GRITTY LEADERS — THE INFLUENCE OF GRIT ON POSITIVE LEADERSHIP CONSIDERING PERFECTIONISM: AN EMPIRICAL ANALYSIS

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Abstract

In order to achieve their long-term goals, managers in the business world must respond effectively to various challenges. In this context, a positive correlation between perseverance and positive leadership can be observed. However, excessive emphasis and rigidity regarding set goals can hinder their achievement, potentially related to perfectionism. Our paper is the first empirical study focused on the media, information, and telecommunications sector to analyze the relationship between positive leadership and perseverance, with perfectionism considered as a moderating variable. In addition, the Triarchic Model of Grit Scale (TMGS) by Datu et al. (2017) is examined for the first time in Germany. Our results show that perseverance can increase positive leadership qualities, which a manager's perfectionism can partially moderate. For Germany, it can also be noted that the TMGS is insufficient as an explanatory model, and that we propose a five-factor model of perseverance in our individualistic culture instead. We demonstrate the importance of targeted training opportunities for managers to improve their positive leadership qualities. Limitations of our study include, in particular, the limited sample size and a strong industrial bias in the area of media, information, and telecommunications.

Keywords: Positive Leadership, Grit, Perfectionism, Leadership, Triarchic Model of Grit Scale, TMGS

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1. INTRODUCTION

Malinga et al. (2019) have identified positive leadership as a suitable leadership approach for coping with the volatile, uncertain, complex, and ambiguous nature of the modern workplace. In this context, leaders have a positive or negative effect on the behavior and atmosphere of their employees (Gauthier, 2015). Herein, positive leadership behaviors and methods are employed by leaders to accomplish exceptional employee performance (Cameron & Lavine, 2006). Consequently, "positive"

leaders concentrate on positively influencing their employees in order to motivate them to perform at their highest level (Gauthier, 2015). Particularly important in the context of performance delivery is the establishment of objectives. According to goal-setting theory, individuals exhibit more significant effort and consistency of interest with higher goals than easy or vague ones (Locke & Latham, 2002). Goal-oriented behaviors have been linked in research to the personality trait grit (Tyumeneva et al., 2019). While some persistently pursue their goals, others give up when faced with significant obstacles (Arco-Tirado et al., 2018). Grit's persistent and tenacious pursuit of long-term goals is characteristic. Individuals with higher grit expression work harder to achieve their long-term goals without being distracted by short-term or less relevant goals (Duckworth et al., 2007).

Recent research has criticized the two-factor conceptualization of grit, prompting the proposal of alternative models such as the Triarchic Model of Grit Scale (TMGS). In addition to consistency of interest and perseverance of effort, the three-factor TMGS model of Datu et al. (2017) also incorporates situational adaptability. This model was developed in a collectivist cultural context, and its applicability to individualistic cultures has not been adequately examined. Nevertheless, grit is acquiring popularity as a predictor and promoter of success and achievement (Houston et al., 2020); however, the potential unfavorable effects of grit have not been adequately explored (Houston et al., 2020). Schimschal and Lomas (2018) identify a potential negative impact of grit when individuals focus too much on their consistency of interest in goal achievement.

Nevertheless, grit as a concept is growing in significance. Especially in Western society, it is highly regarded when individuals set ambitious goals to achieve exceptional performance (Otto et al., 2021). According to Spitzer (2016), a certain level of perfectionism is almost taken for granted. Recent research has shown that the pursuit of perfectionism is widespread, and the number of perfectionists has increased over the past three decades. Perfectionistic individuals tend to set and pursue excessively high-performance standards (Curran & Hill, 2019). In particular, many business leaders exhibit perfectionist tendencies (Guo et al., 2020). However, evidence exists that perfectionism can also have detrimental effects (Mahmoodi-Shahrebabaki, 2017).

Building on the findings of Schimschal and Lomas (2018), our study extends the understanding of the relationship between grit and positive leadership. For the first time, we examine the existing research gap on the possible moderating effect of perfectionism in the relationship between grit and positive leadership. Our investigation is based on the research question of whether there is a positive correlation between grit and positive leadership, and to what extent the moderating influence of perfectionism can explain this correlation. Our findings indicate a positive correlation between grit and positive leadership, which is partially moderated by perfectionism.

The structure of our article is as follows. Section 2 provides the theoretical foundation for our research. Section 3 presents our data set and methodology. Section 4 analyzes the findings. Section 5 concludes our paper with a summary and discusses the potential limitations of our analysis, with a special focus on endogeneity and practical implications.

2. LITERATURE REVIEW

Positive leadership can be traced back to Cameron (2013) and has received a great deal of attention in recent years, alongside the rapidly expanding field of positive psychology (Singh & Chukkali, 2021; Wang et al., 2023). Cameron (2012) defines positive leadership as the manner in which leaders enable desirable performance, promote beneficial alignment in organizations, and create a focus on virtue and the best of the human condition. According to researchers, positive leadership can help organizations respond more effectively to challenges (Youssef & Luthans, 2012; Malinga et al., 2019). It also provides employees with a sense of vitality, encourages them to concentrate more, and inspires them to be committed to their jobs (Rich et al., 2010). Therefore, positive leadership can be an essential factor in motivating employees. Several leadership theories (e.g., humble leadership, transformational leadership) overlap with positive leadership, yet do not emphasize positivity. Positive leadership differs from transformational leadership, for instance, in that the former includes moral esteem while the latter does not necessarily possess it (Yan et al., 2023). In addition, humble leadership is characterized by humility, although humility is not an essential quality of positive leadership (Owens et al., 2013; Malinga et al., 2019). Positive leadership focuses on how individuals can realize their potential and cultivate their inner qualities, emphasizing goodness, euphoria, and achieving excellence (Malinga et al., 2019; Cameron, 2012; Youssef & Luthans, 2012). Studies have shown that positive leadership can enhance psychological capital, employee empowerment, and employee trust in leaders, resulting in employees demonstrating higher performance outside and within their roles (Avey et al., 2011; Norman et al., 2010). In addition, positive leadership can reduce employee deviant behaviors and improve employee job satisfaction and well-being (Kelloway et al., 2012; Bedi et al., 2016; Cameron et al., 2017). Positive leaders encourage employees to engage positively in interactions, resulting in them being energetic and creative (Yan et al., 2023). Specifically, positive leadership elicits positive responses from employees, such as enhanced self-concept, since it enables employees to experience positive work events (Hannah et al., 2009). Youssef-Morgan and Luthans (2013) demonstrate that positive leadership improves employees' organizational spirit, strengthens their resilience, and enables them to develop their competencies by concentrating on their strengths.

Cameron (2012) identifies positive leadership strategies and methods to achieve these desirable effects of positive leadership. These include a positive climate, positive relationships, positive communication, and positive meaning (Cameron, 2012). Our research focuses on positive communication and positive meaning. Positive communication involves sharing information in a supportive and encouraging manner that seeks understanding, focuses on others, and develops quality connections (Cameron, 2012; Dutton, 2014). Moreover, when leaders are passionate about what they do and believe, others are able to experience

that passion through their positivity (Methikalam et al., 2015). According to Methikalam et al. (2015), this helps to increase employee engagement and enhance their ability to excel.

Leaders who employ positive communication value the contributions of others to team and organizational outcomes, which has a positive effect on the implementation of positive meaning (Schimschal & Lomas, 2018). Although individuals work to earn a living, research shows that people sometimes also pursue a job to experience a sense of purpose, make a difference, build relationships, and contribute to something larger than themselves (Rodell, 2013). When individuals perceive their work to be essential, they are willing to devote all of their available energy to it (Beattie, 2019). In this context, leaders can connect individuals to their purpose and directly influence at least three primary sources of meaning at work: the self, others, and the work context (Rosso et al., 2010). In particular, leaders can assist others to enhance the significance of their work. This improved congruence with interests, values, and virtue increases sense-making, resulting in greater job satisfaction, engagement, and perseverance (Cameron, 2014).

To implement positive leadership strategies, Cameron (2013) identifies five positive leadership methods: 1) creating a culture of abundance, 2) developing positive energy networks, 3) communicating negative feedback positively, 4) setting and achieving Everest goals, and 5) applying positive leadership in organizations (Cameron, 2013). The methods of positively communicating negative feedback, setting Everest goals, and positive leadership are utilized in the study as they are centered on achieving goals. Everest goals use the specific, measurable, assignable, realistic, and time-based approach to goal setting developed by Doran (1981) to formulate effective goals. In addition, Everest's goals are extended by Cameron (2013) to include five additional characteristics. First, they are positively divergent and thus target deficits in the bottom line. Furthermore, they have a positive outlook and are compassionate, allowing them to concentrate on opportunities. Similarly, they represent a contribution and thus benefit others. Lastly, they generate and promote sustainable positive energy (Cameron, 2013).

According to Eskreis-Winkler et al. (2016), individuals with a high level of grit are characterized by their ability to establish and achieve ambitious goals. Therefore, gritty leaders will likely use advanced goal-setting processes to capitalize on deficits. Moreover, if goals are aligned with enthusiastic activities, it is simpler to maintain persistence over time. Goals are, therefore, a method for directing energy in a structured and efficient manner (Cerasoli et al., 2014). As a consequence, an extensive amount of literature has been published on goal-setting theory (Locke & Latham, 2005).

Locke and Latham's (1990, 2002) goal-setting theory was developed inductively over the course of 25 years in industrial and organizational psychology based on approximately 400 laboratory and field investigations. Studies show that specific and high-level goals, as opposed to simple or vague and abstract goals, can lead to higher levels of task performance. There is a positive linear relationship between goal difficulty and task performance if the individual is committed to the goal, possesses the requisite skills, and has no competing goals. Since goals refer to future, estimated outcomes, goal setting is primarily a process that creates discrepancies. Accordingly, goals are the most important measure of satisfaction with one's performance. Challenging goals are more motivating than easy goals as they require greater performance to achieve. According to Locke and Latham (2006), individuals derive a sense of accomplishment in their professional lives by perceiving their own progress and successfully overcoming significant and meaningful challenges.

Four factors mediate the relationship between goals and performance. Research suggests that setting higher goals results in increased effort and sustained interest compared to goals that are moderately complex, easy, or vague. According to Locke and Latham (2006), goals serve as a means to focus one's attention, effort, and actions on activities that are relevant to achieving the desired outcome, while avoiding non-relevant activities. The concept of self-efficacy, which refers to an individual's confidence in their ability to perform a specific task, has been found to have a relationship with goals (Locke & Latham, 2006). This relationship is mediated by various factors, including personality traits, feedback, participation in decision-making, job autonomy, and monetary incentives (Bandura, 1997). The primary moderators of goal-setting are feedback mechanisms that enable individuals to monitor their progress. Furthermore, a crucial aspect of goal attainment is the level of commitment towards the objective, which is bolstered by self-efficacy and the perceived significance of the goal. Additionally, the complexity of the task plays a pivotal role, as the acquisition of task knowledge is more arduous in intricate tasks. Locke and Latham (2006) assert that the effectiveness of assigning challenging goals may be compromised if individuals perceive such goals as threatening. Whether a person perceives a high-stakes goal as challenging or threatening represents a difference in that person's performance.

According to the findings of Drach-Zahavy and Erez (2002), individuals who perceive a task as a new challenge, while keeping the difficulty level of the goal constant, tend to perform differently based on their perception of the task. Specifically, those who view the task as a threat, with a focus on potential failure, tend to perform significantly worse than those who view the task as a challenge, with a focus on the potential for success and the usefulness of their efforts.

Furthermore, Seijts et al. (2004) examine the effects of goal setting (state) on the effects of goal orientation (trait). Individuals with a learning goal orientation (state orientation) tend to choose tasks to acquire knowledge and skills. Seijts et al. (2004) show that a specific, ambitious learning goal (state orientation) can increase an individual's performance regardless of their trait orientation. However, performance on a complex task is highest when individuals have a learning goal orientation and also set a performance goal.

People exhibit different patterns of behavior, which depend on whether or not they successfully pursue their long-term goals. While some people persist in pursuing such goals for years or decades, others abandon pursuing them when faced with significant challenges (Arco-Tirado et al., 2018). According to Sheldon et al. (2015), the personality trait grit (Duckworth et al., 2007) was found to be

the most suitable predictor of enhanced goal attainment. This is because the construct of grit was specifically formulated to elucidate why certain individuals exhibit greater persistence and accomplishment in pursuing their goals, even in the face of obstacles.

According to Akin and Arslan (2014), grit is identified as a personality trait that is thought to be associated with the ability to forecast alterations in leadership effectiveness. In this regard, grit is associated with personality traits that are related to goal-oriented behavior: these include consistency of interest, perseverance of effort, and consistency of interest (Tyumeneva et al., 2019). Gritty individuals are inclined to pursue long-term goals eagerly, with interest and sustained effort over time (Eskreis-Winkler et al., 2014). Consistency of interest is characteristic. According to Duckworth et al. (2007), individuals with higher levels of grit work harder to achieve long-term goals. In the face of obstacles, individuals remain focused on their long-term objectives and are capable of persistently pursuing them for extended periods without being sidetracked by short-term or tangential objectives. Striving for success in goal pursuit has been conceptualized as a dispositional characteristic of grit (Duckworth et al., 2007).

Initially, the construct was developed to determine factors that differentiate individuals who exhibit exceptional performance and expertise from those who do not. Duckworth et al. (2007) posit that the variance in achievement cannot be solely attributed to IQ or talent, but rather, the consistency of one's interests and the sustained effort towards achieving goals are significant factors. Singh and Jha (2008) posit that perseverance is the ability of an individual to maintain their willpower and strength in the face of challenging or stressful circumstances, and is demonstrated through a continuous effort to attain a desired goal. Akin and Arslan (2014) describe grit as the persistent exertion of energy over a prolonged period within this particular framework. According to Akin and Arslan (2014), individuals who exhibit a high level of grit would persist in their efforts even when others may have already abandoned the task. Furthermore, it has been observed that individuals possessing this particular trait demonstrate elevated levels of adaptability and introspection in their ability to conceptualize abstract problems (Willis, 2008).

Various studies have demonstrated that grit can serve as a predictor of success through its interaction with IQ (Duckworth et al., 2007), resilience (Maddi et al., 2013), self-control (Duckworth & Gross, 2014), and conscientiousness (Reed et al., 2012). This implies that grit is distinct from these concepts. Similarly, there is a need for an association between the constructs of grit and performance. Individuals exhibiting high levels of grit do not necessitate feedback. As per Duckworth et al. (2007), the presence of reward indicators for one's efforts would motivate individuals to pursue their goals in a purposeful manner.

Similarly, individuals with high levels of grit tend to persist in the face of difficulty and therefore have more success in life. According to Dale et al. (2018), individual differences in grit predict whether to continue exploring a task or abandon it. Individuals with higher grit are more likely to persist with an impossible two-task. However, this relationship is only observable in tasks where a known reward was available that participants believed they could accomplish (Dale et al., 2018).

The study conducted by Sheldon et al. (2015) investigated the construct of grit in conjunction with nine other favorable personality traits, in relation to the attainment of goals. They found grit to be a reliable predictor of achieving personally meaningful goals. Duckworth and Yeager (2015) have identified additional variables that impact performance outcomes, including opportunity, luck, talent, and personality traits such as curiosity. The research literature acknowledges the significance and capacity of grit as a distinctive attribute for anticipating objective results, as evidenced by studies conducted by Roberts et al. (2007) and Fernández-Martín et al. (2020). In this context, Fernández-Martín et al. (2020) identified grit as a predictor of career success. As per their assertion, grit is a predictor of tangible success in the workplace, including career advancement and compensation, job tenure, and learning proficiency. Nevertheless, it fails to anticipate subjective measures of career success, such as job satisfaction, task performance, or turnover intention. Furthermore, grit predicts well-being, job burnout or stress, optimism among school leaders, and work engagement among police officers (Fernández-Martín et al., 2020).

Duckworth et al. (2007) initially developed grit as a model consisting of two factors. However, grit's two-factor model has raised theoretical and methodological concerns. Recent research suggests that perseverance of effort and consistency of interest are related, albeit independent, constructs. The evidence in question was acquired through various methodological approaches, including internal structure analyses and criterion-referenced studies, as noted by Tyumeneva et al. (2019). Among others, Datu et al. (2016) analyzed the internal structure of the short version of the grit scale within the hierarchical grit model. The study focused on investigating perseverance of effort and consistency of interest as primary factors of a superior grit factor. They determined that grit encompasses two distinct dimensions and does not form one hierarchical construct (Datu et al., 2016). In their study, Disabato et al. (2019) examined the structure of grit in seven regions and found lower reliability coefficients in non-Western societies.

Moreover, inconsistent results can be found in the literature regarding the extent of the relationship between consistency of interest and perseverance of effort (Tyumeneva et al., 2019). Some analyses show positive and strong correlations between these two subscales (Arslan et al., 2013; Meriac et al., 2015), while others find low correlations (Rojas, 2015; Chang, 2014). For instance, Datu et al. (2016) show that consistency of interest predicts key psychological outcomes, academic engagement, and subjective well-being significantly better than perseverance of effort. In contrast, perseverance of effort does not predict these outcomes and is associated with lower behavioral and emotional engagement. Hatchimonji (2016) also provides evidence that consistency of interest consistently predicts academic achievement, whereas perseverance of effort does not.

Furthermore, there exist uncertainties regarding the applicability of grit's two-factor model, given that solely perseverance of effort has demonstrated a consistent correlation with numerous achievement outcomes (Credé et al., 2017). According to Tyumeneva et al. (2019), an increasing amount of research has consistently demonstrated that the two factors exhibit complex interrelationships

and create incongruous nomological networks. These results question whether the score obtained on the grit scale accurately reflects the underlying psychological concept of grit. Similarly, the low correlation between the consistency of interest and perseverance of effort subscales and their different criterion validity suggests that two constructs underlie the scale rather than just one grit construct. The findings indicate that the grit scale portrays two distinct characteristics, namely consistency of interest and perseverance of effort. Thus, the consecutive approach with the two unidimensional models provides statistically solid evidence that both subscales reflect related but independent constructs and do not compose the entire grit scale as an integrated measure (Tyumeneva et al., 2019). The results obtained by Tyumeneva et al. (2019) are in line with the findings reported by Credé et al. (2017), indicating that the associations between perseverance of effort and consistency of interest are subject to significant moderation. Additionally, the structural models incorporating grit as a higher-order factor exhibit poor fit or are unidentifiable, and the relationship between perseverance of effort and consistency of interest is not consistent within a network of outcomes. Last, the study by Houston et al. (2020) raises some fundamental questions about the nature of the grit construct and concludes that the grit construct needs critical reevaluation.

According to Duckworth et al. (2007), the possession of both consistency of interest and perseverance of effort is necessary to exhibit grit. However, a strong focus on perseverance of effort may result in an unfavorable outcome of grit (Schimschal & Lomas, 2018). In their study, researchers Lucas et al. (2015) note that gritty individuals persist with a task even when it involves risk, loss, and failure. According to Duckworth and Eskreis-Winkler (2015), individuals who exhibit greater persistence in pursuing their goals may also display a higher degree of resistance to new opportunities.

Similarly, when grit is partitioned into consistency of interest and perseverance of effort, consistency of interest alone explains this tendency (Alaoui & Fons-Rosen, 2021). The authors posit that individuals possessing high levels of grit may encounter increased challenges in surrendering their pursuits and acknowledging defeat, despite their desire to do so. This tendency is encompassed within the consistency of interest facet of grit, which has both the positive aspect of not giving up and the negative aspect of not letting go (Alaoui & Fons-Rosen, 2021). Thus, a person's resistance to deviating from the current goal and targeting another one (consistency of interest component) is associated with perseverance of effort as stubbornness (Alaoui & Fons-Rosen, 2021).

In a leadership context, the relentless pursuit of goals could negatively impact employee engagement and performance if leaders focus too much on goals and ignore the needs of those around them (Ordóñez et al., 2009). However, despite its downsides, grit continues to gain traction as a construct (Schimschal & Lomas, 2018). Setting ambitious goals and achieving optimal performance is highly regarded, especially in Western society (Otto et al., 2021). According to Spitzer (2016), a certain level of perfectionism is almost taken for granted and has a significant association with engagement and motivation (Harari et al., 2018). However, the effects of perfectionism on leadership have been insufficiently considered in research (Otto et al., 2021; Ocampo et al., 2020).

Recent studies have shown that there has been a notable surge in the prevalence of perfectionism over the last thirty years, indicating that the aspiration for flawlessness is a widespread phenomenon (Curran & Hill, 2019). Perfectionists tend to set and pursue excessively high-performance standards (Curran & Hill, 2019; Flaxman et al., 2012). Despite the significant interest in perfectionism and its many facets, there is a gap in research on this phenomenon in the realm of leadership. Otto et al. (2021) examine perfectionism in the contexts of transformational leadership, management by exception, and servant leadership. Here, the researchers show a negative relationship between self-oriented perfectionism and positive relationships with their other-oriented and socially desirable perfectionism in management by exception (Otto et al., 2021). However, there are no significant correlations with transformational leadership found. The study reveals a negative correlation between other-oriented perfectionism and the forgiveness dimension of servant leadership. This finding suggests that there may be an obstacle to establishing interpersonal relationships, acceptance, and trust. Furthermore, self-oriented perfectionism could be a favorable characteristic for servant leadership (Otto et al., 2021). As of present, the subject of perfectionism has yet to be thoroughly examined within the context of positive leadership.

According to Guo et al. (2020), a significant number of business leaders demonstrate tendencies towards perfectionism. Perfectionism is often praised as a trait of leaders due to its ability to inspire them to attain organizational excellence (Guo et al., 2020). However, the internal drive, or striving, for excellence and perfection can often cause perfectionists to be overly demanding of themselves and self-critical (Arpin-Cribbie & Cribbie, 2007). Perfectionists' tendency to set unrealistic goals (Hewitt & Flett, 1991) and try hard to avoid making mistakes (Frost et al., 1990) may be problematic for leaders. According to Burns et al. (2000), perfectionists' self-esteem depends on achieving unrealistic self-imposed goals.

Therefore, individuals high in perfectionism feel the compulsion to take matters into their own hands and are more likely to feel insecure when lacking control (Ruggeri, 2018). In the workplace, however, certain activities require perfectionists to collaborate to meet task-specific performance standards (Harari et al., 2018). According to Chang (2006) and Hill et al. (2004), the aspiration to attain high and realistic performance standards supports the adoption of planning behavior, enhances task efficiency, and promotes the pursuit of achievement. However, evidence exists that perfectionistic striving negatively affects job performance (Mahmoodi-Shahrebabaki, 2017). In this context, Hrabluik et al. (2012) state that although perfectionism is positively related to task performance overall, it may only apply to specific tasks that need to be accomplished in the short term. Perfectionism, however, is rarely necessary for most work tasks and may lead to inefficiency and lower performance, as continuous effort and perseverance of effort are required over a prolonged period (Hrabluik et al., 2012).

Due to the self-critical nature of perfectionism and the fact that leaders are responsible for their

employees' performance (Burger, 1989), perfectionistic leaders view their employees' performance as part of their own (Guo et al., 2020). Therefore, perfectionistic leaders exhibit concerns regarding their employees' work, which may lead to abusive behaviors that negatively impact their work (Guo et al., 2020). Researchers argue that, within the context of abusive leadership behaviors, such conduct is a response to the individual's perceptions of low control. Perceived control refers to a person's belief in exerting influence over the adversity of an event (Lee et al., 1990) and to significantly alter or predict situations (Burger, 1989). Since leaders with perfectionist traits tend to focus on the potential of failure (Flaxman et al., 2012), they are likely to display heightened concern regarding their employees' performance and are motivated to obtain information about their work progress to preempt any errors (Burns et al., 2000). The study conducted by Guo et al. (2020) demonstrates that leaders who exhibit perfectionist tendencies possess comparatively lower levels of control in comparison to leaders who do not exhibit such tendencies. As a result, they may show more abusive behaviors toward their employees. The present study has identified employee feedback behavior as a moderator in this particular context. According to Guo et al. (2020), there is a negative correlation between the frequency of employees seeking feedback from perfectionist leaders and the leaders' perceived lower level of control. Additionally, the study found that abusive behavior towards employees is more likely to be exhibited by leaders who perceive themselves to have less control.

The multidimensionality of perfectionism is characterized by positive and negative aspects and can be classified into various types (Rice et al., 2007). Subsequently, the terms perfectionistic striving and perfectionistic concern are applied, which describe the extent of adaptive (positive, healthy, and functional) perfectionism and maladaptive (negative, unhealthy, and dysfunctional) perfectionism. Stoeber et al. (2009) conducted a systematic literature review on the topic of perfectionism, wherein they identified two distinct aspects of perfectionism, namely perfectionistic striving and perfectionistic concern. Perfectionistic striving is defined as aspiring to one's perfection and setting high personal standards (Wang et al., 2016) and is referred to as healthy perfectionism (Ellam-Dyson & Palmer, 2010). Stoeber et al. (2009) posit that individuals who exhibit healthy perfectionism strive diligently towards achieving favorable outcomes, without experiencing excessive distress during the process or in the event of failure. They have high levels of perfectionist striving and low levels of perfectionist concern. Healthy perfectionists exhibit lower ego (Dickinson & Ashby, 2005), less procrastination (Ashby & Kottman, 1996), fewer obsessive-compulsive symptoms (Ashby & Bruner, 2005), higher self-esteem, and less depression (Slaney et al., 2002) than unhealthy perfectionists. This perfectionist striving can be viewed as positive or adaptive, as it is only slightly associated with psychological concerns (Methikalam et al., 2015) and positively associated with self-esteem and achievement (Grzegorek et al., 2004).

In contrast, perfectionistic concerns focus excessively on imperfections, mistakes, criticisms, and perceived discrepancies between actual and ideal performance (Wang et al., 2016). Consequently, the aforementioned phenomenon is referred to as unhealthy perfectionism (Ellam-Dyson & Palmer, 2010). Furthermore, it is widely acknowledged that perfectionistic concerns are deemed unfavorable or dysfunctional due to their correlation with various psychological conditions, including but not limited to depression, anxiety, and eating disorders (Patterson et al., 2012). Unhealthy perfectionists have high levels of perfectionist striving and high levels of perfectionist concerns (Ellam-Dyson & Palmer, 2010). Studies of unhealthy perfectionists have shown that inflexible attitudes (Ferrari & Mautz, 1997), higher stress levels (Flett et al., 2001), a tendency to worry and fear failure (Hewitt & Flett, 1991), slow decision-making (Rhéaume et al., 2000), low interpersonal sensitivity (Dixon et al., 2004), and self-harming behaviors are characteristic.

The different types of perfectionists (adaptive and maladaptive) and non-perfectionists were first identified in Rice and Slaney's (2002) study using the Almost Perfect Scale-Revised (APS-R) (Slaney et al., 2001). The APS-R is most commonly used to classify individuals into these different types. The subscales of the APS-R used to distinguish perfectionists are high standards and discrepancy. High standards measure the degree to which someone has high expectations of themselves, whereas discrepancy measures the perceived discrepancy between one's ideal expectations and performance (Wang et al., 2016). Adaptive perfectionists are characterized by high standards and a relatively low discrepancy between their aspirations and performance. Maladaptive perfectionists have both high standards and discrepancy expressions. Individuals who score low on standards and discrepancy are considered non-perfectionists (Wang et al., 2016).

Grit has been the subject of significant attention in the literature regarding success and performance. Prior research has primarily concentrated on the individual's personal characteristics (Lechner et al., 2019). A research study examined grit as a personality trait of leaders and found a positive correlation between grit and positive leadership. As per the findings of Schimschal and Lomas (2018), leaders who exhibit a notable degree of grit would demonstrate a persistent and persevering approach in pursuing their goals. Similarly, they are more likely to focus on their interests, seek purposeful work, and continuously improve by successfully navigating challenging situations (Duckworth, 2016). The authors Houston et al. (2020) have emphasized the favorable attributes of grit, while also drawing attention to the latent negative aspect of perfectionistic inclinations among individuals who exhibit high levels of grit. As per Houston et al. (2020), individuals exhibiting high levels of grit possess the ability to instigate change and formulate adaptive approaches to effectively manage their perfectionistic inclinations, which promotes the attainment of their long-term goals. With regard to this subject, the pursuit of goals is encompassed by both grit and perfectionism. However, perfectionism is characterized by the tendency to set unrealistic goals (Hewitt & Flett, 1991) and to take drastic measures to evade errors (Frost et al., 1990). In contrast, grit is characterized by the presence of three key components, namely consistency of interest, perseverance of effort, and adaptability to situations (Datu et al., 2017).

Consequently, our study aims to fill this research gap by investigating how grit relates to positive leadership. Additionally, the relationship will be analyzed to determine the potential moderating influence of perfectionism.

3. DATA AND METHODOLOGY

Within the scope of this investigation, a correlational questionnaire study is conducted. The survey is specifically targeted towards individuals who hold leadership positions and are accountable for managing employees. In 2017, the Federal Employment Agency recorded 1.9 million people in managerial positions (Schuster & Strahl, 2019). This value represents the population size of this study. The Enterprise Feedback Suite (EFS) Survey Tool by Questback was utilized in establishing the standardized self-assessment questionnaire. The variables collected include the perceived level of grit, positive leadership practices, and perfectionism.

Furthermore, the socio-demographic variables of age, gender, educational attainment, industry affiliation, managerial position, and leadership experience are gathered. The questionnaire contains exclusively closed-ended questions, which are responded to using a Likert scale indicating levels of agreement or disagreement. In order to achieve the intended objective, a total of 41 question items have been operationalized through the utilization of rating scales. An 11-item questionnaire on a five-point Likert scale is commonly employed to measure grit. The self-assessment scale comprises five levels of likeness, namely: not like me at all, not much like me, somewhat like me, mostly like me, and very much like me. The 18-question items on positive leadership practices are ranked using a five-point Likert scale (never, seldom, sometimes, frequently, always). Leaders' perfectionistic behaviors are determined using 12-question items on a seven-point Likert scale ranging from strongly disagree to strongly agree. The available data are metrically scaled for calculation.

The survey was conducted exclusively online using the EFS Survey Tool from Questback. Between March 1, 2022, and April 17, 2022, individuals residing in Germany were eligible to partake in the survey. The survey distribution was based on convenience sampling and took place in the social environment of the authors, as well as via social networks and messenger services. Questback's EFS Survey Tool ensures maximum anonymity for respondents and makes it impossible for the survey creator to draw conclusions about specific participants. It was also deliberately decided not to offer participants an open response option at the end of the survey, where they could have left their contact details in order to obtain a summary of the results. Our experiences have shown that such an option leads to a higher response rate. However, we decided against it in favor of participants' anonymity.

To address the inquiry, the research examines individuals who hold active managerial roles and possess personnel control duties. There are no limitations imposed with regard to the hierarchical position or industry of the organization. Following data cleaning procedures, the analysis included a total of 83 subjects, comprising 54 males and 29 females. The gender distribution of the sample population is approximately 1.862, with 65% of the individuals identifying as male and 35% identifying as female. The study reveals that a considerable proportion of the participants, specifically 37% (N = 31), belong to the age group of 25 years old to 34 years old. On the other hand, the highest percentage of subjects, accounting for 23% (N = 19), falls within the age range of 45 years old to 54 years old. Approximately half of the leadership respondents have completed a master's degree (49%), followed by 29% of the subjects with a bachelor's degree. With respect to the leadership experience of the participants, an equal proportion of leaders possess experience ranging from 1 to 3 years (25%) and 16 or more years (25%). The distribution of subjects is similar across the lower (31%), middle (35%), and upper management levels (31%). Among the cohort of 83 leaders, a notable proportion of 28% are employed in the information, media, and telecommunications industry, while a further 22% have reported their occupation as falling under the category of "other". No more information was obtained regarding the individual industry sectors or the organizational scale of the participants' employment.

The findings of past studies on the inconsistent nature of the two-factor model of grit point to the importance of alternative models for operationalizing grit (Datu et al., 2021). One of the most recent attempts to improve grit conceptualization is the development of Datu et al.'s (2017) TMGS, which conceptualizes grit as a disposition for consistency of interest, perseverance of effort, and adaptability to situations concerning long-term goals. Similar to the original grit model proposed by Duckworth et al. (2007), the present model highlights the significance of perseverance of effort and consistency of interest in achieving challenging long-term goals (Datu, 2020). Adaptability to situations, behaviors, or plans is added and elicited based on social, situational, and contextual factors (Datu et al., 2021). The TMGS was developed using items from the consistency of interest and perseverance of effort dimensions of the Short Version Grit Scale (Grit-S) (Duckworth & Quinn, 2009) and newly formulated items on adaptability. The reliability of the measurement instrument is calculated with the following Cronbach's alpha values: α consistency = 0.75, α perseverance = 0.74, and α adaptability = 0.85 (Datu et al., 2017). The original grit theory proposed by Duckworth et al. (2007) is supported by the concepts of perseverance and consistency of effort, whereas adaptability pertains to an individual's capacity to adjust to varying life circumstances, as posited by Datu et al. (2017). The dimension of grit known as adaptability is distinguished from the other two dimensions by its emphasis on individuals' ability to anticipate challenges, accept change, respond flexibly to it, and demonstrate a willingness to overcome any difficulties that may arise. Datu et al. (2017) conducted a study to establish the psychometric validity of the TMGS in a sample of college students, while a subsequent study by Datu et al. (2018) investigated the validity of the measure in high school students. Consistency of interest and adaptability have also been associated with increased academic, career, and talent development, self-efficacy (Datu et al., 2017), positive academic outcomes (Datu et al., 2018), and mental health outcomes (Datu et al., 2021). According to the research conducted by Datu et al. (2017),

the inclusion of adaptability as a dimension has been found to enhance grit scores. The TMGS was developed, tested, and serves as a culturally sensitive measure of grit in the collectivist culture of the Philippines, potentially providing an accurate assessment of an individual's determination toward long-term goals in an interdependent social context (Datu et al., 2017). The present investigation employs the complete version of the TMGS, which comprises a total of 11 items.

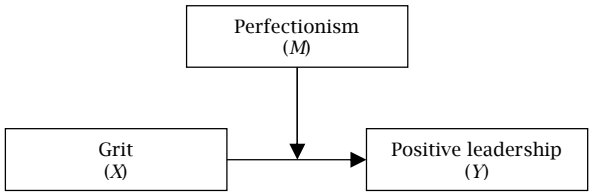
Positive leadership is measured using Cameron's (2013) Positive Leadership Practices Scale (PLP) measurement instrument. 18 items are selected to measure positive leadership in three dimensions: positive communication (five items), positive meaning (four items), and achievement of Everest-goals (nine items). The scale has a high internal consistency with a Cronbach's alpha of 0.89 (Schimschal & Lomas, 2018). Antino et al. (2014) obtained a comparable result with a modified, shortened version of the scale (Cronbach's alpha of 0.92). Furthermore, Antino et al. (2014) identify a positive correlation between PLP and transformational leadership ($r = 0.765$, $p < 0.01$). Similarly, a significant correlation was found between PLP and the subdimensions, particularly positive meaning ($r = 0.709$, $p < 0.01$). In a qualitative study by Martin and Wright (2017), the researchers examined Cameron's (2013) positive leadership conceptualization using the PLP scale. The researchers identify challenges in implementing the model for leaders regarding pre-existing leadership practices. Nevertheless, the performance was positively impacted.

The assessment of perfectionism is conducted through the utilization of the shortened version of the short version of APS-R (SAPS) (Rice et al., 2014), which is derived from Slaney et al.'s (2001) APS-R instrument. The dimensions of high standards and order represent the positive aspects, whereas discrepancy represents the negative aspect of perfectionism. The study conducted by Slaney et al. (2001) yielded Cronbach's alpha coefficients of 0.85, 0.86, and 0.92 for the high standards, order, and discrepancy subscales. Slaney et al. (2002) establish the measurement instrument's validity. A SAPS (Rice et al., 2014) was developed to examine perfectionism across cultures more efficiently. This eight-item SAPS has high psychometric qualities, measures the core characteristics of perfectionism, and distinguishes between different types of perfectionists (Rice et al., 2014). This study uses the short version of the SAPS of the APS-R scale, according to Rice et al. (2014). This measures perfectionism using the sub-dimensions of high standards and discrepancy, each with four items. The high standards subscale measures the degree of perfectionistic striving by assessing the setting of high expectations. The discrepancy subscale measures the degree of perfectionistic concern by eliciting participants' tendency to have a discrepancy between their aspirations and their performance. In addition, four items are added to the order subdimension.

The initial step of our study consisted of examining the dataset for any instances of missing values, followed by the implementation of data cleaning procedures utilizing two control questions. Following the guidelines on the scoring system by Duckworth and Quinn (2009), the grit consistency subscale question items were inverted to enable coding of negative statements in relation to the constructs *COI1*, *COI2*, and *COI3*. Regarding the SAPS (Rice et al., 2014) and the PLP (Cameron, 2013), no inversion of the question items is necessary. Normal distribution of the data prevails. Outliers are detected through exploratory data analysis utilizing the boxplot method and subsequently eliminated from the sample. This results in a sample size of 83, which is included in the further analysis. The descriptive socio-demographic characteristics have been computed based on the final sample. Ultimately, a reliability assessment is conducted to ascertain the Cronbach's alpha coefficients of the SAPS, PLP, and TMGS measuring tools.

To examine the research guiding question, a moderation analysis is applied to determine whether the interaction between grit and perfectionism significantly predicts positive leadership. Initially, the fundamental requirements for conducting a moderation analysis are examined. To assess linearity, the data is visually examined through a scatter plot with Locally Estimated Scatterplot Smoothing. The normal distribution is given; likewise, the condition of homoscedasticity and variable independence is fulfilled. The SPSS macro PROCESS, developed by Hayes (2018), is utilized to conduct moderation analysis. This method employs least squares linear regression to determine unstandardized coefficients. The bootstrapping procedure with 5000 iterations and heteroskedasticity-consistent standard errors (HC3) (Davidson, 1995) is used to calculate the confidence intervals (CI, 95%). The present study employs PROCESS to assess the relationship between the independent variable *X* (grit) and the dependent variable *Y* (positive leadership) while measuring a moderating effect *M* of perfectionism. The moderating variable, perfectionism, resembles an interaction effect in the relationship between grit and positive leadership.

Figure 1. Moderation model



4. RESULTS AND DISCUSSION

A reliability analysis of the measurement instruments, TMGS to determine grit, PLP to determine positive leadership capacities, and SAPS, is conducted to determine the internal consistency of the measurement instruments.

Table 1. Means, standard deviations, and Cronbach's alpha

Measure	*Scale*	*Item count*	*M*	*Std. dev.*	*Cronbach's alpha*
TMGS	1–5	11	4.01	0.31	0.383
PLP	1–5	18	3.63	0.50	0.868
SAPS	1–7	12	5.16	0.67	0.706

Both the PLP and SAPS scales exhibit a higher Cronbach's alpha coefficient. Nevertheless, the TMGS scale has only been found to exhibit an internal consistency of Cronbach's alpha = 0.383. Therefore, an examination of the principal components of the grit construct is conducted.

Principal component analysis enables the extraction of pertinent and independent factors from the TMGS (see Table 2).

Table 2. Principal component analysis correlation matrix

Construct	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
POE1	1									
POE2	0.295	1								
POE3	0.209	0.319	1							
COI1	-0.034	0.154	0.001	1						
COI2	-0.013	0.090	-0.056	0.175	1					
COI3	0.066	0.114	-0.141	0.179	0.343	1				
ATS1	-0.103	0.051	0.040	-0.031	0.082	0.090	1			
ATS2	-0.308	-0.135	-0.132	0.074	0.001	-0.329	0.255	1		
ATS3	0.067	0.048	-0.042	-0.083	0.128	-0.041	0.169	0.245	1	
ATS4	-0.064	-0.031	0.001	0.032	0.093	0.167	0.194	-0.136	-0.013	1
ATS5	0.194	0.040	0.022	-0.049	0.156	0.226	0.210	-0.019	0.220	0.224

The Kaiser-Meyer-Olkin criterion of 0.527 and Bartlett's test of $p < 0.001$ are highly significant, which are the requirements for performing the principal component analysis (see Table 3).

Table 3. KMO and Bartlett's test

Kaiser-Meyer-Olkin measure of sampling adequacy		0.527
Bartlett's test of sphericity	Approx. Chi-square	104.602
	df	55
	Sig.	< 0.001

Thus, the correlation between the items is sufficient. Therefore, only factors with eigenvalues ≥ 1 are included (Kaiser, 1960). Subsequently, the extraction of five factors with eigenvalues exceeding 1 is determined using the Kaiser criterion and the scree plot (see Figure 2). Table 4 displays the complete variance explanation of 66.89.

Figure 2. Screeplot

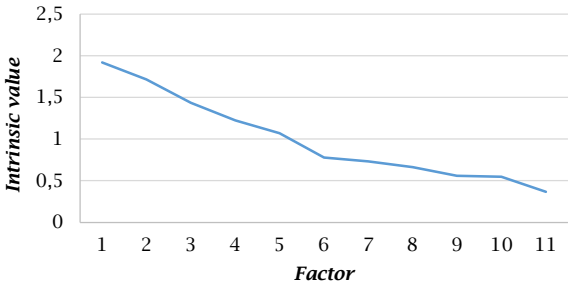


Table 4. Total variance explained

Components	*Initial eigenvalues*			*Extraction sums of squared loadings*			*Rotation sums of squared loadings*		
	Total	*% variance*	*% cumulative*	*Total*	*% variance*	*% cumulative*	*Total*	*% variance*	*% cumulative*
1	1.918	17.438	17.438	1.918	17.438	17.438	1.578	14.341	14.341
2	1.714	15.581	33.019	1.714	15.581	33.019	1.524	13.856	28.198
3	1.434	13.034	46.053	1.434	13.034	46.053	1.501	13.643	41.84
4	1.224	11.126	57.179	1.224	11.126	57.179	1.386	12.601	54.441
5	1.069	9.715	66.894	1.069	9.715	66.894	1.37	12.452	66.894
6	0.778	7.074	73.968						
7	0.732	6.653	80.621						
8	0.661	6.005	86.626						
9	0.559	5.086	91.711						
10	0.545	4.953	96.665						
11	0.367	3.335	100						

Note: Extraction method: Principal component analysis.

The rotated Varimax five-factor component matrix illustrates the high loadings of the items on each of the five factors. This outcome is most appropriately understood in relation to the underlying construct and is operationalized as follows. The five new components are illustrated and labeled (see Table 5).

Table 5. Principal component analysis of TMGS

Components	*1 Flexibility*	*2 Consistency of interest*	*3 Perseverance of effort of effort*	*4 Motivation*	*5 Positive attitude*
ATS2	0.852				
POE1	-0.538		0.449		
COI2		0.716			
COI1		0.665			
COI3	-0.422	0.660			
POE3			0.784		
POE2			0.762		
ATS3				0.777	
ATS5				0.596	0.458
ATS4					0.813
ATS1	0.451				0.595

Note: N = 83.

Furthermore, the degree of linear correlations among the subscales of the three utilized measurement instruments is assessed by applying the one-sided Pearson product-moment correlation. Table 6 displays the intercorrelations among the subscales of the measurement instruments.

Table 6. Pearson correlation coefficients of the main variables

Scale	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
(1) VNO	-													
(2) COI	-0.38**	-												
(3) POE	-0.12	0.03	-											
(4) MOT	0.21*	0.08	0.08	-										
(5) PAT	0.21*	0.16	0.02	0.47**	-									
(6) TMGS	0.05	0.74**	0.50**	0.45**	0.47**	-								
(7) COM	0.05	0.24	0.03	0.29**	0.15	0.31**	-							
(8) MEA	0.16	0.28**	0.05	0.36**	0.21*	0.40**	0.42**	-						
(9) AEG	0.23*	0.25**	0.00	0.35**	0.21*	0.38**	0.37**	0.65**	-					
(10) PLP	0.19*	0.32**	0.03	0.41**	0.24*	0.45**	0.67**	0.85**	0.88**	-				
(11) HSS	-0.02	0.02	0.31**	0.35**	0.12	0.23*	0.10	0.13	0.15	0.16	-			
(12) ODR	0.06	0.05	0.36**	0.11	-0.06	0.24*	0.02	0.04	0.06	0.06	0.15	-		
(13) DSC	0.18	-0.12	0.10	0.18*	-0.12	-0.04	0.08	0.04	0.05	0.07	0.25*	-0.08	-	
(14) SAPS	0.00	-0.08	0.22*	0.30**	-0.04	0.07	0.11	0.09	0.11	0.13	0.64**	0.00	0.90**	-

*Note: N = 83, ** p < 0.001, * p < 0.005, VNO = flexibility, COI = consistency of interest, POE = perseverance of effort, MOT = motivation, PAT = positive attitude, COM = positive communication, MEA = positive meaning, AEG = Everest-goals, HSS = high standards, ODR = order, DSC = discrepancy.*

The majority of the subscales within the measuring instruments employed for assessing grit and positive leadership exhibit a significant correlation with one another. It is noteworthy that there exists a partial significant correlation between the subscales of grit and perfectionism. However, no significant correlations are observed between the subscales of PLP and perfectionism. The overall grit scale correlates highly significantly ($p < 0.01$) with positive communication ($r = 0.31$), positive meaning ($r = 0.40$), Everest-goals ($r = 0.38$), and the PLP ($r = 0.45$). Furthermore, it has a significant correlation ($p < 0.005$) with the perfectionism subscales of high standards ($r = 0.23$) and order ($r = 0.24$). The PLP scale has significant correlations ($p < 0.005$) with the grit subscales' flexibility ($r = 0.19$) and positive attitude ($r = 0.24$) and highly significant correlations ($p < 0.001$) with perseverance of effort ($r = 0.32$) and motivation ($r = 0.41$). The full-scale perfectionism correlates significantly ($p < 0.005$) with the grit subscale perseverance of effort ($r = 0.22$) and highly significantly ($p < 0.001$) with the grit subscale motivation ($r = 0.30$). Achievement of Everest-goals correlates positively and significantly ($p < 0.005$) with flexibility ($r = 0.23$) and positive attitude ($r = 0.21$), and positively and highly significantly ($p < 0.001$) with consistency of interest ($r = 0.25$) and motivation ($r = 0.35$). Positive meaning shows similar correlations with the grit subscales: positive attitude ($r = 0.21$, $p < 0.005$), consistency of interest ($r = 0.28$, $p < 0.001$), and motivation ($r = 0.36$, $p < 0.001$). In addition, motivation and positive communication correlate positively ($r = 0.29$, $p < 0.001$). The perfectionism subscale high standards correlates positively and highly significantly with motivation ($r = 0.35$) and perseverance of effort ($r = 0.31$), respectively. The latter also significantly correlates with order ($r = 0.36$). Furthermore, motivation also correlates with discrepancy ($r = 0.18$, $p < 0.005$). In conclusion, no significant correlations are found between perfectionism and the PLP subscales.

A moderation analysis is employed to ascertain the degree to which the potential interaction between grit and perfectionism may predict positive leadership.

H1: Perfectionism moderates the relationship between grit and positive leadership.

In order to achieve this objective, a regression analysis was conducted. The findings indicate that the comprehensive model is statistically significant, as evidenced by $F(3,79) = 5.85$, $p = 0.001$, and accounts for 21.46% of the variance. However, the finding did not reveal a moderation effect of perfectionism on the relationship between grit and positive leadership, $\Delta R^2 = 0.0002\%$, $F(1,79) = 0.01$, $p = 0.90$, 95% CI [-0.0559, 0.0673]. The observed β-effect exhibits a negligible magnitude and lacks statistical significance, as evidenced by $p = 0.90$. Subsequently, the 95% CI encompasses the value of 0, as indicated by Hayes (2018), and therefore, its inclusion would preclude the attainment of a statistically significant outcome (95% CI [-0.0559, 0.0673]). Accordingly, no moderation effect can be detected.

According to Hayes (2018), in cases where the results are deemed insignificant, it is advisable to eliminate the interaction term from the model and proceed to develop a new simple regression model, as demonstrated below. This simple regression model shows a significant effect between grit ($\beta = 0.551$, $p = 0.001$) and none between perfectionism ($\beta = 0.021$, $p = 0.328$) for positive leadership. The statistical analysis indicates that the interaction is not statistically significant, as presented in Table 7. The conditional regression equation is as follows:

$$Positive\ leadership = (3.61 - 0.02\ Perfectionism) + (0.55 + 0.01\ Perfectionism) * Grit + Error\ term \quad (1)$$

Table 7. Positive leadership explained through grit, perfectionism, and interaction

Predictor	*β*	*p*
Grit	0.55	0.001
Perfectionism	0.02	0.328
Interaction	0.01	0.902

Note: β = standardized regression coefficient, F(3,79) = 5.85, p = 0.001, R² = 0.21, N = 83.

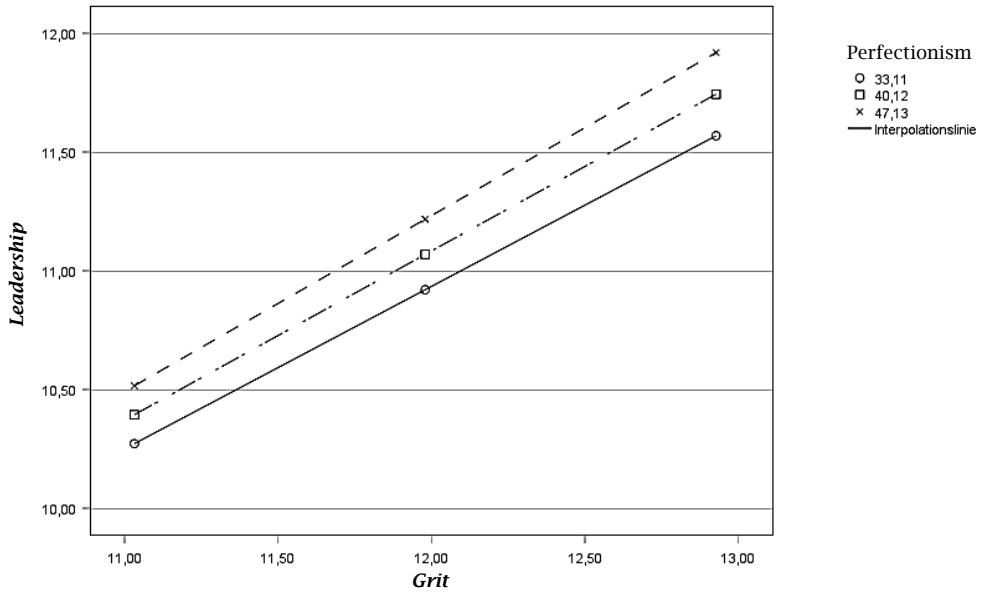
The study estimated the regression coefficients for grit as a predictor variable in a conditional model, with the aim of exploring the potential interaction between grit and perfectionism further. The conditional regression equations are evaluated to determine representative fit values. The conditional regression coefficients for the values 33, 40, and 47 of perfectionism are presented in the following.

Table 8. Conditional regression of positive leadership on grit

Perfectionism	*Conditional regression of positive leadership on grit*
33	Positive leadership = 3.83 + 0.68 grit
40	Positive leadership = 3.76 + 0.71 grit
47	Positive leadership = 3.69 + 0.74 grit

For individuals with lower levels of perfectionism, as indicated by a score of 33 or below, grit demonstrates a significant predictor for positive leadership ($\beta = 0.68$, $p = 0.03$). The study findings indicate that for leaders with an average level of perfectionism (value 40), grit is a significant predictor of positive leadership ($\beta = 0.71$, $p = 0.001$). Finally, the result is equally significant for above-average perfectionism (value 47), where grit is also a predictor of positive leadership ($\beta = 0.74$, $p = 0.005$). Figure 3 visualizes the slope of each conditional regression.

Figure 3. Conditional regression and interpolation



As per the Johnson-Neyman intervals, the expression of perfectionism is significant between the values 36 and 61 of leaders (Johnson & Neyman, 1936). Therefore, it can be inferred that within this perfectionism interval, grit is a significant predictor of positive leadership in leaders. The aforementioned analysis supports the hypothesis that there exists a partial moderation of perfectionism in the correlation between grit and positive leadership.

In our study, the TMGS (Datu et al., 2017) was applied and tested independently for the first time. This study confirmed and tested the independence of the variables of the TMGS. The findings of the descriptive statistics indicate that the scale exhibits a weak internal consistency with $\alpha = 0.38$. The obtained outcome is inconsistent with the Cronbach's alpha coefficients reported by Datu et al. (2017) for the constructs of interest consistency ($\alpha = 0.84$), effort perseverance ($\alpha = 0.84$), and adaptability ($\alpha = 0.88$).

Datu et al. (2017) conducted the development and assessment of the three-factor model in the Philippines, which is a society characterized by collectivism. Further investigations into the utilization of the TMGS scale within individualistic societies have yet to be conducted, thus necessitating the identification of cross-cultural commonalities and variations. However, culture may have a relevant influence on grit (Datu et al., 2016). According to the authors Datu et al. (2017), the scale is culturally sensitive and provides a valid measurement tool for grit in an interdependent culture. In our study, we surveyed leaders from Germany and thus from an individualistic culture. The deviant and low-reliability coefficients provide first insights for the applicability in individualistic societies and extend the research. The results of our study indicate that applying the TMGS in an individualistic culture may not be advisable due to its inadequate internal consistency.

Consequently, a comprehensive examination of the primary constituents of grit was undertaken, resulting in the identification of a five-factor model. This five-factor conceptualization includes consistency of interest and perseverance of effort, motivation, positive attitude, and flexibility. The independence of the newly identified factors was verified, and a dependency between the factors of perseverance of effort and motivation, and between positive attitude and motivation was identified. Accordingly, a person's motivation would change depending on the perseverance of effort and a positive attitude towards a goal. Based on the results, the independence of the new factors can thus only be partially assumed.

The application of principal component analysis yielded the finding that the consistency of interest and perseverance of effort items of the TMGS exhibit loading on the two factors. The results indicate that solely the adaptability items exhibit varying loadings and do not appear to uniformly assess adaptability to situations within the individualistic cultural context. The new items added by Datu et al. (2017) (*ATS3* and *ATS5*) measure a motivation-based component, resulting in a new factor called motivation. However, Tough (2012) already stated that grit can be motivation-

based. In the context of goal-setting theory (Locke & Latham, 2006), Cerasoli et al. (2014) also pointed out the possible motivational effect of goals. According to the researchers, goals are essential for satisfaction with one's performance. High or difficult goals increase motivation as they require higher performance to be satisfied (Locke & Latham, 2006). Thus, it is not surprising that motivation is a significant factor of grit in long-term goal pursuit.

In addition to motivation, positive attitude (*ATS5, ATS4, ATS1*) was also identified using principal component analysis, which appears relevant to grit. Locke and Latham (2006) cited in goal-setting theory that a positive attitude toward the goal increases engagement in goal achievement. Similarly, evaluating a goal as a challenge (positive attitude) or a threat (negative attitude) makes a difference in a person's performance. In this context, Drach-Zahavy and Erez (2002) identify significantly higher performance when individuals have positive attitudes toward their tasks. Thus, it can be inferred that a positive attitude toward goals can be conducive to their long-term pursuit and is an essential component of grit.

Finally, the factor flexibility was determined using principal component analysis, including items *ATS2, POE1, COI3*, and *ATS1*. The perseverance of effort item *POE1* and consistency of interest item *COI3* each have a negative effect on the new factor. In contrast, the original adaptability items, *ATS2* and *ATS1*, have positive factor loadings. The factor loading for *ATS2* is exceptionally high, which is not surprising. This item involves an individual adapting plans and strategies to achieve long-term goals. In this context, the flexibility factor refers to alternative approaches to achieving long-term goals. According to Liang (2021), a leader who possesses grit would demonstrate the ability to adapt their plans as needed, rather than completely abandoning a long-term goal. Hence, the comprehensibility of the negative factor loading pertaining to the items of consistency of interest and perseverance of effort can be ascertained. The findings of the current research contradict the claims made by Chen (2018) that individuals exhibiting high levels of grit do not engage in exploration of meaningful alternatives due to the inflexibility that arises from the perseverance of the effort component of grit. Subsequent research endeavors ought to investigate the established five-factor model of grit to determine its suitability in diverse cultural contexts.

Our study tested the potential moderating effect of perfectionism in the relationship between grit and positive leadership. The results initially suggest no significant moderating effect of perfectionism. However, the Johnson-Neyman intervals reveal a significant effect of perfectionism. Subsequent development of a simple main effects regression model demonstrated solely a significant correlation with grit, while no significant correlation was observed with perfectionism.

Our study identified a noteworthy moderating impact of perfectionism within a particular interval on the association. Within the perfectionism interval (32 to 51), the grit expression of leaders is a significant predictor of positive leadership. Thus, it can be inferred that individuals who score less than 32 on the perfectionism scale can be classified as non-perfectionists. Leaders who exhibit an expression of ≤ 33 are indicative of below-average levels of perfectionism. Leaders who exhibit an average perfectionism expression of ≤ 40 can be categorized as adaptive perfectionists. This classification is based on their tendency to maintain high expectations while demonstrating a minimal discrepancy between their anticipated and actual performance (Wang et al., 2016). Leaders who score a value of 47 are categorized as maladaptive perfectionists due to their elevated scores on the subdimensions of high standards and discrepancy. According to Wang et al. (2016), these expressions are characteristic of maladaptive perfectionists. Thus, it can be assumed that grit is a significant predictor of positive leadership from an adaptive perfectionist tendency (at least 32). The impact of perfectionism on leadership has not received adequate scholarly consideration thus far (Otto et al., 2021; Ocampo et al., 2020). Therefore, the current study's findings contribute to the existing research literature. Most recently, Otto et al. (2021) examined perfectionism in the context of transformational leadership, management by exception, and servant leadership. Otto et al. (2021) identified significant correlations between perfectionism and management by exception and perfectionism and servant leadership. However, no significant correlations were identified with transformational leadership (Otto et al., 2021). Our study extends the research findings on the relationship between perfectionism and positive leadership to the extent that no significant correlations were identified. Thus, it can be inferred that the moderating impact of perfectionism on the correlation between grit and positive leadership is contingent upon the adaptive perfectionist tendencies of a leader.

The findings of our study indicate that the grit expression of leaders has a promoting effect on positive leadership capacities. Hence, it is advisable for organizations to provide additional educational and training initiatives to their leaders in order to foster perseverance. The aforementioned could pertain to the concept of growth mindset, which is characterized by the conviction that one's abilities can be developed through learning and effort (Yeager & Dweck, 2012). It is recommended that organizations promote growth mindset leaders in order to foster a culture of positive leadership competencies that prioritize learning and development. For leaders and coaches, the relevance of growth-oriented mindsets has been confirmed (Chase, 2010; Heslin & Keating, 2017). Organizational leaders who possess a growth mindset are inclined to enhance their leadership competencies. Given this circumstance, organizations may be advised to offer training programs to enhance their leadership approaches and capabilities. Through active involvement, leaders acquire new competencies that may have a favorable effect on their goal attainment.

In addition to the growth-oriented mindset, organizations could influence leaders' positive attitudes toward their goals. The findings of our research suggest that the maintenance of a positive attitude can have a positive impact on the attainment of Everest-goals and contribute to a positive meaning. This, in turn, may have a positive impact on performance outcomes (Drach-Zahavy & Erez, 2002; Locke & Latham, 2006). The perception of a goal as either a challenge or a threat has been found to have a significant impact (Drach-Zahavy & Erez, 2002; Locke & Latham, 2006). Therefore, it is advisable for organizations to formulate their goals in a positive and aspirational manner. Additionally, it is recommended that

organizations implement learning and performance goals for leaders. Seijts et al. (2004) posit that individuals attain optimal performance achievement by directing their efforts towards a learning goal that enables them to enhance their knowledge and skills, while concurrently establishing a performance goal. By means of this combination, leaders would enhance their competencies on one hand and strive for an ambitious goal in a performance-driven fashion on the other.

Similarly, increasing motivation, flexibility, and positive attitude, as subdimensions of grit, is significant. Motivation initially reflects a person's drive to achieve a goal in life (Mitchell & Daniel, 2003). Individuals usually feel a discrepancy between needing resources to achieve goals and the existing beliefs and abilities that drive a person to act (Rosch & Villanueva, 2016). This commonly perceived discrepancy results from a complex mix of psychological and physiological factors that others cannot directly observe (Rosch & Villanueva, 2016). Aligning a leader's intrinsic drive toward a specific goal increases motivation to lead (Chan & Drasgow, 2001). If a leader lacks the motivation to lead, their motivation to develop leadership skills also suffers (Rosch & Villanueva, 2016). Long-term leadership development efforts by organizations should therefore begin with fostering individuals' motivation to act as leaders (Rosch & Villanueva, 2016). This, in turn, can lead to an elevation in the significance that a leader assigns to development programs (Rosch & Villanueva, 2016). Our findings suggest that leaders' increased motivation subsequently shows increased positive communication with employees, attributes a positive meaning to their goals, and are more likely to achieve them.

One of the key findings of our research is that leaders' adaptability in formulating and implementing strategies exerts a positive influence on the achievement of long-term goals. Given the dynamic and unpredictable nature of the corporate business world (Bennett & Lemoine, 2014), it is recommended to implement an organizational framework that enables leaders to swiftly respond to external contingencies. From one perspective, it is imperative that leaders are afforded the essential autonomy and resources to expeditiously adapt strategies and plans. Conversely, it is recommended to institute a corporate ethos that embodies principles such as innovation, education, expediency, and embracing errors among its constituents. These enable leaders to deviate from predefined plans or strategies in response to challenges and to pursue an alternative approach to achieving their goals.

The methods elucidated for enhancing the grit attributes of leaders subsequently have a favorable impact on their positive leadership abilities. The findings indicate that the establishment of goals is associated with heightened meaning, the attainment of Everest goals is progressively accomplished, and leaders exhibit enhanced communication with their subordinates. According to Yan et al. (2023), enhancing the positive leadership skills of a leader can yield supplementary benefits for an organization by augmenting the favorable emotional encounter of its workforce. Training programs aimed at developing leaders should encompass both theoretical and practical aspects of positive leadership. This entails instructing leaders on the principles of positive leadership and equipping them with the necessary skills to apply these principles in real-life scenarios. With the objective of achieving this goal, it is possible to develop services such as coaching or mentoring. Yan et al. (2023) suggest that the content of training programs may encompass various aspects. These could involve fostering a team-oriented environment that prioritizes positive emotions, encouraging positive relationships among employees, cultivating positive communication, as well as establishing positive meaning.

The findings of our study have also highlighted the potential negative consequences associated with the traits of grit and perfectionism. Organizations may opt to hire coaches who can effectively pinpoint any unfavorable inclinations exhibited by leaders who possess traits of grit and maladaptive perfectionism. Coaches could create developmental interventions tailored to a leader's specific needs and characteristics that mitigate critical behaviors (Nelson & Hogan, 2009). According to Guo et al. (2020), leaders who exhibit perfectionist tendencies are more prone to displaying domineering leadership behaviors towards their subordinates by endeavoring to positively influence any negative outcomes of a given situation. This abusive behavior is exhibited by perfectionist leaders due to a perceived loss of control. Guo et al. (2020) state that higher levels of feedback may effectively prevent perfectionist leaders from perceiving diminished control, thereby reducing abusive behavior. Hence, it is imperative for organizations to proactively tackle the negative consequences of perfectionism by incorporating periodic feedback dialogues between leaders and their subordinates.

5. CONCLUSION

This study aims to investigate the relationship between grit and positive leadership, as well as the moderating role of perfectionism. Using a cross-sectional survey design with online self-report questionnaires among leaders in managerial roles, the study analyzes the correlations between these variables. The core findings indicate a positive correlation between grit and positive leadership, partially moderated by perfectionism at high levels.

Whilst acknowledging the strengths of our study, it is imperative to also consider its limitations. Initially, it is pertinent to note that the primary discoveries are predicated on cross-sectional data, which precludes the identification of causality. Future longitudinal studies could analyze grit in the context of positive leadership over time. This could establish the potential beneficial impact of leadership development formats. Further, it should be noted that online self-report questionnaires were used to collect the data. It is plausible that a social bias may exist in the assessment of grit, positive leadership, and perfectionism, given that individuals may employ varying criteria in evaluating their behavior. Thus, the result not only reflects how gritty and perfectionistic an individual is, but also which positive leadership capacities are implemented. Additionally, the assessment takes into account the individual's personal standards as reflected in their self-assessment. Although the online survey was anonymous, participants may still have been inclined to respond more positively. Therefore, further research should also collect the external assessment of a leader's subordinates to obtain a holistic understanding of the individual

characteristics. Furthermore, the research is directed towards individuals occupying managerial roles, indicating a probable decrease in the rate of response owing to the time constraints faced by this particular demographic (Baruch & Holtom, 2008). The preliminary results may not be generalizable due to the relatively small sample size and the use of convenience sampling. A key limitation of this study concerns the use of factor analysis, given the relatively small sample size. Typically, factor analysis requires a substantially larger number of participants to produce stable and reliable results. Due to the limited sample size in the present study, the factor analysis should be regarded as exploratory, and its findings interpreted with caution. This limitation may affect the generalizability of the identified factors and restrict the applicability of the results to other samples or populations. Future research with larger samples is necessary to validate the factor analytic outcomes and enhance the robustness of the findings. It is important to acknowledge that a potential constraint is the likelihood of inadequate familiarity among respondents with constructive leadership techniques and abilities, which could have influenced their answers. The questionnaire contained a succinct explanation of Everest-goals; nevertheless, subsequent investigations could assess the extent of comprehension of the positive leadership methodology prior to administering the survey. One additional limitation of the study is that a substantial proportion of participants are employed in the information, media, and telecommunications industry. This overrepresentation of a specific sector may introduce potential bias, as the findings may not be fully generalizable to leaders in other industries with different organizational structures or dynamics. Additionally, hard variables such as company size, organizational structure, and processes were not captured in this study, which could further influence the generalizability of the results. It`s important to note contextual variables and their potential interplay with soft factors in shaping leadership and organizational dynamics. Furthermore, it is recommended that forthcoming research endeavors investigate additional potential determinants that may impact the magnitude of the association under examination, given that weak correlation coefficients were observed in all instances. It is important to acknowledge that the new five-factor model of grit was exclusively formulated based on the current sample of the investigation, and its validation through further samples is yet to be conducted. This warrants consideration in future research endeavors.

A highly contested issue in economic and, specifically, behavioral economic literature is the potentially detrimental impact of endogeneity in econometric analysis and the methods to mitigate it (Hill et al., 2020; Maula & Stam, 2019; Shaver, 2019). Our findings on the correlation between grit and positive leadership, along with the utilized research design, undoubtedly require a discourse on this potentially detrimental consequence. Survey-based research designs may encounter the endogeneity problem, potentially skewing data and hence undermining interpretations (Fischer et al., 2020). A considerable segment of the behavioral economics research tackles these concerns through three specific countermeasures (Tubik & Herberger, 2024): statistical correction factors (e.g., instrumental variables), which may introduce potential econometric complications. Another strategy to effectively mitigate endogeneity is to include dependent variables that are temporally lagged relative to the purported independent factors, hence diminishing any adverse effects. Ultimately, we depend on a precise and rigorous literature-based exposition of the causation between independent and dependent variables, which should preclude the emergence of endogeneity issues. Our methodological approach is predicated on this strategy to preemptively avert endogeneity and hence mitigate any distorting consequences. The formulation of our questionnaire is firmly grounded in established research, which is empirically valid and predominantly devoid of adverse effects from endogeneity. We contend that, while we cannot entirely eliminate potential distortion from the endogeneity issue in our study, we can minimize it by meticulously and transparently delineating the causal relationships between dependent and independent variables in our structural equation model, thereby preserving the essential significance of our findings and interpretations from the analysis.

It is recommended that organizations provide additional training for leaders on the five components of grit: 1) perseverance of effort, 2) consistency of interest, 3) motivation, 4) positive attitude, and 5) flexibility. Training should include both theoretical and practical elements and involve coaches and mentors to support leaders in implementing positive leadership strategies. Collaborative establishment of a corporate vision with stakeholders is essential for formulating effective strategies and long-term goals. Active participation in this process strengthens leaders' connections to their objectives and enhances their motivation and perseverance. Moreover, the organizational culture should promote adaptable strategies that address challenges and view errors as learning opportunities.

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