Rosch et al., 2015), and our results lend support to these findings. Given that the lack of difference in MTL between men and women is not an isolated case found only in our study, the possibility of the specifics of our sample skewing the results is smaller. Of course, the small sample size consisting mostly of female participants does probably play a part in these findings. However, Rosh et al. (2015) sampled over a thousand undergraduate students from a variety of academic disciplines and obtained similar results to us.

Possibly, the academic university context is something which influences gender differences in motivation. It is possible that students in university have not had to face the discriminative environment (McCormick et al., 2003; as cited in Bobbio & Manganelli, 2009) in the workplace yet, and that the social context they are in at the moment leans towards higher equality of genders, which would explain why there is no difference in motivation between women and men we surveyed.

It is also possible that while discrimination does still exist, especially in male-dominated fields, it does not have as strong of an impact as assumed due to other factors at play. Indeed, the amount of positive movement encouraging women in leadership has increased (REF?), with

programmes dedicated to developing and supporting young female leaders. Universities are also places with more than average number of women, so women being in a leadership position is not as uncommon of a sight.

The existence of gender differences in leadership variables has been tested in multiple studies, but the cause behind them needs to be investigated in more depth. To discern whether these factors play a mediating role in the relationship between gender and leadership motivation and later outcomes, it would be interesting to conduct a study on leadership and account for actual and perceived discrimination based on gender. Examining how male-dominated a field is, how does the participant perceive their position as a leader would be received by their environment, looking for mediator or mediation effects, would be a great addition to the current knowledge of the interaction of gender and leadership outcomes and inform the relevant stakeholders what can be done to mitigate the gender divide. Looking into empowerment of women acting as a possible suppressant of the existing gender differences could provide support for the variety of activities and programmes dedicated to that cause.

Age was brought up as another possible correlate of motivation among participants, with the assumption that people will grow to be more calculative and rational about assuming new roles and taking up responsibilities as they age (Hong, 2005). Research so far has not found strong support for these claims (Cho et al., 2015), and our study adds to these findings. When testing motivation to lead among university students, the results showed no significant differences in motivation based on the age of participants, which is in line with our hypothesis (H4). Of course, given the small age range of our participants, we could not have expected to find any significant results. We could generalise to a wider population even if the relationship between age and MTL does exist. Nonetheless, Cho et al. (2015) suggested that age is not the variable we should focus on - the difference in motivation can actually be explained by the amount of leadership experience individuals have, with older participants being more motivated since they, on average, had more opportunity to gain experience in leadership roles than younger ones. It would be interesting to repeat the study on a larger sample of people, more diverse in age, and check the moderating effect of experience on the correlation between age and motivation.

Unlike with age, we did expect to find differences in participant scores on the AI MTL subscale between bachelor's and master's students, with master's students being more intrinsically motivated to lead than students of a lower academic level (H3), supporting the findings of Cho

et al (2015). Unlike other dimensions of motivation, Shin and Bolkan (2021) stress that intrinsic motivation among students is increased by intellectual stimulation, along with stronger involvement and confidence. University students are intellectually stimulated throughout their studies, with students in later years and higher academic levels being more stimulated than students who only started university. Presumably, then, students in their master programme have developed intrinsic motivation to a higher degree than bachelor students. Despite this, our analysis showed no significant differences based on academic level in any of the subscales of MTL, or the overall MTL scale. Our sample size was rather small, with not many bachelor students besides, which could have impacted the strength of the correlation. Additionally, we did not control for the exact year of study, how many years participants have studied previously and how much longer they plan to study for. Some bachelor students probably expect to obtain their degree and go into the workforce so they have stronger connections to leadership outcomes and motivation to lead, just like master level students, while others plan to enrol into a master programme first, prolonging their student life.

Demographic variables do not show significant connection to MTL to lead or any of the dimensions of motivation in this study. Other factors seem to be more important for motivation than gender, age, or academic level students are currently at. In the following sections, we will explore the connection and impact antecedents of MTL have on the motivation of students to assume leadership positions.

5.2 Antecedents to MTL

The Distal-Proximal Model of Motivation and Leadership (Badura et al., 2020) introduced in the theoretical framework section positions motivation to lead as an intermediary between individual characteristics of people and leadership outcomes. Examining the relationship between motivation and leadership behaviour is the only first step towards successful leadership. To truly understand what factors result in effective leadership outcomes, we need to pay attention to the earlier stages of the model - understanding the antecedents of MTL and their relationship to the construct is crucial for understanding the motivation to assume leadership roles and become effective leaders in the future (Badura et al., 2020).

The antecedents we chose to include in our research general (GSE) and leadership self-efficacy, career orientation (GMCA), and leadership experience (LE), as antecedents of MTL. Motivation to lead is positively correlated to all antecedents in this study in some way. Having confirmed that the connection between antecedents of MTL and MTL dimensions exists,

results from the linear regression analyses provide insight into what the relationship between those variables look like and how it affects university students' motivation to lead (MTL).

5.2.1 Self-efficacy and MTL

Self-efficacy is considered among the strongest correlates of MTL, with LSE being the most proximal antecedent of MTL (Badura et al., 2020).

Since GSE is a board construct which envelops perception of efficacy in more areas than just leadership, moderate correlations to MTL were expected (Bobbio & Manganelli, 2009; Chen et al., 2013). GSE is positively correlated to MTL, confirming our hypotheses (H6), with the weakest correlation to the NC MTL subscale, and weak to moderate correlations to other MTL subscales. The weaker correlation between GSE and NC variables could partially be explained by the weak relationship of NC MTL to other MTL dimensions. On the other hand, it could be that a general perception of self-efficacy is not really connected to how much calculation a person does about a specific leadership role, while social norms and affective intrinsic interest are more connected to self-efficacy in general.

Looking at the regression models, GSE had less of an impact on MTL than anticipated, explaining only a small fraction of the variation in MTL scores. As a predictor variable, it proved to be a significant predictor in the first model of every regression analysis, but lost significance with the inclusion of LSE in regressions with MTL, NC MTL, and SN MTL as dependent variables, staying a significant predictor only for the AI MTL dimension. The low contribution to NC MTL was expected, given the weak correlation between the two, but the LSE explains the part of the significance that GSE explained before its inclusion, but this is not surprising given the nature of the two constructs. GSE is a broad construct, covering a variety of domains, some of which are not significant for leadership outcomes (Bobbio & Manganelli, 2009). LSE covers the parts of GSE which are relevant and significantly predict variation in MTL, which is why its inclusion in the model resulted in GSE losing its significance.

Researchers have placed LSE as the most important precursor to MTL in multiple contexts (Badura et al, 2020; Bobbio & Manganelli, 2009). The hypothesis of LSE being positively correlated to MTL (H7) has been confirmed in our study as well, with correlations of varying strengths between different subscales of the measures. A strong connection between LSE and MTL is observed in every regression analysis as well, with LSE being the most robust predictor of MTL, as well as all three types of MTL. These findings suggest that people's confidence in their own leadership skills is an important variable in their motivation to take on leadership

roles, and individuals who perceive themselves as more self-efficient leaders are more likely to have high motivation to lead than those with lower LSE.

Most of the correlations between LSE and MTL dimensions are moderate to high, with the highest correlations between LSE and the overall MTL scale. These correlations lend support to similar findings of multiple studies reported by Badura et al. (2020), where LSE has the strongest connection to AI MTL, though in our study both AI and SN subscales of MTL had similarly strong correlations to LSE. Interestingly, even though we used the LSE measure constructed by Bobbio and Manganelli (2009), unlike the authors in their study we found a low, but significant correlation between NC MTL and the overall LSE measure. Higher perceived self-efficacy is more closely related to intrinsic motivation to lead and motivation stemming from social obligation to lead, than to the calculative aspect, although the cost benefit analysis still plays a part in motivating them.

Despite the significant correlation, LSE is not a significant contributor to the explanation of variance for the NC type of MTL in the fourth and fifth regression models, losing significance with the inclusion of LE into the model. The low correlation of NC MTL to the variable might be the reason behind this result, but it might be because LE explains the same part of variance in NC MTL as LSE does, given the significant connection between the two constructs.

Looking at specific subscales of the LSE measure, the motivating people subscale (LSE5) is strongly connected to MTL and AI MTL, higher than any other subscales of LSE. The same LSE5 subscale, along with LSE6 (gaining consensus of group members), have the highest correlations to the NC MTL subscale. It is possible that the items in the subscale are more similar to the MTL items (e.g. "*With my example, I am sure I can motivate the members of a group*"), so the participants were more inclined to give similar answers on those items. Motivating others is hard if the person doing it is not motivated themselves (Schroeder & Fishbach, 2015), which could be why the relationship between this subscale to MTL is particularly strong. Similarly, gaining consensus of group members contains items that speak to the social aspect of leadership (e.g. "*I can usually make the people I work with appreciate me*") so it makes sense that that subscale would be closely related to the SN MTL subscale.

Conversely, LSE3 (building and managing interpersonal relationship within the group) and LSE4 (showing self-awareness and self-confidence) exhibit very low correlations with NC, and one subscale of the LSE measure, LSE1 (starting and leading change processes in groups), is not significantly correlated to NC MTL at all. This subscale also has the lowest correlation

to the SN type of MTL out of all the leadership self-efficacy subscales. The variation in strength of correlation between specific LSE subscales and MTL dimensions could be indicative of the true differences in the connection between those dimensions of leadership self-efficacy and motivation, but it could also be due to the construction of specific subscales and the items used being more or less similar sounding to our participants. In their study with this LSE measure, Bobbio and Manganelli (2009) did not examine the correlation of MTL dimensions to each of the LSE subscales, so we cannot support or dispute our results with past research findings.

5.2.2 General Managerial Career Anchor and MTL

Research on the connection between career anchors and the construct of MTL is not extensive but it does exist. As one of the only studies looking into career anchors and their direct impact on MTL, Tiraieyari et al. (2013) served as the basis upon which we built our hypothesis. The authors believe that career orientation or anchor of an individual is related to their motivation to take on roles in accordance with their anchors. In their study, they find a strong connection between the general managerial career anchor (GMCA) and MTL. In accordance with this, we expected GMCA to be positively correlated to MTL and its subscales (H8) in our study, and that hypothesis has been partially confirmed. GMCA showed significant positive correlations with overall MTL, as well as the AI and SN types of MTL. Individuals with strong general managerial orientations tend to be more intrinsically motivated and feel more social obligation to assume leadership roles in the future than people with a weaker GMCA. This relationship does not extend to NC MTL, as participants' results on the GMCA measure were not significantly correlated to their results on the NC MTL subscale. These results continue the trend of NC MTL being weakly connected to variables in this study.

Interestingly, career anchors are not found as significant predictors of MTL in the regression analyses, despite being significantly correlated to the dependent variables. Even though they are relevant predictors for AI and SN MTL, their inclusion does not explain a significant amount of variance of these MTL types. For NC MTL, GMCA becomes a significant predictor in the fourth model, with the inclusion of LE, but it is otherwise not significant.

These findings might be the result of the unsuitable measure of GMCA used in the survey. We included only three items relevant for the construct of career anchors, the bare minimum necessary to capture the general managerial anchor. This decision almost certainly impacted the results of our study to some degree. Given that there is no study which examined the contribution of career anchors to the explanation of variance in MTL alongside self-efficacy

measures, we cannot be sure how large of an impact our decision had. This highlights the need for further research of this kind, as well as more in-depth investigation in this area.

If our findings prove consistent with other research, then previous theoretical frameworks which attribute leadership motives to professional goals of individuals have been brought into question by our discovery. We propose that people's motives to take on leadership roles while at university are shaped less by career orientation towards management and leadership positions and more by other factors. Tiraieyari et al (2013) conclude that values and motives in the background of individuals' choice of career anchor is what motivates them to lead others. Possibly, these background factors have been accounted for with the inclusion of self-efficacy variables in the model, meaning that GMCA has nothing new to "bring to the table". This difference shows the need of going beyond traditional career theories to have a more thorough knowledge of the elements affecting people's career and leadership development.

5.2.3 Leadership Experience and MTL

Past experience in leadership roles and tasks is often brought up as a correlate of MTL. Experience generally makes people feel more prepared and confident about engaging in a certain behaviour, boosting their motivation to repeat those experiences (McCauley & Van Velsor, 2004). Previous research has reported people with more LE also have higher MTL (Judge & Bono, 2004; Murphy & Johnson, 2011). Our findings add support to these studies, as LE among student participants in our study is significantly correlated to MTL scales in accordance with our initial hypothesis (H10). We measured moderate positive correlations of LE with MTL and AI MTL, along with slightly lower correlations with the NC and SN types of MTL. Cho et al. (2015) report on the same pattern, pointing out that successful experiences lead to positive emotional outcomes, which are tied with intrinsic motivation. Then, individuals with higher intrinsic motivation to lead are more likely to engage in similar behaviours and activities connected to leadership.

LE is a significant predictor of AI and NC MTL, along with the overall MTL, but does not significantly contribute to the prediction of variance of the SN type of MTL. Participants with more leadership experience are more motivated to lead, but do not necessarily have a higher sense of social obligation than those with less experience.

Shin and Bolkan (2021) find that students are more likely to acquire intrinsic motives for leadership in their later years of schooling, based on their stronger involvement and conviction in their talents. Unlike the initial assumption that this indicated a correlation of age or academic

level to MTL and leadership outcomes, LE explains this variance in AI MTL and overall MTL better than those variables. Students who are in leadership related programmes, such as students studying management or business, report higher levels of MTL than students in other disciplines (Judge et al., 2017). Their studies focus on leadership development and they often have more leadership opportunities throughout their academic years. This does not mean they are naturally more equipped to lead, but that their schooling provides them with opportunities to develop leadership competencies and gain leadership experience. This informs us that providing leadership opportunities and ensuring positive experiences is key for increasing intrinsic motivation among student populations.

5.2.4. Correlation Between Antecedents of MTL

It is important to look at not just the relationship of the antecedent variables to MTL, but also to examine the connection between the antecedents themselves. Knowing how the factors which influence MTL are connected to each other adds additional context and contributes to knowledge about proximal antecedents of effective leadership (Badura et al., 2020).

As LSE is a construct belonging under the same broader domain of self-efficacy as GSE, the high positive correlation of the two measures found in our study was expected (Chen et al., 2013), and in line with our hypothesis (H5). People who perceive themselves as generally more able to accomplish tasks and perform in a wide variety of tasks generally feel more efficacious in leadership roles and tasks. The strong intercorrelations between different LSE subscales confirm that they capture different, but highly connected, facets of leadership self-efficacy.

Besides being a robust predictor of MTL, LSE proved to be a significant correlate for other variables in our study too. It is important to note its relationship to GMCA. A study on a Malaysian sample of undergraduate students (Krauss & Abdul Hamid, 2015) found that participants' perceived LSE was significantly higher than even their MTL, highlighting the need for fostering motivation within leadership development programmes. In our study, the relationship between LSE and GMCA was as strong or stronger than GMCA's correlation to MTL dimensions. The moderate correlation to LSE supports our initial hypothesis.

The correlation between GMCA and GSE however, did not prove significant. Upon further consideration, this result does not surprise us. The connection between GSE and GMCA likely does exist, given the relationship of GMCA and LSE, a similar construct variable, but our study was unable to detect it. As we have isolated only a specific anchor to include in our study and included three items from a short form measure, the variable could have been too specific to

correlate to a general self-efficacy measure in a significant way. The significant positive correlation between GMCA and LSE, along with the absence of significant connection to GSE, partially confirm our initial hypothesis (H9).

As previous experience in leadership roles positively affects perceived self-efficacy and individuals' alignment with career anchors (Judge & Bono, 2004), we expected to find positive correlations of LE to both GSE and LSE (H11), as well as to the GMCA (H12).

The significant correlations with self-efficacy found in our study support the findings of multiple researchers (Avolio et al., 2022; Bobbio & Manganelli, 2009), implying that previous leadership experience is strongly connected to feelings of self-efficacy throughout different situations and contexts. The correlation of LE to GSE is lower, while the correlation to LSE is moderately high. Bobbio and Manganelli (2009) note the same differences in strength due to the LSE measure being more focused on the leadership domain than the GSE construct. McCormick et al. (2002) report that besides actual experience in leadership roles, LSE is connected to the frequency of attempts to assume those roles, meaning that increasing one's confidence in their leadership competencies increases an individual's willingness to try, even if they do not necessarily succeed in obtaining the role. This means that even if development programs or institutions are unable to ensure potential leaders go through a leadership experience within their programmes, building self-confidence and perception of efficacy will have a positive impact on leadership experience and motivation to lead anyways. Individuals will be more willing to try finding an opportunity to gain experience after the programme is over or outside of it themselves.

Schein (1990) presumed that previous leadership responsibilities and experiences would encourage individuals to gravitate towards managerial roles captured by the GMCA. Despite these expectations, there was no significant connection of GMCA and LE in this study. It is hard to say whether the connection between the two truly does not exist though, since there are no other research findings to corroborate or oppose our results, or if the lack of significance is due to the measures utilised in this study. Both GMCA and LE consisted of only three items, and the measures were not checked for validity before implementation in our survey. If the measures had been more extensive, maybe they would have captured the latent variables better and revealed the existence of a correlation between them. It would be beneficial to test this in future research with the full career orientation measure.

5.3 Implications of Research Findings

Our research provides useful information for other researchers, but also for practical implementation. The data we gathered gives insight into not only the studied constructs and their nature of their relationship to each other, but also into the student population and individuals who will become leaders in the future.

The results of this study have significant implications for university student-targeted leadership development programmes. Organisations and institutions looking to develop leadership potential can utilise the findings from our and other similar studies to create leadership development programmes or interventions, and have an essential role in developing the next generation of leaders and promoting constructive change (Judge et al., 2017). These findings have significance for human resource strategies that aim to attract and train future leaders, especially in dynamic and competitive company environments.

Measuring MTL will help with identification of already motivated individuals, but measuring the antecedents of motivation will catch those who have high leadership qualities but are not particularly motivated to assume leadership positions. Knowing how to motivate students and employees and helping them on time rather than losing out on effective leaders is crucial.

Efficacy in a wide area is essential for today's work environment and job demands in the modern day, as jobs become more complex and interdisciplinary (Chen et al., 2013). This is why GSE plays an important role alongside LSE when talking about effective leadership outcomes of future leaders. Chen et al. (2013) point out that high GSE is valuable for organisations since it acts as a hygienic in stressful work environments and keeps motivation up.

Organisations can help employees develop a drive for leadership and confidence in their capacity to lead that are in balance with their values and goals by giving them chances to take on leadership roles and gain insight from a variety of experiences. Programmes for developing leaders should prioritise learning by doing and self-reflection in order to build leaders with vision and competence for the future. Improving students' leadership self-efficacy should receive particular focus. Even though general self-efficacy and opportunities for leadership experience are still important aspects of such programmes and should be addressed, students' motivation to lead may be especially well-nurtured by strategies designed to increase their leadership self-efficacy competencies.

The small influence of career anchors on motivation implies that interventions for leadership development should not base the assessment of potential leaders just on the career goals of individuals. This means that students of business and management programs who have a stronger GMCA and aspirations to assume leadership positions in the future are not necessarily the only people who are motivated to lead or who would be successful leaders. They simply have more opportunities and are involved in leadership development activities as part of their studies, which increases their motivation and competencies (Judge et al., 2017). This emphasises the need to establish organisational environments that nurture and use the particular abilities of individuals regardless of their career orientation, ultimately improving both individual and organisational performance. Students of all academic fields should have the opportunity to gain practical experience in decision-making and team management through the curriculum's emphasis on practical leadership exercises, case studies, and management simulations (Luthans et al., 2017).

A comprehensive strategy which takes into account several aspects impacting MTL is necessary, especially when considering the variety of student experiences and backgrounds. Along with improving student retention and engagement, this inclusivity also helps to advance fairness and diversity in leadership roles, giving a variety of students more opportunities to gain experience and develop the intention to lead.

Besides the use of our findings to institutions and organisations, they can also prove useful to individuals. Students who are aware of what influences effective leadership outcomes can act on this knowledge and actively work to achieve better outcomes in regards to leadership. For example, students who have the intention of becoming leaders, but do not feel ready or competent for that position in their future workplace, can look for more leadership opportunities while studying so as to increase their perceived self-efficacy and impact leadership outcomes in the future.

5.4 Research Limitations and Future Suggestions

It is crucial to recognise several limitations that could influence the applicability and reliability of our results. The main limitation of our research lies in the limited sample of participants in our study. Our results may not be generalisable as they could be since the sample size was quite small and it is difficult to make judgement about the whole target population from such a small sample. More solid and reliable findings concerning the student body we aimed to examine

would be made possible by a bigger sample size. Additionally, because our sampling method was concentrated on a particular student demographic at certain universities, those which were available to us and our participants via the snowball sampling method, this further restricts generalisability of our findings from students from other educational institutions or more diverse backgrounds.

Some of the measures we used in our study were not as reliable as they could have been, or they were shorter than ideal. The measure of LE consisted of three questions, and while these questions were adapted from previous research where they showed reliable and consistent results, the same can not be said for the career orientation measure. For the purposes of measuring only the GMCA, we included only three items which cover the general managerial factor in the short form measure. This has not been done in previous studies. Instead, Tiraieyari et al. (2014) utilised the measure in its entirety, which kept the reliability and validity of their instrument much higher than in our case. Due to the need for brevity, we stand by our choice to shorten the form and present only the relevant items, but suggest that future research on GMCA as an antecedent of MTL be done using the instrument in its entirety. We may have measured the observable variable of GMCA, but we may have not managed to capture the latent variable of this specific career anchor, thus any connection it has to the GSE construct would not be recorded either.

Furthermore, the potential of response bias is introduced when variables like self-efficacy and leadership motivation are evaluated using self-reported data. Results could be biassed if people tend to overestimate or underestimate their motivations and abilities or if they purposefully give answers differing from reality. The inherent subjectivity of self-report measures is a limitation of this and all similar studies, which is why we suggest replicating this study with the addition of other measuring methods, such as third-party observation or documentation analysis. Moreover, selection biases may have been generated by the voluntary participation in our study. People that have a greater interest in or commitment to leadership might be more likely to take part, which could have affected the results. Even with best efforts to assemble a representative and heterogeneous sample, selection bias is always a possibility. In future research, different sampling methods, like probability sampling, might be more appropriate.

Our analyses were based on theoretical models which placed motivation firmly in between individual characteristics, beliefs, and experience on one side and leadership outcomes on the other. We analysed data under the assumption that the antecedent variables precede and

influence motivation, not the other way around. it would be interesting to conduct regression analyses with one of the antecedent variables as the dependent and see how much of their variance is explained by MTL. This might open up a new avenue of research.

In conclusion, even while our study provides important new information to the existing knowledge on university students' leadership motivation, these limitations must be taken into account and addressed in future research.

6. CONCLUSION

The aim of this research study was to examine the connection between motivation to lead and its antecedents – general and leadership self-efficacy, career anchors, and leadership experience. In this study, we explored the connection between general and leadership self-efficacy, career anchors, leadership experience, demographic variables of age, gender, and academic level, and motivation to lead. We examined how these antecedent variables contribute to the explanation of motivation to lead and its dimensions of affective identity, social normative, and noncalculative motivation. Our results show that motivation to lead is connected to all antecedent variables, though demographic variables do not have a relationship to motivation. Higher motivation to lead is more common among students with high general and leadership self-efficacy and more leadership experience.

Self-efficacy beliefs are critical in motivating people to assume leadership positions, as leadership self-efficacy is the most robust predictor of motivation to lead and all its dimensions. Those who expressed greater confidence in their leadership skills are more motivated. In practice, improving students' leadership self-efficacy should receive particular focus. Even though general self-efficacy and opportunities for leadership experience are still important aspects of such programmes and should be addressed, they have a smaller impact on motivation than expected. Specifically, students' motivation to lead may be especially well-nurtured by strategies designed to increase their leadership self-efficacy competencies.

Unexpectedly, general managerial career orientation is not a significant predictor of variation in motivation. Our findings contribute to the small amount of research in this area, raising questions about the relationship between career orientations and leadership outcomes, and illustrating the necessity for a more thorough investigation of these constructs.

Our research adds notable findings to the area of motivation and leadership studies, as well as potentially informing leadership development programmes in organisational and educational contexts.

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8. APPENDIX

Appendix 1. Survey of University Students' Motivation to Lead

Leadership experience

In the past, how often have you occupied leadership positions in groups, associations, institutions, etc. (e.g., leader in a sport team, coordinator of cultural or political groups, leader on a work project, etc.)?

- 1 = never
- 2 = rarely
- 3 = sometimes
- 4 = often
- 5 = very often

How frequently in your current position are you required to assume leadership roles or positions?

- 1 = never
- 2 = rarely
- 3 = sometimes
- 4 = often
- 5 = very often

Carefully consider your personal experience – at university, in extra-curricular activities or at work. How much experience in leadership roles do you have in comparison with your peers (e.g., the people of your age)?

- 1 - Almost no leadership experience compared to my peers
- 2 - Few leadership experiences compared to my peers
- 3 - An average amount of leadership experiences compared to my peers
- 4 - A number of leadership experiences slightly above average compared to my peers
- 5 - A number of leadership experiences largely above average compared to my peers

Motivation to Lead

The following scale contains statements that indicate an attitude or behaviour related to leadership that may or may not be characteristic or descriptive of you. Please, read each statement carefully and indicate the degree to which you disagree or agree with each statement on a scale from 1 to 5, with the numbers meaning:

1 Disagree Completely

2 Mostly Disagree

3 Neither Agree nor Disagree

4 Mostly Agree

5 Agree Completely

1. Most of the time, I prefer being a leader rather than a follower when working in a group.
2. I am the type of person who is not interested in leading others.
3. I am only interested in leading a group if there are clear advantages for me.
4. I will never agree to lead if I cannot see any benefits from accepting that role.
5. I am definitely not a leader by nature.
6. I feel that I have a duty to lead others if I am asked.
7. I agree to lead whenever I am asked or nominated by the other members.
8. I am the type of person who likes to be in charge of others.
9. I have more of my own problems to worry about than to be concerned about the rest of the group.
10. I would never agree to lead just because others voted for me.
11. Leading others is really more of a dirty job rather than an honourable one.
12. I believe I can contribute more to a group if I am a follower rather than a leader.
13. I was taught to believe in the value of leading others.
14. It is appropriate for people to accept leadership roles or positions when they are asked.
15. I usually want to be the leader in the groups that I work in.
16. I am the type who would actively support a leader but prefers not to be appointed as leader.
17. I have a tendency to take charge in most groups or teams that I work in.
18. I would only agree to be a group leader if I know I can benefit from that role.
19. I would agree to lead others even if there are no special rewards or benefits with that role.
20. I would want to know “what’s in it for me” if I am going to agree to lead a group.
21. I am seldom reluctant to be the leader of a group.
22. I have been taught that I should always volunteer to lead others if I can.
23. It is not right to decline leadership roles.

24. It is an honour and privilege to be asked to lead.
25. I never expect to get more privileges if I agree to lead a group.
26. If I agree to lead a group, I would never expect any advantages or special benefits.
27. People should volunteer to lead rather than wait for others to ask or vote for them

Orientation towards Leadership

The following statements are connected to managerial and leadership aspects of work. Please express how important the following items would be for you in your future career, on a scale from 1 - of no importance, to 5 - of central importance.

The process of supervising, influencing, leading, and controlling people at all levels is

-

To be in charge of a whole organisation is

-

To rise to a high position in general management is

-

Self-efficacy & General Self-Efficacy

The following page contains 8 statements that indicate an attitude or behaviour that may or may not be characteristic or descriptive of you. Read each statement carefully and indicate the degree to which you agree with each statement on a scale of 1 to 5, with the numbers meaning:
1 Disagree Completely
2 Mostly Disagree
3 Neither Agree nor Disagree
4 Mostly Agree
5 Agree Completely

1. I will be able to achieve most of the goals that I have set for myself.
2. When facing difficult tasks, I am certain that I will accomplish them.
3. In general, I think that I can obtain outcomes that are important to me.
4. I believe I can succeed at most any endeavour to which I set my mind.
5. I will be able to successfully overcome many challenges.
6. I am confident that I can perform effectively on many different tasks.

7. Compared to other people, I can do most tasks very well.
8. Even when things are tough, I can perform quite well.

Leadership Self-Efficacy

The following statements concern your perception of yourself as a leader. Read each statement carefully and indicate the degree to which you agree with each statement on a scale of 1 to 5, with the numbers meaning:

1 Disagree Completely
2 Mostly Disagree
3 Neither Agree nor Disagree
4 Mostly Agree
5 Agree Completely

1. I am able to set a new direction for a group, if the one currently taken doesn't seem correct to me.
2. I can usually change the attitudes and behaviours of group members if they don't meet group objectives.
3. I am able to change things in a group even if they are not completely under my control
4. I am confident in my ability to choose group members in order to build up an effective and efficient team.
5. I am able to optimally share out the work between the members of a group to get the best results.
6. I would be able to delegate the task of accomplishing specific goals to other group members.
7. I am usually able to understand to whom, within a group, it is better to delegate specific tasks.
8. Usually, I can establish very good relationships with the people I work with.
9. I am sure I can communicate with others, going straight to the heart of the matter.
10. I can successfully manage relationships with all the members of a group.
11. I can identify my strengths and weaknesses.
12. I am confident in my ability to get things done.
13. I always know how to get the best out of the situations I find myself in.
14. With my experience and competence I can help group members to reach the group's targets.
15. As a leader, I am usually able to affirm my beliefs and values.

16. With my example, I am sure I can motivate the members of a group.

17. I can usually motivate group members and arouse their enthusiasm when I start a new project.

18. I am able to motivate and give opportunities to any group member in the exercise of their tasks or functions.

19. I can usually make the people I work with appreciate me.

20. I am sure I can gain the consensus of group members.

21. I can usually lead a group with the consensus of all members.