

# **SNF Report No. 12/20**

## **To what extent does transformational leadership impact employees' innovative behaviors through the mediation of their prosocial motivation?**

by

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# 1. Introduction

## 1.1 Background

In today's business environment, several jobs are undergoing an irreversible transformation towards a knowledge-based paradigm, switching their work tasks from relatively static ones to more evolving, disruptive and creative duties (Pradhan and Jena, 2019). It is in this framework that the concept of innovative behavior has rapidly grown its relevance. Specifically, starting from Scott and Bruce (1994), many scholars and researchers have discussed about on-the-job innovative behaviors and their antecedents as well as consequences. From this perspective, employees' innovative behaviors are considered as processes for reaching organizational aims through the generation, promotion and deployment of new ideas (Janssen, 2000; Thurlings et al., 2015). In this way, workers can contribute to the success of their companies by creating competitive advantage (Axtell et al., 2000; Thurlings et al., 2015). In a nutshell, innovative behaviors undertaken by employees are able to positively influence the firms where they operate. Nonetheless, it can be challenging for business players to encourage such beneficial practices among their workforce, particularly for large ones, that tend to be more conservative and past-dependent (Wessel, 2012). Therefore, if companies would like to take advantage of these favorable conducts, they should start from a profound investigation of innovative behaviors' main drivers. This point is exactly the final objective of the current study, which is to examine how these valuable activities can be determined, in order to lastly provide organizations some relevant recommendations on how to practically incentivize them. Going more deeply in the handling, academics have indicated that a particular leadership approach, namely transformational leadership, has been found to be a significant predictor of innovative behaviors within employees (Jung et al., 2008). This precisely leads to the spotlight of the present research, which plans to additionally explore this interrelation.

Given all that, it is key to introduce the company constituting the context of this study. This organization operates in the medical industry on a global scale, supplying health equipment to its international customer base. Furthermore, it is important to focus on its mission, which

is the prosocial one of helping to save lives. Hence, the firm's emblematic values are based on its eagerness to benefit others. The reference company, being founded on the will of enhancing other individuals' well-being, offers a natural background for investigating the concept of prosocial motivation, which is "the desire to have a positive influence on other people or social collectives" (Grant and Berg, 2011, p. 1). Indeed, this study aspires to reach its goal of elucidating employees' innovative behaviors in the workplace through the assessment of the effects generated on them by transformational leadership and prosocial motivation. Specifically, the latter will be taken into account in its state-like form, that is the willingness to benefit others generated by peculiar environmental features (Bolino and Grant, 2016). From this standpoint, state-like prosocial motivation will be examined as a mediator, for more comprehensively explaining the aforementioned main relationship. In fact, it is conventional thinking that prosocial motivation can arise from certain approaches like supervisors' transformational leadership (Bass, 1985; Bass and Avolio, 1990) and, in parallel, can be positively related to innovative behaviors (Grant, 2007; Grant, 2008; Bawuro et al., 2019).

By way of conclusion, drawing inspiration from the all the previous arguments, I propose the following research question:

*To what extent does transformational leadership impact employees' innovative behaviors through the mediation of their prosocial motivation?*

## 1.2 The purpose of the study

Thanks to this research, my goal is to contribute with new meaningful insights regarding innovative behaviors. In fact, by answering to the above research question, this investigation aims at examining how transformational leadership can be able to positively affect the innovative behaviors of employees through the mediation of their prosocial motivation. Moreover, the focus on the state-like dimension of prosocial motivation could clarify the current literature gap about it, since the majority of previous studies concentrated on its trait-like side (Bolino and Grant, 2016). This could bring forward the idea of Bolino and Grant (2016), who recommended that additional inquiries would look into how an environment or



a state can influence employees' prosocial motivation on-the-job. Consequently, since the analysis will be conducted in a company characterized by a prosocial mission, it is possible to expect even more significant results and findings. Indeed, the reference organization builds up the ideal context to detect how workers' prosocial motivation can explain the previously cited major relationship, since the firm's altruistic values are strongly rooted in everything that it implements.

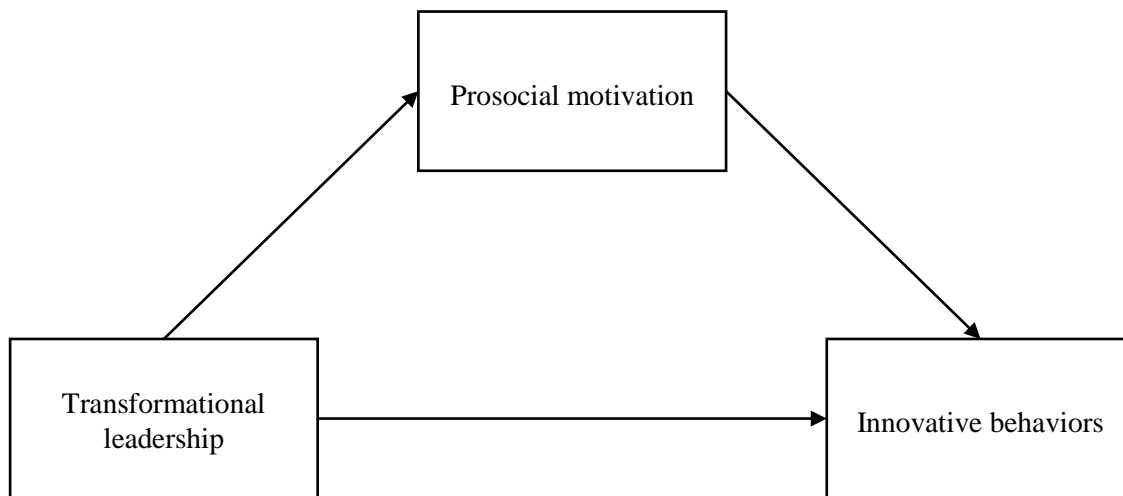
In addition, the current master thesis presents the objective of enlarging the existing literature regarding innovative behaviors through a mediation model that, to my knowledge, has not been explored yet. In fact, this study intends to exploit employees' prosocial motivation as a mediator variable, also using quantitative evidence. With a variable able to explicate the link among transformational leadership and innovative behaviors, I argue that supplementary prominent motives influencing the latter could be debated. From this viewpoint, it should be ultimately possible to shed a light on the persisting lack of clarity regarding the explanatory process thanks to which transformational leaders are able to increase or affect the promotion of innovative behaviors among their followers (Yukl, 1999). By undertaking this investigation, the purpose is to contribute to the illustration of how this connection tends to happen, specifically considering the setting represented by a firm founded on a prosocial mission.

Lastly, the arising observations could be subsequently treated as the baseline for future research, which can further expand the related implications and conclusions taking into account different determinants, associations and/ or situational scenarios.

### 1.3 Research model

As already anticipated, the model developed for inspecting this study's research question is a mediation one. In greater detail, the model's goal is to measure the effect of transformational leadership on employees' innovative behaviors mediated by their prosocial motivation.

**Figure 1:** mediation model



## 1.4 The structure of the study

For answering the research question, the corresponding literature will be firstly explored. Specifically, the existing theories dealing with innovative behaviors, transformational leadership, prosocial motivation and its state-like side, together with their respective relationships will be examined. Next, this study's reference context as well as data collection and analysis methodologies will be comprehensively treated. Afterwards, the results' presentation will be complemented by the discussion about their theoretical and managerial implications. Finally, after having suggested some directions for future research, a conclusion will be drafted.

## **2. Literature review**

In the present section, the concepts introduced by the research question will be defined from a theoretical point of view, with the aim of consequently suggesting the deriving hypotheses. In the first place, it will be provided a detailed review of the existing literature. The latter will start with the introduction of the notion of innovative behavior, namely this study's dependent variable. Next, the concept of transformational leadership will be outlined, also clarifying how it links to innovative behaviors. Subsequently, the idea of prosocial motivation, its state-like dimension and its connection with the dependent variable will be defined. To conclude, the relationship among all these three constructs will be investigated.

It is also relevant to describe how the literature review has been systematically conducted. Indeed, this process was essential for growing awareness on the knowledge achieved until now regarding the principal research areas. At the beginning of the analysis, I focused on studies uniquely related to innovative behaviors, without considering any particular relationship. Hence, I fine-tuned my searching for answering the research question. With this objective, the main keywords included transformational leadership, prosocial motivation, state-like prosocial motivation, innovation and innovative behaviors. The related academic papers were mainly chosen from reliable and trusted journals of management and psychology, like *Academy of Management Review*, *International Journal of Innovation Management*, *Journal of Applied Psychology*, *Journal of Management Research*, *The Academy of Management Journal*.

### **2.1 Innovative behaviors**

The concept of innovative behavior is increasing its popularity in the current business arena. This idea was first proposed by Scott and Bruce (1994) and, from then, it has been expanded by several scholars for different research and purposes. Nonetheless, it is surprising to note that an exhaustive definition of the term has been seldom provided. Indeed, the majority of the related studies mainly focused on innovative behavior's components or positive organizational effects, simply replicating the definition of "innovation" (De Spiegelaere et al., 2014). As a consequence, a detailed investigation of the topic can be useful to clarify past

inconsistencies, with the objective of better understanding the dependent variable of the present research.

As previously anticipated, many earlier studies just compared the idea of innovative behavior to the one of innovation (De Spiegelaere et al., 2014). More specifically, a very picked up definition is the one of West and Farr (1990, p. 9), who outlined innovation as “the intentional introduction and application, within a role, group or organization of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, organization or wider society”. This comprehensive definition illustrates the concept of innovation, stating that it does not need to be totally new, but new just to a particular environment. Accordingly, an employee can be engaged in a novelty by simply proposing the new implementation of an existing procedure of another company. Moreover, the two authors reported that coming up with a disruptive idea is not enough for it to be considered as an innovation, since the latter has to be both introduced and applied. Equally interesting is also the fact that an innovation has to necessarily be a positive change.

However, it is not possible to exactly apply the above interpretation to the idea of innovative behavior for at least three major reasons, connected to an equal number of discrepancies (De Spiegelaere et al., 2014). In the first place, this would make innovative behaviors likewise dependent on a positive final outcome (De Spiegelaere et al., 2014). Thus, for instance, an employee whose novelty eventually turns out to be unsuccessful would not have showed any innovative behavior. Considering innovative behavior as a result-dependent topic would therefore constitute a heavy restriction to the behavioral side of the concept. Indeed, innovative behaviors should be just aimed at a positive change (De Spiegelaere et al., 2014). Secondly, West and Farr (1990) lingered on two innovation’s phases, respectively introduction and application. Nevertheless, several scholars, starting from Scott and Bruce (1994), argued that innovative behavior is a more complex construct which is composed by three different tasks: idea generation, idea promotion and idea realization (Janssen, 2000). Finally, academics suggested that, divergently from the notion of innovation, it is possible to perform innovative behaviors even not covering all the steps of the innovation process (Scott and Bruce, 1994; Janssen, 2000). Indeed, since such processes are frequently distinguished by discontinuous activities (Kanter, 1988), “individuals can be expected to be involved in

any combination of these behaviors at any time” (Scott and Bruce, 1994, p. 582). Consequently, depending on their skills and knowledge, workers can focus on specific behavioral tasks instead of others (Tuominen and Toivonen, 2011). This point is missing in West and Farr’s (1990) interpretation of innovation, that does not consider the possibility of having partial innovative behaviors.

After this review, it is possible to adjust the aforementioned framing of innovation for establishing innovative behaviors as those conducts “aimed at the generation, introduction and/ or realization (within a role, group or organization) of ideas, processes, products or procedures, new and intended to benefit the relevant unit of adoption” (De Spiegelaere et al., 2014, p. 53). Thereby, this will be the only definition considered throughout the present research.

Now that it has been offered this study’s denotation of its main concept, for the objective of in-depth determining how innovative behaviors usually tend to happen, it is key to additionally look into their three formerly mentioned dimensions (Janssen, 2000). Innovative behaviors start with an individual’s ability to generate an idea related to any domain. According to Drucker (1985), an idea can be directly conceived from current challenges or incongruities as well as technological trends, in order to propose a new approach for solving a problem. But, since a problem’s solution may not derive from a unique and well-identified source, it can be better to face this first step through a multiaccess attitude (Wisse et al., 2015). In fact, from this viewpoint, Janssen (2000) listed open-mindedness, expertise and depth of knowledge between the drivers for generating a successful idea. The second stage of innovative behavior is idea promotion. Here, the idea starts to be introduced to the organization or group, in order to seek the support needed for its subsequent realization (Scott and Bruce, 1994). Therefore, for completing this phase it is essential to network with other individuals, sponsoring and promoting the new concept (Janssen, 2000). In the final step, the one of realization, the idea created with the adequate levels of support is implemented for the benefit of the relative organization, group or work role (Kanter, 1988). The majority of scholars agree that this task is the most demanding one, since different possible hurdles have to be overcome, such as a poor organizational culture or an adverse bureaucracy (Orth and Volmer, 2017). In order to defeat these difficulties, Schmitt (2019)

identified some essential features that individuals should present: among the other, work persistence, willpower and commitment. While the latter can be accurately defined as “the willingness to give time and energy to a job, activity, or something a person believes in” (Cambridge Dictionary, 2020), it is possible to state that, more in general, also the other two notions significantly relate to the quality of being truly dedicated to a certain purpose. Therefore, all these attributes tend to become paramount in order to ultimately realize the idea distinguishing an innovative behavior, going beyond the previously exemplified potential barriers.

To conclude, innovative behaviors implemented by employees are paramount for gaining a competitive advantage and achieving organizational aims (Axtell et al., 2000; Thurlings et al., 2015). Moreover, additional evidence can be found in the empirical research of Jafri (2010), who addressed innovative behaviors as a critical driver for the success of an organization throughout the deployment of a hierarchical regression analysis of 347 surveys. In greater detail, the author drafted his findings thanks to the contemplation of the core subject at a team level, especially due to the technique of knowledge sharing, as well as from an individual standpoint.

## 2.2 Transformational leadership

Just like for innovative behaviors, modern organizations are increasing their focus on how managers take action. Indeed, today’s firms need more than ever leaders whose abilities can drive positive changes, also inspiring employees to have a remarkable impact on the company and its stakeholders (Wang et al., 2001). It is in this context that the idea of transformational leadership has become a daily occurrence. According to Bass and Riggio (2006), transformational leaders are able to provide their followers an inspiring vision, stimulating their values in order to question the status quo and develop better beneficial solutions. Therefore, transformational leadership is considered as a type of influence which creates positive changes in employees and social systems (Roberts, 1985). In fact, in the purest meaning of the concept, this type of leaders increases followers’ levels of morality, motivation and performance (Roberts, 1985). In order to do so, transformational leaders can take advantage of different pathways, such as linking followers’ values to the organizational

mission and vision (Roberts, 1985), and fostering them to think out of the box looking at issues from innovative perspectives (Gardner and Avolio, 1998). Moreover, transformational leaders can also guide by example, becoming role models for the members of their group or organization (Bass and Riggio, 2006).

After this preview, it is now interesting to deeper investigate the theoretical background of that concept, realizing how it has evolved. The first scholar to exhaustively treat the idea of transformational leadership was Burns (1978), even though he literally made reference to “transforming leadership”. In his study about political figureheads, the author defined transforming leadership as a journey through whom leaders and followers engage in a reciprocal relationship with the objective of supporting each other to reach higher levels of morale and motivation (Burns, 1978). In addition, Burns (1978) stated that the main differences across various leadership styles can be traced back to specific behaviors and features. Thereby, he outlined two contrasting and mutually exclusive approaches: transforming leadership and transactional leadership (Burns, 1978). On the one hand, the first concept can be able to reshape employees’ feelings and values, influencing their ambitions. In this context, a transforming leader becomes a virtuous model to strive for the benefit of the team or company (Burns, 1978). On the other hand, the transactional leadership style does not seem to be able to generate a cultural switch in the organization, being often anchored to the certainty of the status quo (Burns, 1978). Indeed, transactional leaders mainly focus on outcomes and on how employees accomplish their tasks, supervising them through the standard system of reward and punishment.

The publications of Burns (1978) laid the foundation of the study of Bass (1985), who started to refer to “transformational leadership”. The researcher’s aim was to understand how transformational leadership develops and also how it influences followers’ performance and motivation. According to Bass (1985), transformational leaders deliver a work objective that is more valuable than mere self-gain, because they shape followers’ identity through a stimulating mission and vision. Furthermore, transformational leaders promote followers’ creativity for finding pioneering ways to disrupt the present environments in the direction of the organizational goals. Therefore, taking the followers’ point of view, this kind of leadership gives raise to feelings like trust, confidence, appreciation and respect (Bass,

1985). Followers are in fact transformed and shaped thanks to the leader's charisma, personal attention as well as intellectual stimulation. As a consequence, they become eager to put all their efforts in their tasks, performing more than expected (Bass, 1985). Ultimately, Bass (1985) added a thick layer of theoretical evidence for the further distinction between transformational and transactional leadership, with regards to both what they produce and how.

Five years later, Bass and Avolio (1990) identified the four dimensions of transformational leadership: idealized influence, individualized consideration, inspirational motivation and intellectual stimulation. Idealized influence is key for the leader to offer meaningful ethical values to her/ his followers, becoming a role model through the generation of trust and respect (Bass and Avolio, 1990). The second element refers to the extent to which followers' needs and agitations are specifically considered by the leader (Bass and Avolio, 1990). In this context, the latter becomes a mentor, acting with empathy and care. Moreover, the leader celebrates team's members for the contribution given, increasing their motivation (Bass and Avolio, 1990). Through inspirational motivation, the transformational leader underlines the intrinsic meaning of the tasks to be performed and shares positivity regarding future objectives (Bass and Avolio, 1990). In a nutshell, the leader shapes the organizational vision in an attractive way for the followers, also through outstanding communicational abilities. Thus, followers are inspired and increase their optimism, gaining confidence they can make an impact (Bass and Avolio, 1990). The last dimension, intellectual stimulation, refers to the level at which the leader takes risks and encourages followers to question the status quo through innovative ideas (Bass and Avolio, 1990). For these leaders, the learning curve never ends, since they consider unplanned situations as opportunities. Similarly, followers try to develop new ways to perform their duties, enhancing their disruptive thinking (Bass and Avolio, 1990).

To recapitulate, it has been previously emphasized that transformational leaders can increase followers' morality (Roberts, 1985) and provide them with precious work goals (Bass, 1985). Additionally, also Pradhan and Jena (2019) supported this idea, stating that transformational managers can be able to significantly compound meaning to the diverse job assignments that have to be carried out. Therefore, I can assume that a transformational



leadership approach is crucial for a company that strives to benefit others' living. In this framework, supervisors acting in a transformational manner play a key role for clearly instilling the organizational ethical mission and beliefs in employees' daily tasks. From this viewpoint, the further examination of this concept could be cardinal also for clarifying the discordant results obtained by Gottfredson and Aguinis (2016) when dealing with transformational leadership and the leader-member exchange.

### **2.2.1 The relationship between transformational leadership and innovative behaviors**

Many scholars have recognized managers' leadership as one of the most relevant antecedents of employees' innovative behaviors (Amabile, 1998; Jung, 2001). In greater detail, the peculiar approach of transformational leadership is considered as fundamental in this regard. Indeed, especially through intellectual stimulation, transformational leaders invite their followers to develop cutting-edge ideas and behaviors for challenging current patterns (Bass and Avolio, 1990). Therefore, followers embrace different perspectives to look at existing problems and tasks (Gardner and Avolio, 1998) with the aim of discovering new and innovative methods to reach the company's goals (Bass, 1985).

Onward evidence about the positive link between transformational leadership and innovative behaviors can be found in the work of Carless et al. (2000), who identified innovative or lateral thinking as one of the main features that transformational leaders can offer to their followers. Afterwards, the authors related this characteristic to the spread of innovative behaviors through the exploration of a sample of 1,440 subordinates who rated their 695 branch managers (Carless et al., 2000). Likewise, Zhang et al. (2018) conducted an empirical analysis adopting transformational leadership as the independent variable. In depth, it showed to generate a positive (.46) and significant ( $p \leq .001$ ) effect on individuals' innovative behaviors, thus contributing with supplementary quantitative emphasis to the corroboration of earlier suppositions and findings.

Nonetheless, it could also be interesting to look into the other side of the observations. In fact, some experimental research, like those of Basu and Green (1997) and Pradhan (2015),

have delineated a negative or non-significant influence of transformational leadership on innovative behaviors.

Starting from the previous theoretical discussion, it is reasonable to assume that the further investigation of this relationship could be prominent for expanding the existing literature with novel insights. More specifically, I believe that the positive dimension of the treated connection will be applicable in the present study, given the particular reference framework. For this reason, I propose the following hypothesis:

*Hypothesis 1: transformational leadership has a positive impact on employees' innovative behaviors.*

## 2.3 Prosocial motivation

According to Grant and Berg (2011, p. 1), prosocial motivation can be outlined as “the desire to have a positive impact on other people or social collectives”. Starting from that, the investigation of this concept can provide useful inputs for the explanation of the actions that employees can perform in the workplace.

Going deeper into detail, prosocial motivation can be investigated at three different and gradual levels: global, contextual and situational (Grant and Berg, 2011). At the primary level, prosocial motivation is linked to an employee's general tendency to benefit others (Grant and Berg, 2011). At the contextual level, prosocial motivation is connected to a worker's willingness to benefit a class of individuals over time through a precise work, profession or position (Grant and Berg, 2011), like the intention of a pilot to transport passengers. Finally, situational prosocial motivation represents “an employee's desire to benefit a specific group of other people in a specific situation” (Grant and Berg, 2011, p. 3). In this research, prosocial motivation is taken into account at its contextual level, since I am exploring employees' attitudes in a particular company. Indeed, within the present case, workers wish “to benefit a group of people through a job”, as aforementioned by Grant and Berg (2011, p. 3).

For each of the levels formerly presented, prosocial motivation may change in relation to three different psychological dimensions, respectively direction, intensity and persistence of effort (Grant and Berg, 2011). In the first place, prosocial motivation can be directed towards various beneficiaries (Grant and Berg, 2011), defined as “the people and groups of people whom employees believe their actions at work have the potential to positively affect” (Grant, 2007, p. 395). These receivers can be either inside or outside the organization, even including whole institutions, countries and societies (Grant and Berg, 2011). Moreover, prosocial motivation can also be directed towards distinct domains, considered as the features of the beneficiary’s welfare that prosocial-driven efforts aim at striking (Grant and Berg, 2011). From this perspective, in order to clarify, a pediatrician may be inspired to positively affect the physical welfare of children, whilst an architect may be eager to successfully influence her/ his clients’ material welfare. Secondly, intensity represents another important driver of prosocial motivation (Grant and Berg, 2011). Indeed, someone may show extremely strong degrees of prosocial motivation, while someone else extremely weak ones. Anyway, it is logical to assume that the vast majority of people present a prosocial motivation’s intensity fluctuating in the middle of the upper and lower values. Taking then a work environment point of view, I presume that employees with a higher intense prosocial motivation than the average will be more inclined to select a job that guarantees more possibilities to deliver a prosocial impact. In conjunction, it is reasonable to expect that this kind of possibilities will not heavily influence the decisions of workers with a less intense prosocial motivation. Finally, the last dimension is the persistence of effort, intended as the total period of time an individual is keen to produce a positive effect on others. According to Grant and Berg (2011), prosocial motivation can be expressed for a limited amount of time, from just some minutes up to a matter of hours, with the objective of supporting a particular beneficiary dealing with a particular temporary necessity. In parallel, prosocial motivation can persist almost indefinitely (Grant and Berg, 2011), as with a researcher’s continuous commitment to have a constructive impact on humanity through the development of a new and crucial vaccine. Again, also with regards to the persistence of effort, it is affordable to think that on average it will vary between the two exemplified endpoints. In this study, I state that employees’ prosocial motivation is directed towards beneficiaries’ well-being in terms of both health and safety. Additionally, in accordance with

the literature, I argue that the intensity and persistence of effort of any worker's prosocial motivation may oscillate from low to high rates or the other way around.

With the aim of fully understanding the nature of prosocial motivation, it is also paramount to further investigate the source generating this willingness to benefit others. In fact, throughout the literature it is possible to identify two opposite currents of thoughts, concerning whether prosocial motivation is based on a personal trait or a state (Bolino and Grant, 2016). Considering prosocial motivation as a trait means it is the stable consequence of equally stable subjective features, like personal prosocial values (Grant, 2008). In this case, the propensity to positively support others derives from permanent inner principles, independently of the experienced scenario. Conversely, even though a gap of theory is present in this regard, considering prosocial motivation as a state implies it can derive from peculiar environmental determinants, at the end leading to the wish of benefiting a distinct group of people in a distinct situation (Bolino and Grant, 2016). In the authors' opinion, prosocial motivation does not depend on settled individual characteristics, yet it is promoted by a specific context or matter (Bolino and Grant, 2016). Therefore, according to this view, an organization can be able to raise and enhance the prosocial motivation of its members thanks to, by way of illustration, the captivating leadership style of its supervisors or an inspirational mission statement. Indeed, through such practices, a firm can ultimately develop an environment that facilitates this particular feeling. Hence, it is logical to believe that an organization founded upon prosocial values can offer and continuously set up a prosocial context which can strengthen the prosocial motivation of its employees. From this standpoint, leaders will be the first to communicate the distinguishing altruistic aims at the basis of every shared objective to their followers, finally improving their determination to increase the well-being of the organization's stakeholders. By way of conclusion, in this research I am going to assume that the total prosocial motivation of an employee can represent the result of both a trait and a state, even though the latter will be the only aspect to be comprehensively examined in the current study. In fact, as previously described, a worker's prosocial motivation can also be influenced by surroundings and stimuli generated by a company.

### **2.3.1 The relationship between transformational leadership and prosocial motivation**

As mentioned before, transformational leaders play an active role in shaping the inner value system of their followers (Bass, 1985; Gardner and Avolio, 1998). Indeed, by communicating and establishing firsthand a valuable organizational mission and vision, these leaders are able to transform followers' values, raising "their willingness to transcend their self-interests for the sake of the collective entity" (Jung et al., 2003, p. 528). Thereby, followers become inspired to act in the best interest of the group, organization or the larger society to which they belong (Bass, 1985). This last concept is basically the notion of prosocial motivation, specifically its state-like side.

An additional way by which transformational leaders can have a positive impact on followers' prosocial motivation is by their role as mentors (Bass and Avolio, 1990). This idea clearly finds its roots in the social learning theory (Bandura, 1977). According to this theory, new conducts can be captured through the observation of other individuals. In fact, learning is considered as a cognitive procedure happening in a social environment and, for this reason, it can arise from just wisely monitoring, or witnessing the consequences of a behavior (Bandura, 1977). In greater detail, Bandura (1977) stated that the way the learner addresses the novel inputs is affected by a set of distinct cognitive actions enclosing attention, motivation, reproduction and retention. From this perspective, when a transformational leader, thanks to the attribute of individualized consideration, proactively takes into account the necessities of a follower, the latter could be motivated to do the same towards other individuals (Bass and Avolio, 1990). Indeed, she/ he will recognize the leader as a role model to be imitated. This attitude will ultimately increase the follower's desire to make a beneficial difference in other people's needs, in the same exact way the manager acted with her/ him. This last reasoning seamlessly matches the employee's wish to have a successful footprint on others, namely her/ his prosocial motivation. Even in this case, the concept of prosocial motivation is considered as driven by a state, specifically by the positive example coming from transformational leaders.

Furthermore, particularly considering the reference company of the present research, I can assume that when transformational leaders connect the organizational mission to the identity

of its employees (Basu and Green, 1997), the latter's prosocial motivation will be enhanced. This is because employees will fully embrace the company's mission, which is the prosocial one of helping to save lives. Consequently, I propose the following hypothesis:

*Hypothesis 2: transformational leadership has a positive impact on employees' prosocial motivation.*

### **2.3.2 The relationship between prosocial motivation and innovative behaviors**

Grant (2007) provided some insights about the connection between prosocial motivation and innovative behaviors, stating that the first can lead to higher levels of employees' work persistence and commitment. It is therefore logical to assume that this positive link can ultimately enhance employees' innovative behaviors, since they can be driven by features like commitment and work persistence themselves (Schmitt, 2019). As a result, when employees' prosocial motivation is strong, their willingness to devote efforts and time throughout their work performance will raise (Grant, 2008). In this way, employees will try to maximize the benefit for the organization and its stakeholders by completing their tasks in more effective and new ways (Grant, 2008).

Also based on the previous theoretical evidence, Bawuro et al. (2019) further investigated the impact of prosocial motivation on innovative behaviors through a test conducted in a university context among lecturers. Because of this peculiar context, prosocial motivation was here considered from its state-like side. Specifically, this study adopted a stratified sampling approach within 320 academics, also implementing a multivariate analysis of variance. The authors' findings exhibited the positive (.44) and significant ( $p \leq .001$ ) effect of prosocial motivation on the combined dependent variables, namely the three aforementioned dimensions of idea generation, idea promotion and idea realization (Janssen, 2000). Moreover, also taking into account the dependent constructs separately, all the observations proved to be significant ( $p \leq .001$ ) once again.

Starting from this background, I suppose this relationship will be pertinent in the present research as well. Accordingly, I propose the following hypothesis:

*Hypothesis 3: employees' prosocial motivation has a positive impact on their innovative behaviors.*

## 2.4 The relationship between transformational leadership and innovative behaviors mediated by prosocial motivation

With respect to the statement that will be presented in the current subchapter, there is a lack of literature regarding the mediating role of prosocial motivation in the relationship between transformational leadership and innovative behaviors. This gap, which becomes even broader when particularly dealing with state-like prosocial motivation (Bolino and Grant, 2016), supports the idea of Bass (1999), who solicited more interpretations and clarifications on how transformational leadership operates. For this reason, since it has not been found any previous theoretical evidence addressing this relationship, I will illustrate this proposition thanks to the theories explained in detail during the above sections.

It has been earlier outlined that the state represented by transformational leaders can be able to conduct followers' inner values towards prosocial aims, such as the benefit of their team or organization (Bass, 1985), also increasing followers' prosocial motivation through a mentoring process (Bass and Avolio, 1990). Therefore, I have suggested that transformational leadership can produce a positive impact on the prosocial motivation of employees. In parallel, previous theories as well as empirical analyses have shown that prosocial motivation can significantly influence the implementation of employees' innovative behaviors (Grant, 2007; Grant, 2008; Bawuro et al., 2019).

These reviews have ultimately added meaningful insights to the direct effect of transformational leadership on employees' innovative behaviors, which was earlier treated by Bass (1985), Bass and Avolio (1990), Gardner and Avolio (1998) and Carless et al. (2000). Indeed, in order to further investigate the explanatory impact that prosocial motivation can show in the above relationship, I present the following hypothesis:

*Hypothesis 4: the positive impact of transformational leadership on employees' innovative behaviors is mediated by their prosocial motivation.*



## **3. Method**

In the present section, the method characterizing this research will be outlined. The first step will be to provide an in-depth description of the company constituting the context of the analysis, clarifying why it seems to be the ideal setting for the purpose of this study thanks to the presentation of its distinctive mission and vision. Hereafter, the research design of the study will be explained. To gain deeper insights on how the investigation has been conducted, data collection procedures will be then presented, flanked by the relative measures. Afterwards, the quality of the research design will be established, dwelling on reliability and validity issues. Finally, the notable topics regarding research ethics will be commented.

### **3.1 The company**

The company where the study has been conducted is known not only in Norway for being a mission-driven one. In fact, it integrates its prosocial mission of helping to save lives with its vision and goal, which are respectively “no one should die or be disabled unnecessarily during birth or from sudden illness, trauma or medical errors” and “helping save one million lives every year by 2030”. Operating internationally as a producer and provider of high-end medical equipment, the company focuses on the global spread of health activities, such as specific reanimation training and first aid courses.

The present section revisits the main steps of the organization’s affirmation and the role that its prosocial values play in order to benefit others. All the following information is based on publicly available releases and articles.

#### **3.1.1 Background and description**

At its beginnings, in 1940, the company was a minor Norwegian publishing house commercializing greeting cards and books for children. However, already then, the founder’s key mantra was to focus on delivering joy through high quality and passion, believing that satisfactory revenues would have been generated as a natural consequence. Indeed, the ultimate objective was to donate half of the organization’s earnings to charity. After about a

decade, the company progressively started to produce plastic toys, increasing its know-how in that field. This symbolized the first step towards the establishment of the organization's innovative mindset. Following the turning point in which the founder's son was miraculously rescued from drowning, the firm started to exploit its competences for the production of plastic imitation wounds for training objectives, in collaboration with the Norwegian Civil Defence. Because of that, the founder began to familiarize with medical topics, deeper understanding them, including a revolutionary mouth-to-mouth procedure that gave him the idea of creating a plastic mannequin for explaining how to save a life to a wider audience.

In 1960, the first mannequin on human scale to be operated as a patient for emergency care, called Resusci Anne, was launched. That product plainly represented a salient innovation in the industry. In this way, the company had definitively switched to its new medical aim. This groundbreaking change was showed with even greater clarity through the revision of the logo, to make it announce the prosocial mission of helping to save lives. From that time, Resusci Anne was constantly improved and commercialized worldwide in more than 65 countries, and its overall success was also emphasized by the production of a male version, known as Resusci Andy, as well as a version for children called Resusci Baby. Moreover, while continuing to offer training using dummies with the objective of saving an ever-increasing number of lives, the company started to cooperate with international institutions for medical and educational purposes. This growth led to the development, among the other, of a first aid kit for cars aimed at increasing drivers' safety, and of an advanced defibrillator for emergency interventions. On the brink of the new century, the firm developed SimMan, a technological patient simulator able to vividly mimic multiple symptoms. This last invention, also supported by external researchers and physicists, sought to avoid several deadly mistakes occurred in medical centers and to fully train health professionals.

In more recent times, the company started to increasingly target its attention on topics related to maternal and baby health. These issues are known to be remarkably critical most of all in developing and deprived countries, where there is still a significant possibility to make a difference in terms of lives saved. Hence, in order to keep spreading its mission all over the world and having an even greater impact on large-scale health activities, the firm set up its

non-profit organization in 2010, with the goal of avoiding unnecessary decesses and disabilities in childbirth. Therefore, the company is nowadays composed by two complementary organizations. The initial one provides the necessary financial security that allows the non-profit one to totally expand those prosocial values characterizing the mission since the beginning. Starting from its head office of Stavanger in Norway, the company presently counts for more than 1,400 employees located throughout the 24 countries where it has established its sales offices, and for productive plants based in Mexico, U.S.A. and China, together with the Norwegian one.

### **3.1.2 Mission**

As showed in the earlier description, the company has always utterly exploited its principles with the objective of accomplishing its prosocial mission of helping save lives. Indeed, since 1940, the organization has been built on specific values that are still present: among the other, never-ending curiosity, practical problem solving and a passion for constant enhancement. From this viewpoint, the company's mission and values are all along presented to its workers through specific meetings, lectures and books. In this way, employees can further interiorize how the company has operated to deliver a significant impact on other people, understanding the positive support that their everyday work produces for the general public, and finally increasing their prosocial motivation. This attitude is essential, because organizational values have to be clearly communicated to employees in a reliable way to meaningfully promote their contributions (Du et al., 2010).

Until recently, the company and its employees were going towards the attainment of the challenging goal defined in 2013: "helping save 500,000 more lives every year by 2020". This objective was based on three pillars, that are resuscitation, emergency care and global health. For the first one, the firm aimed at preserving 50,000 lives every year from unexpected heart attacks. Regarding the second intention, the purpose was to rescue 50,000 more lives every year from medical mistakes, by offering health trainings and simulations. These two pillars mainly focused on developed countries, while the third one targeted lower resource countries for helping to save 400,000 lives every year mainly among mothers and infants. Freshly, the organization has decided to denote another exigent but inspirational goal: "helping save one million lives every year by 2030". This objective is really aspiring,

also considering the pandemic that is threatening the whole planet. For this reason, the company devotes itself to closely cooperate with its partners for training ever more lifesavers. In fact, the firm vigorously believes that collaboration can ultimately breed innovation.

All the previous details make this mission-driven company the ideal context to analyze the relationships of the present study. Indeed, it is possible to suppose that an organization founded upon prosocial values offers a prosocial environment influencing its employees' state-like prosocial motivation. From this perspective, the latter will be examined as the mediator variable of this research, capable of explaining the relationship between transformational leadership and innovative behaviors of employees.

## 3.2 Research design

In the present section, I will describe the methodological decisions taken throughout the study for answering the research question.

Depending on its purpose, a research design can be exploratory, explanatory or descriptive. The last one is recommended when, starting from deep layers of former knowledge on the treated subjects, the goal is to acquire an accurate profile of the related events (Saunders et al., 2016). Since the final objective of this study is to depict the relationship between in-depth information regarding transformational leadership, considered as the independent variable, and employees' innovative behaviors, considered as the dependent variable, a descriptive research design has been pursued.

There are basically two different perspectives for approaching a research study: inductive and deductive. The first one aims at proposing a theory from the analysis of data, while the second one follows an opposite path, testing previous theories through quantitative data in order to draw up some generalizations (Saunders et al., 2016). To meet the final intention of this thesis, I started from the evidence disclosed by the theories treated throughout the literature review, hence choosing a deductive research approach. Indeed, existing scholars' papers represent the baseline from which I derived a set of hypotheses to be subsequently tested.

Furthermore, the analysis has been conducted utilizing quantitative data, meaning numerically measured values (Saunders et al., 2016). These values have been obtained through the adoption of a survey strategy, that in general is perceived by individuals as both easy to understand and to explain (Saunders, et al., 2016). This choice is rational, since a descriptive research design typically has to be flanked by the use of surveys. Moreover, this type of research strategy is useful since it enables to raise a considerable amount of data from numerous respondents in an economical manner (Saunders, et al., 2016). In this way, it is possible to define potential links among the variables taken into consideration, monitoring at the same time the entire process. Dealing with a large set of survey data allows to benchmark the findings coming from the sample, as long as the latter is representative enough to generalize the drafted conclusions to the whole population (Saunders, et al., 2016). Additionally, for the reason of reaching a significant response rate, it is crucial to utilize accurate questions deriving from established scales formerly tested and validated. On the other side, between the drawbacks of a survey strategy it has to be mentioned the difficulty to obtain very sensitive and deep-rooted information from the respondents, since this methodology is often considered as quite impersonal and narrowed in scope (Saunders et al., 2016).

### 3.3 Data collection

#### 3.3.1 Preparation of the survey

Several actions have been undertaken in order to develop the ideal survey for producing significant data and addressing the research question.

In this respect, the initial step has been to examine the existing literature as well as the methodologies employed by previous scholars dealing with comparable investigations in terms of measures and their connections. Indeed, many of the studies treated in the earlier literature review built their constructs on established scales, that will be then accurately illustrated throughout section 3.4, “Measures”. Thereby, several propositions of the present survey were derived from anterior ones, as for instance those about employees’ innovative behaviors and transformational leadership. According to Saunders et al. (2016), this

technique allows to easily compare different studies' findings, being also less time consuming and more efficient.

Besides achieving noteworthy theories from the existing literature, some further questions were elaborated in order to test the proposed hypotheses. These ulterior propositions were mainly developed for investigating the construct of employees' state-like prosocial motivation. In greater detail, they were specifically structured through a comprehensive detection of theoretical evidence and a fruitful collaboration with the company's Human Resource division. Indeed, some distinctive notions related to the organization were compounded in these questions for the aim of securing their absolute comprehension.

After the production of all the questions, it was appropriate to carry out some adjustments for enhancing the global precision of the survey. Thus, some statements were shortened in order to generate higher extents of respondents' concentration, finally leading to an improved accuracy of the survey. In addition, to prevent the likelihood of common method bias (Podsakoff et al., 2003), the wording of some constructs was reversed. Lastly, it has to be mentioned that every question was linked to a response scale ranging from 1 to 7, in order to be consistent with the approaches put in place by past scholars and researchers. In particular, the value of 1 represented a strong sense of disagreement towards the responses, while 7 a strong sense of agreement. Only subsequent to these upgrades, the survey was finalized in the first language. Afterwards, it was translated by professional translators into all the nine languages spoken across the 24 countries where the company's sales offices are present. Then, the different scripts were back translated in a separate process, and eventually benchmarked among themselves with the objective of keeping the basic substance unaltered (Brislin, 1970).

### **3.3.2 Distribution of the survey**

As with the preparation of the survey, different steps were completed also for its distribution. These actions were paramount in order to reach a high response rate among the company's employees.

All the members of the study's population received via e-mail a personal link to access the survey, which could only be operated by the person getting it. Coming with the link, it was attached a cover letter specifying the main features of the research, like its purpose, data collection methodological choices, data elaboration techniques and how the findings would have been later applied. Additionally, the cover letter plain stressed that the participants in the survey would have been kept totally anonymous, with no possibility of reconnecting the answers back to them. This point was fundamental in order to increase employees' honesty and precision, as well as the overall response rate. Moreover, some instructions on how to answer the questionnaire were sent. Besides pointing out once again the anonymity of the survey, these instructions underlined the possibility of withdrawing at any time with no reason to be given, being the process entirely voluntary. Finally, the instructions detected some disclaimers in accordance with the Norwegian Center for Research Data, with the objective of increasing the participants' consciousness. For the successful distribution of the survey, it was also key the role played by the firm's managers. Indeed, they answered by themselves to the questions needing the evaluation of a supervisor, such as those related to employees' innovative behaviors, and proactively encouraged everyone to complete the survey. Nonetheless, some follow-up e-mails were sent as well, in order to avoid having a large number of unfinished questionnaires.

Altogether, the struggles regarding the survey's distribution resulted in a gratifying high response rate.

### **3.3.3 Sampling process**

For the objective of the present study and its relative research question, sampling was not required (Saunders et al., 2016). Hence, a census was put in place, sending the survey to the population of more than 1,400 employees. Of the latter, 967 decided to complete the questionnaire, indicating a response rate of almost 70%.

Specifically considering the measures of the research, it is relevant to reiterate that data about transformational leadership and state-like prosocial motivation were defined through an evaluation directly performed by the employees, while data regarding innovative behaviors were captured through an assessment of employees' supervisors. These appraisals

by supervisors were rated three months after the employees completed the survey. In this way, by leaning on a dual source and on two different points of time, it was possible to further enhance the reliability of the responses (Saunders et al., 2016).

From this standpoint, in order to be ultimately included in the sample, an employee had to present her/ his ratings on all the three aforementioned measures. Therefore, due to some missing data, the final sample considered 463 employees. They represented both genders, being 46% female and 54% male. Moreover, they were located in 19 different countries, with the majority responding from Norway. It is also interesting to highlight that the age of the sample ranged from 20 to 70 years, with a mean of 44 years. Furthermore, the examined workers' mean value for tenure was of 124 months, signifying that they have been employed in the company for slightly more than 10 years on average.

## 3.4 Measures

Each of the three variables proposed by the research question, namely transformational leadership, prosocial motivation and innovative behaviors, was composed by different items intended to cover up the same effect. Specifically, the first and the last were based on existing scales developed by earlier researchers and scholars. In parallel, as previously anticipated, the measure of prosocial motivation was structured through existing accessible theories, in order to deeper investigate its state-like side.

The three measures and also the control variables of the study will be now presented in detail.

### 3.4.1 Transformational leadership

Transformational leadership was measured through the scale developed by Carless et al. (2000). This scale is composed by seven different items, taking into account all the four dimensions of transformational leadership previously described (Bass and Avolio, 1990). Examples of statements that employees had to rate are: “my manager encourages questioning assumptions and thinking about problems in new ways”, “my manager communicates a clear and positive vision of the future” and “my manager treats me as an individual, supports and



encourages my development”. The Cronbach’s Alpha for this construct was 0.968, indicating that it is a reliable measure of transformational leadership. Indeed, a Cronbach’s Alpha greater than 0.7 denotes the high internal consistency of the considered construct (Nunnally, 1978), as will be later deeper explained in the section 3.5.1.

### **3.4.2 Prosocial motivation**

The measure of prosocial motivation was the only one to be self-constructed. Indeed, the four items composing this variable have been developed from a complete understanding of past theories and studies, in order to be included in the present survey for the first time. Therefore, employees were requested to assess how they perceived the prosocial mission of the organization on the job, rating the following claims: “the company cares about benefitting others with its products and services”, “the company wants to help others via the products and services it provides”, “the company wants to have a positive impact on the lives of others via its products and services” and “it is important to the company to do good for others through its products and services”. In this way, these questions aimed at explicitly investigating the state-like dimension of prosocial motivation. Cronbach’s Alpha for this construct was 0.957.

### **3.4.3 Innovative behaviors**

The measure assessing the concept of innovative behavior was based on the scale developed by Scott and Bruce (1994). In its original form, this scale presents six items, but in this study, as in several others, a shorter version has been employed, including just the three statements with the highest internal consistency. This choice aimed at reducing the length of the survey, leading to more accurate responses overall. As previously stated, these questions were rated by the organization’s supervisors in order to address their employees’ innovative behaviors. Hence, managers were asked to indicate whether an employee “searches out new technologies, processes, techniques, and/ or product ideas”, “generates creative ideas” and, more in general, “is innovative”. As mentioned above, these ratings were collected three months after employees’ answers, to generate data as reliable as possible. Cronbach’s Alpha for this measure was 0.908.

### **3.4.4 Control variables**

Three control variables were considered throughout the present research, namely the respondents' age, gender and tenure, the latter being the length of the occupation within the organization expressed in months. It was chosen to control for them since it is commonly believed that they can potentially affect the level of innovative behavior an employee decides to execute.

## **3.5 Analysis**

The study's research model was tested using SPSS, the Statistical Package for Social Science. In the first place, the internal consistency of all the measures was verified thanks to the computation of their Cronbach's Alpha. Next, in order to confirm the dimensionality of the scale, a factor analysis was performed using the Principal Component Analysis (PCA) on SPSS. Finally, the proposed hypotheses were evaluated through the respective regression analyses and also through PROCESS, the macro developed by Hayes (2013) for SPSS.

### **3.5.1 Cronbach's Alpha**

As previously anticipated, Cronbach's Alpha is considered as an index of reliability since it quantifies the internal consistency of the items composing a construct (Nunnally, 1978). Specifically, it indicates to what extent the items' ratings correlate one to another (Bonett and Wright, 2015). Even if Cronbach's Alpha can range between 0 and 1, only values above the threshold of 0.7 guarantee that the aggregated questions are analyzing the same event (Nunnally, 1978). Anyway, the higher the value of the Cronbach's Alpha, the greater the internal consistency of the measure.

In the present research, the Cronbach's Alpha was calculated for the constructs of innovative behaviors, transformational leadership and prosocial motivation. Moreover, in order to ensure the maximum reliability of all measures, I also verified whether the Cronbach's Alpha of a variable would have increased by eliminating some of the items composing it.

### **3.5.2 Factor analysis**

Even if the investigation of the Cronbach's Alpha is paramount in a quantitative study, it is not an indicator of unidimensionality. Therefore, in the current study the latter has been looked over thanks to an exploratory factor analysis performed through the Principal Component Analysis (PCA) utilizing the VARIMAX rotation on SPSS.

First of all, in order to start a factor analysis, it is advised to analyze the data executing the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA) and the Barlett's test of sphericity. Both of these dimensions aim at verifying the presence of correlation between variables. Specifically, it is suitable to conduct a factor analysis when the KMO MSA is above the value of 0.6 and the Barlett's test of sphericity is significant ( $p < .05$ ) (Denis, 2018).

For checking out the number of factors to be incorporated in the following assessment, it is key to evaluate their Eigenvalues. Indeed, in order to define the minimum number of items extracting the maximum variance between the values, the model has to contain all the factors presenting an Eigenvalue higher than 1. Alternatively, it is possible to look at the cumulative percentage of variance explained by the factors, including in the model the ones accounting for nearly 80% of the overall variance (Denis, 2018).

The detected factors were subject to the VARIMAX rotation on SPSS. In this way, every original item was linked to a specific component, and every component represented just a limited number of items. This process allowed to remark those factors considered in the present research, and to finest define the connections among them.

### **3.5.3 Outliers**

Before proceeding further with ulterior analyses, the data were investigated in order to identify possible outliers. In particular, outliers are values significantly diverging from other observations that can potentially generate statistical issues (Cook, 1977). With the objective of identifying them, the Mahalanobis distance, the Leverage values and the Cook's distribution have been performed. In this way, it was possible to notice just a few outliers.

For understanding if they had a strong influence on the model, the subsequent regressions have been run both considering and excluding them. In the end, a remarkable discrepancy between the two scenarios was not identified at all. For this reason, I chose not to delete these outlying values, for not slipping into eventual wrongful manipulations of the observations.

### 3.5.4 Regression analysis

In order to test the developed model, I performed different linear regressions on SPSS. Indeed, regression analysis is considered as a proper technique for exploring quantitative data because it enables to test relationships among independent and dependent variables (Hayes, 2013). More specifically, this kind of analysis not only allows to check the occurrence of a significant connection linking an input and an output, but also the strength of the effect generated on the dependent variable by various independent ones (Hayes, 2013). Therefore, regression analysis is a helpful method to investigate if the hypotheses formulated throughout the former review of theoretical findings actually apply for the current population.

The primary equation of a linear regression presenting just one independent variable is:

$$Y_i = \beta_0 + \beta_1 X_i + \varepsilon_i$$

In greater detail, Y represents the dependent variable,  $\beta_0$  the constant that is the intercept on the y-axis,  $\beta_1$  the coefficient of the single independent variable X, and  $\varepsilon_i$  the random error term.

In parallel, a linear regression can also incorporate an endless number of independent variables affecting the dependent one. In this case, we speak of multiple linear regression, whose basic equation is:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_k X_{ki} + \varepsilon_i$$

Specifically, every single beta coefficient represents the impact on the dependent variable determined by each independent one, maintaining all the others constant.

In this study, different multiple regression analyses have been exploited for estimating the impact of transformational leadership on employees' innovative behaviors and prosocial motivation, and the one of employees' prosocial motivation on their innovative behaviors. However, the last hypothesis assumed that the relationship between the independent and the dependent variables was mediated by employees' prosocial motivation. For this reason, I additionally explored the model through the aforementioned Hayes's PROCESS macro (2013). From this perspective, the actual research model corresponded to Model 4 in PROCESS, being a mediation one. Moreover, it is key to point out that a variable is considered as a mediator when it is able to explain the relationship among other two, namely a predictor and a criterion (Baron and Kenny, 1986; Hayes, 2013).

### **3.5.5 Assumptions in regression analysis**

In order to perform a regression analysis, some assumptions had to be taken for reaching valid and unbiased results (Hill et al., 2012). Firstly, the relationship among the independent and the dependent variables is required to be linear (Hayes, 2013). Secondly, normality has to be presumed, indicating that the residuals' values are normally allocated nearby their average (Hill et al., 2012). Thirdly, homoskedasticity is requested, meaning that the error term stays the same irrespective of the independent variable (Hayes, 2013). Fourthly, the absence of multicollinearity has to be assumed, which is that none of the independent variables is a precise linear conjunction of the others (Hill et al., 2012). Lastly, it is demanded the statistical independence of errors (Hill et al., 2012).

Through the investigation of the scatter plots, the relationship between the variables was found to be linear, confirming the first expectation. Concerning the normality condition, if a variable is defined through a scale on which the members of the population directly assess themselves, the normal distribution is a continuous one (Hayes, 2013). For this reason, the related linear regression will not produce errors that are normally distributed. However, to solve this problem, Hayes's PROCESS macro (2013) takes advantage of bootstrap confidence intervals for inference. Indeed, they are computed through a resampling

procedure, ultimately complying with the necessary requirement. Then, the assumption related to homoskedasticity was corroborated since the corresponding scatterplot did not outline any cone shape. In connection with multicollinearity, the Variance Inflation Factors (VIFs) have been analyzed on SPSS. In fact, VIFs greater than 10, or sometimes even than 5, and tolerance values lower than 0.1 denote the occurrence of multicollinearity (Saunders et al., 2016). Because all the considered variables presented VIFs of about 1.3 and tolerance values above 0.7, it was possible to exclude the presence of multicollinearity. Finally, regarding the need for independence, the latter can be maximized through an attentive assessment of the research design and the related factors (Hayes, 2013). However, it is complicated to totally remove it. Therefore, I strove for developing a worthwhile model, even if some degrees of non-independence might still be present.

### **3.5.6 Analyses**

The model was tested throughout three distinct but complementary steps, in accordance to Baron and Kenny's methodologies (1986). Indeed, the authors defined the three regressions needed for fully testing a mediation (Baron and Kenny, 1986). From this standpoint, it is required that the independent variable predicts both the dependent one and the mediator, while the latter has to forecast the dependent variable. Additionally, all these effects have to be statistically significant (Baron and Kenny, 1986). In the end, the strength of the mediation itself has to be calculated. Specifically, if the impact of the independent variable on the dependent one is cancelled when controlling for the mediator, it is practicable to talk about complete mediation (Baron and Kenny, 1986). On the contrary, if this last condition is not verified, partial mediation is indicated (Baron and Kenny, 1986).

Hence, in the first place, the relationship among transformational leadership and prosocial motivation was investigated thanks to a hierarchical analysis split into two stages. At the beginning, I examined the impact of the three control variables, namely gender, tenure and age, on employees' prosocial motivation. Then, I also included transformational leadership in order to assess the enhancement in the amount of variance explained. Secondly, another hierarchical analysis was performed with the aim of checking the relationship linking transformational leadership and employees' innovative behaviors. In greater detail, after having tested the effect of control variables on the dependent one, transformational

leadership as well as the mediator were added. Lastly, the model was further explored through the PROCESS macro (Hayes, 2013), selecting Model 4 which is a mediation one. In this manner, it was possible to meaningfully include all the variables at once.

## 3.6 Reliability and validity

Topics related to reliability and validity are key in order to establish the quality of a study. From this perspective, the present section will illustrate the main steps completed for securing gratifying degrees of reliability as well as validity.

### 3.6.1 Reliability

Reliability is “the extent to which data collection techniques will yield consistent findings” (Saunders et al., 2016, p. 726). In greater detail, the internal dimension of reliability aims at reaching high levels of consistency with respect to a particular research project (Saunders et al., 2016). In the current investigation, this was accomplished by reasoning with other researchers about the practices utilized for the development of the survey. In this way, looking at different feasible perspectives, it was possible to guarantee internal reliability during the data collection. In parallel, external reliability is considered as remarkable if the methods implemented for collecting and analyzing data would bring to consistent results even when replicated by other individuals (Saunders et al., 2016). In the present research it was proposed a survey strategy easily repeatable, with questions based on existing measures that increased its standardization and transparency, finally leading to a high external reliability. In addition, the latter was enhanced also thanks to the efforts made throughout the translation of the survey into the various required languages. For this reason, the propositions were equally interpreted by different respondents, resulting in accurate answers. Moreover, during the data analysis phase, I comprehensively explained the statistical techniques used, which are also renowned and handily available to anyone. As a consequence, it is logical to assume that if a researcher wished to investigate the same data another time, she/ he would come up with results consistent with the ones of this study.

When dealing with reliability, it is also significant to consider its possible limitations. The first threat to reliability to be taken into account for this research is the participant error. The

latter tends to happen when respondents are affected by the process (Saunders et al., 2016). In order to decrease its effect, all the participants in the study received the survey through a personal e-mail link, flanked by a cover letter and research instructions, common to everybody. Thus, since each employee got the precise same amount of information, the consistency of the process improved. Additionally, the possibility of answering the survey with no deadlines or restrictions was ensured for minimizing possible further impacts from the process. The second relevant threat is the participant bias, that develops when respondents fit their answers to what is considered to be the correct option, not showing honesty and sincerity (Saunders et al., 2016). This risk was lowered by keeping the survey completely anonymous and by stressing that there was no possibility to link the answers back to the employees.

### **3.6.2 Validity**

Validity indicates if “the findings are really about what they appear to be about” (Saunders et al., 2016, p. 730). More specifically, internal or measurement validity relates to whether the measures of a study properly measure what they plan to (Saunders et al., 2016). In this research, two out of the three investigated measures directly derive from existing theories that proved to be significant and valuable. The other one results from a meticulous understanding of its final purpose through previous literature. Therefore, it is reasonable to state that the overall internal consistency seems to be satisfactory. In addition, all the variables are composed by different items dealing with the same construct from different viewpoints. This fact enhances the likelihood that the measures successfully reflect what they intend to. Nonetheless, also quantitative techniques such as Cronbach’s Alpha and factor analysis were effectively performed. In conjunction, external validity is linked to the generalizability of research findings to other environments (Saunders et al., 2016). In the present analysis, data originate from employees all representing a single organization. Thus, it is fairly difficult to generalize the results to a broad range of other companies. Yet, the statistical representativeness of the sample due to the census and the significant response rate allows to possibly generalize the findings to comparable organizations in terms of both mission and prosocial values.



### 3.7 Research ethics

Research ethics are defined by Saunders et al. (2016, p. 726) as “the standards of the researcher’s behavior in relation to the rights of those who become subject of a research project, or who are affected by it”. Particularly when a study is based on sensitive and confidential information concerning respondents’ personal aspects, as in the present case, research ethics should be taken into consideration. Indeed, a researcher has to try to minimize their related impact (Saunders et al., 2016). In the present section, I will describe the most significant precautions put in place for ensuring meaningful ethical quality throughout the study, especially during the steps of data collection and analysis.

First of all, when initially dealing with the research object, practical initiatives to secure confidentiality as well as anonymity during data gathering were already brought forward. In fact, as before anticipated, in order to preserve privacy when accessing the data, a personal survey link was sent by e-mail to every employee. Moreover, all participants were informed about the anonymity and confidentiality of their answers. In addition, everyone was notified in anticipation with the available details concerning the research as well as its purposes and implications.

The research strategy of the survey facilitated dealing with ethical aspects. Indeed, it enables to focus and control this type of issues in advance through the preceding preparation of its structure and questions, ultimately reducing the likelihood of misunderstandings. Furthermore, all the respondents had the possibility of withdrawing and leaving unanswered questions with no need for explanations. These actions reduced the pressure on the participants, generating more objectivity and favorable ethical consequences.

In conformity with the ethical standard of not causing harm to the people involved in the study (Saunders et al., 2016), data were examined and processed only by the research team, which was completely unrelated to the company. Additionally, over the course of the entire process all the data were analyzed objectively and showed in a fair and straight manner. Finally, it has to be mentioned that, in order to ensure the highest possible ethical quality of

the present research, the survey was developed in accordance with the guidelines of the Norwegian Centre for Research Data, that subsequently approved it.

## 4. Results

### 4.1 Descriptive statistics

**Table 1:** correlations and descriptive statistics

Variables	Mean	SD	1.	2.	3.	4.	5.	6.
1. Gender (coded)	.46	.50	1					
2. Tenure (months)	123.74	99.61	.06	1				
3. Age	44.16	9.79	-.03	.56**	1			
4. TL	5.25	1.45	.01	-.08	-.09	1 (.968)		
5. PM	6.34	.96	.03	.06	.06	.48**	1 (.957)	
6. IB	4.14	1.47	-.24**	-.14**	-.14**	.20**	-.03	1 (.908)

N = 463

The Cronbach's Alpha appears in brackets.

\* Correlation is significant at the .05 level (2-tailed).

\*\* Correlation is significant at the .01 level (2-tailed).

Table 1 displays the correlations among all the variables considered in the current study, being TL transformational leadership, PM prosocial motivation and IB innovative behaviors. Moreover, some descriptive statistics are also showed above, exactly the measures' mean and standard deviation (SD).

It is possible to observe some relevant correlations within the items. In greater detail, there is a significant ( $p \leq .01$ ) and positive correlation between age and tenure and between prosocial motivation and transformational leadership. Furthermore, innovative behavior is significantly ( $p \leq .01$ ) and negatively correlated with gender, tenure and age. In contrast, it presents a significant ( $p \leq .01$ ) and positive correlation with transformational leadership. Switching then to the measures, transformational leadership shows a mean value of 5.25, indicating that on average employees rated their supervisors' features in a constructive way.

The corresponding standard deviation of 1.45 denotes the observations' tendency to fluctuate quite widely around the mean. Next, it is possible to notice that prosocial motivation displays a mean value of 6.34 and a standard deviation of 0.96, implying that the majority of the participants in the sample evaluated their state-like prosocial motivation as valid. Lastly, innovative behavior's mean value of 4.14 is still high with respect to the 7-point scale that has been used, but closer to the center if compared to the other variables. Additionally, its related standard deviation of 1.47 indicates that, as with transformational leadership, these ratings tend to fairly oscillate with reference to the mean.

## 4.2 Cronbach's Alpha

In Table 1 it is also possible to check Cronbach's Alpha coefficients for the constructs of transformational leadership, prosocial motivation and innovative behaviors. According to Nunnally (1978), since the respective values for all the measures are greater than the limit of 0.7, it is reasonable to state that they present a high internal consistency. This indicates that the questions composing every variable examine the same phenomenon (Nunnally, 1978). Furthermore, as earlier anticipated, I verified whether the index of each construct would have raised if one item was deleted. Admittedly, with regard to transformational leadership, the Cronbach's Alpha moves from 0.968 to 0.971 by removing data referring to the first statement, namely "my manager communicates a clear and positive vision of the future". Nevertheless, I decided not to eliminate these records because the original value was already much higher than the required threshold and the regressions' results deleting or maintaining them were almost identical, since the improvement in the Cronbach's Alpha was of only +0.003.

## 4.3 Factor analysis

As previously explained, the Cronbach's Alpha is paramount, but it is not a marker of unidimensionality, hence this feature was additionally analyzed for all the three main variables.

Initially, in order to perform a factor analysis, it is necessary to inspect the KMO Measure of Sampling Adequacy and the Barlett's test of sphericity. In the current case, the first measure presented a value of .919, therefore resulting acceptable since above 0.6 (Denis, 2018), while the second one was highly significant ( $p \leq .001$ ). In conclusion, these checks highlighted the potential utility of the following analysis (Denis, 2018). Thus, I examined the dimensionality of the scale for transformational leadership, prosocial motivation and innovative behaviors.

**Table 2:** total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1.	7.293	52.096	52.096	7.293	52.096	52.096
2.	2.848	20.343	72.439	2.848	20.343	72.439
3.	1.869	13.349	85.788	1.869	13.349	85.788
4.	.353	2.523	88.311			
5.	.289	2.063	90.374			
6.	.247	1.765	92.139			
7.	.223	1.591	93.731			
8.	.200	1.431	95.162			
9.	.167	1.196	96.358			
10.	.129	.922	97.280			
11.	.120	.855	98.135			
12.	.101	.724	98.858			
13.	.085	.606	99.465			
14.	.075	.535	100.000			

Extraction Method: Principal Component Analysis.

Table 2 shows that the first three components present an Eigenvalue higher than 1. For this reason, it is possible to presume that there are three factors within the considered data, coherently with the characteristics of the investigated variables. Furthermore, the same three components account for more than the 85% of the total variance, indicating that the scale items are unidimensional. Then, through the exploration of the relative VARIMAX rotated matrix (Table 3), it can be noticed that the items precisely refer to their constructs, without overlapping on other dimensions.

**Table 3:** rotated component matrix

	Component		
	TL	PM	IB
My manager communicates a clear and positive vision of the future	.811		
My manager treats me as an individual, supports and encourages my development	.904		
My manager encourages me and gives me recognition	.904		
My manager fosters trust, involvement and cooperation	.921		
My manager encourages questioning assumptions and thinking about problems in new ways	.882		
My manager is clear about her/ his values and practices what she/ he preaches	.874		
My manager instills pride and respect in me and inspires me by being highly competent	.909		
The company cares about benefiting others with its products and services		.902	
The company wants to help others via the products and services it provides		.924	
The company wants to have a positive impact on the lives of others via its products and services		.923	
It is important to the company to do good for others through its products and services		.883	
Searches out new technologies, processes, techniques, and/ or product ideas			.893
Generates creative ideas			.929
Is innovative			.920

Extraction Method: Principal Component Analysis.

Rotation Method: VARIMAX with Kaiser Normalization.

## 4.4 Regression analysis

As already hinted, the first hierarchical analysis was run with the goal of investigating the relationship linking transformational leadership and prosocial motivation. Thus, the linear regression presented the following equation:

$$PM_i = \beta_0 + \beta_1 TL_i + \beta_2 Gender_i + \beta_3 Age_i + \beta_4 Tenure_i + \varepsilon_i$$

The corresponding results are shown in the next table (Table 4).

**Table 4:** hierarchical regression analysis' results on prosocial motivation

	Prosocial motivation (PM)	
	Model 1 $\beta$ (SE)	Model 2 $\beta$ (SE)
Constant	6.101*** (.225)	4.242*** (.250)
Control variables:		
Gender	.048 (.090)	.037 (.079)
Age	.004 (.006)	.007 (.005)
Tenure	.000 (.001)	.001 (.001)
Independent variable:		
Transformational leadership (TL)		.326*** (.027)
R <sup>2</sup>	.005	.244
$\Delta R^2$	.005	.239
F	.799	36.937***
$\Delta F$	.799	36.138

N = 463

\*\*\*  $\leq$  .001, \*\*  $\leq$  .01, \*  $\leq$  .05

Unstandardized betas are presented.

Standard errors appear in brackets.

It can be noticed that the introduction of transformational leadership leads to a substantial improvement in the model. Indeed, the F test displays a positive  $\Delta$  of 36.138 within the two regressions, while the final  $R^2$  presents a value of .244, meaning that 24.4% of the variance of prosocial motivation is described by the considered independent variables.

Subsequently, the second hierarchical analysis was conducted for exploring the impacts of transformational leadership and prosocial motivation on the dependent variable. The linear regression presented this equation:

$$IB_i = \beta_0 + \beta_1 TL_i + \beta_2 PM_i + \beta_3 Gender_i + \beta_4 Age_i + \beta_5 Tenure_i + \varepsilon_i$$

The associated results are illustrated in the following table (Table 5).



**Table 5:** hierarchical regression analysis' results on innovative behaviors

	Innovative behaviors (IB)	
	Model 1 $\beta$ (SE)	Model 2 $\beta$ (SE)
Constant	5.311*** (.330)	5.129*** (.523)
Control variables:		
Gender	-.698*** (.133)	-.697*** (.129)
Age	-.017* (.008)	-.014 (.008)
Tenure	-.001 (.001)	-.001 (.001)
Independent variable:		
Transformational leadership (TL)		.257*** (.051)
Mediator:		
Prosocial motivation (PM)		-.211** (.077)
R <sup>2</sup>	.081	.130
$\Delta$ R <sup>2</sup>	.081	.049
F	13.544***	13.661***
$\Delta$ F	13.544	.117

N = 463

\*\*\*  $\leq$  .001, \*\*  $\leq$  .01, \*  $\leq$  .05

Unstandardized betas are presented.

Standard errors appear in brackets.

Again, the F test and the R<sup>2</sup> demonstrate that the model enhances when both transformational leadership and prosocial motivation are taken into account. In greater detail, 13.0% of the variance of innovative behaviors is explained by the aforementioned independent variables.

Finally, the model was additionally investigated exploiting PROCESS macro's Model 4 (Hayes, 2013). In this way, it was feasible to distinctly test the mediation effect of employees' prosocial motivation in the relationship among transformational leadership and their innovative behaviors, incorporating all these variables simultaneously. The respective results, almost equal to the previous ones, are shown in the next tables (Tables 6, 7 and 8).

**Table 6:** PROCESS' results on prosocial motivation

Prosocial motivation (PM)			
	Coefficient	SE	t
Constant	4.242***	.250	16.952
Transformational leadership (TL)	.326***	.027	12.025
Gender	.037	.079	.472
Age	.007	.005	1.374
Tenure	.001	.001	1.224
R <sup>2</sup>	.244		
F	36.937***		

N = 463

\*\*\*  $\leq .001$ , \*\*  $\leq .01$ , \*  $\leq .05$

Unstandardized coefficients are presented.

**Table 7:** PROCESS' results on innovative behaviors

	Innovative behaviors (IB)		
	Coefficient	SE	t
Constant	5.129***	.523	9.810
Transformational leadership (TL)	.257***	.051	5.048
Prosocial motivation (PM)	-.211**	.077	-2.751
Gender	-.697***	.129	-5.387
Age	-.014	.008	-1.695
Tenure	-.001	.001	-.937
R <sup>2</sup>	.130		
F	13.661***		

N = 463

\*\*\* ≤ .001, \*\* ≤ .01, \* ≤ .05

Unstandardized coefficients are presented.

**Table 8:** PROCESS' results – total, direct and indirect effects of X on Y

	Effect	Lower 95% C.I.	Upper 95% C.I.
Total effect of X on Y	.188	.101	.277
Direct effect of X on Y	.257	.157	.357
Indirect effect(s) of X on Y	-.069	-.119	-.019

N = 463

Unstandardized coefficients are presented.

Particularly, Table 6 presents the effect of transformational leadership on prosocial motivation, while Table 7 the direct impacts of the just cited constructs on employees' innovative behaviors. In addition, Table 8 plainly offers the indirect effect on the dependent

variable determined by the mediator, as well as the lower and upper limits of the related 95% confidence interval.

From these analyses, it was possible to review the hypotheses previously proposed. The first hypothesis suggested that transformational leadership would have positively influenced employees' innovative behaviors. As shown by Table 7, where this direct impact is disclosed, the coefficient of transformational leadership is positive ( $\beta = .257$ ) and significant ( $p \leq .001$ ). Consequently, I corroborate Hypothesis 1. The second hypothesis stated that higher degrees of transformational leadership would have led to a stronger state-like prosocial motivation among employees. This relationship is investigated by Table 6, presenting an effect that is both positive ( $\beta = .326$ ) and significant ( $p \leq .001$ ). Therefore, it is possible to find proof supporting Hypothesis 2. The third hypothesis predicted that the prosocial motivation of employees would have affected their innovative behaviors in a positive way. According to Table 7, the corresponding coefficient is significant ( $p \leq .01$ ), but negative ( $\beta = -.211$ ). Hence, Hypothesis 3 is rejected. The fourth and final hypothesis proposed that the positive impact of transformational leadership on employees' innovative behaviors would have been mediated by their prosocial motivation. From this perspective, Table 8 provides evidence for the confirmation of this mediation effect. Indeed, the latter is significant, since the respective confidence interval does not include the value of 0 (Lower 95% C.I. =  $-.119$ ; Upper 95% C.I. =  $-.019$ ), and negative (Effect =  $-.069$ ) (Bollen and Stine, 1990; Shrout and Bolger, 2002; Hayes, 2013). In conclusion, prosocial motivation statistically and significantly mediates the aforementioned relationship within the population, but it reduces the positive direct effect that transformational leadership generates on employees' innovative behaviors. Exactly for this last reason, in the current case it is possible to talk of partial mediation (Baron and Kenny, 1986; Hayes, 2013).

## 5. Discussion

### 5.1 Summary of findings

The final goal of the present research was to comprehensively understand how transformational leadership influences the innovative behaviors implemented by employees. Indeed, the inmost mission driving this study was to demonstrate that workers led by supervisors whose features are recognized as transformational, tend to set up innovative behaviors to a greater extent. With this aim, starting from the literature previously explored, the mediation effect of employees' prosocial motivation has been investigated for that main relationship. From this perspective, it was possible to draw up a set of hypotheses. Nonetheless, the related findings point out that these expectations are only partially confirmed.

Concerning the first and leading hypothesis, I stated that transformational leadership would have produced a positive impact on employees' innovative behaviors. This suggestion places its roots in earlier studies published by different scholars, such as Bass (1985), Bass and Avolio (1990), Gardner and Avolio (1998) and Carless et al. (2000). As already anticipated, in this research I found evidence sustaining this hypothesis. In fact, through the quality of intellectual stimulation, transformational leaders can encourage their followers to question the status quo by deploying innovative ideas (Bass and Avolio, 1990). Moreover, some transformational supervisors can be able to trigger particular values in employees' brainpower, that can ultimately lead to the development of new and beneficial operations (Bass and Riggio, 2006). Having said all that, it is possible to consider transformational leadership as one of the most prominent predictors of innovative behaviors in the workplace.

Regarding the second hypothesis, I suggested the existence of a positive effect of transformational leadership on employees' prosocial motivation. In greater detail, the latter has been considered with respect to its state-like dimension, that is the desire to benefit other people (Grant and Berg, 2011) deriving from environmental elements (Bolino and Grant, 2016). From this viewpoint, the theoretical discussion about the favorable link between these constructs has been broadened by several academicians, among which Bandura and his

social learning theory (1977) stand out. Even in the current study this relationship has showed to be positive and significant. Thus, it seems that a transformational approach of leadership can enhance and consolidate workers' prosocial motivation. A possible reason for this may be that transformational leaders tend to drive their followers' ethics towards prosocial objectives, like the welfare of their group or company (Bass, 1985). As a result, transformational leadership can be defined like an essential antecedent of state-like prosocial motivation.

In relation to the third hypothesis, I argued that employees' prosocial motivation would have positively affected their innovative behaviors. In this sense, prior analyses clearly demonstrate this relationship (Grant, 2007; Grant, 2008; Schmitt, 2019). Indeed, Grant (2007) affirmed that prosocial motivation can enhance workers' persistence and commitment, which are commonly considered as relevant predictors of innovative behaviors (Schmitt, 2019). Consequently, high degrees of prosocial motivation among employees can produce greater willingness and determination for accomplishing their tasks in original and more functional methods (Grant, 2008). Nevertheless, in the present research I did not find evidence for this positive relationship. In fact, the treated relationship appeared to be significant, yet negative. This outcome was contradictory to my expectations, even becoming more stunning when considering the confirmatory results of the experiment conducted by Bawuro et al. (2019), who revealed a positive and significant effect of prosocial motivation on innovative behaviors. About this, a potential explanation may be that prosocial motivation does not inevitably impact innovative behaviors on the job, but instead it can affect employees' efforts related to other areas of their occupations. As an example, it is rational to think that prosocial motivation can give rise to more powerful layers of helping behaviors (McNeely and Meglino, 1994), which are not necessarily innovative. Moreover, prosocial motivated individuals employed in an organization striving to save lives could primarily address their time towards the achievement of performance rather than innovative behaviors. Furthermore, another plausible reason for this finding may be that a state-like prosocial motivation is not enough for foreseeing innovative behaviors. In greater detail, this means that the latter can also depend on different determinants not specifically taken into account here, for instance the trait-like side of prosocial motivation, that could somehow mitigate the negative effect generated by the state-like one.

The fourth and final hypothesis is heavily grounded on the three prior ones. Indeed, I proposed that workers' prosocial motivation would have mediated the positive influence on their innovative behaviors determined by transformational leadership. Since there is a lack of literature on the subject, this statement was directly outlined from previous reasoning. In the current study, this theory was verified, as explained throughout the preceding section 4.4 adopting a statistical point of view. Indeed, prosocial motivation has been recognized as a significant mediator of the aforementioned relationship, even if it decreased the positive direct effect of transformational leadership on innovative behaviors. Actually, this last point is perfectly consistent with the findings resulting from the discussion of hypothesis 3, eventually leading to a partial mediation effect (Baron and Kenny, 1986; Hayes, 2013).

As already anticipated, the investigation confirmed most of the developed hypotheses, although some empirical findings were surprisingly not supported by quantitative evidence. To sum up, it was possible to prove that higher ratings of supervisors' transformational leadership lead to more innovative behaviors from their employees, which was the main purpose of the present research. However, in contrast to the original belief, it was found that prosocial motivation negatively influences the dependent variable notwithstanding its significant role as a mediator. From this standpoint, some feasible justifications have been provided, which will be further explored over the course of next sessions. Similarly, some meaningful deductions and interpretations have been offered as well.

## 5.2 Implications for theory

This study discloses three major theoretical contributions.

In the first place, the current analysis helps to enlarge the existing literature about innovative behaviors through a different model and methodology, inspecting data referring to variables never examined together before. Indeed, to my knowledge, the investigated mediation model has not been considered yet. From this perspective, the research model sheds a light on the mechanism through which transformational supervisors can be able to make grow or affect the fostering of innovative behaviors among their followers. Therefore, the present research

model provides further observations regarding innovative behaviors at the place of work, contributing to filling the theoretical void that persists in relation to them (Yukl, 1999).

Furthermore, the findings related to the positive impact that transformational leadership generates on prosocial motivation offer new insights to the latter's domain. In fact, Bolino and Grant (2016) recommended that additional studies would look into how an environment or a state can be able to influence employees' prosocial motivation on-the-job. With the introduction of transformational leadership as such a state, and its consequent exploration, this research proposes novel relevant cues on how certain conditions can engender prosocial motivation. In summary, this study's findings indicate that a transformational approach of leadership can be able to create the discussed state.

Moreover, not many inquiries have been found to focus on the state-like dimension of prosocial motivation, rather concentrating more on its trait-like side (Bolino and Grant, 2016). Hence, the use of state-like prosocial motivation as the mediation variable may constitute an additional potential theoretical contribution. Specifically, the results arising from the analysis of the aforesaid mediation effect ulteriorly expand the ongoing literature regarding the still restricted field of state-like prosocial motivation. Besides, these findings overturn the deep-rooted idea that the latter produces a positive effect on employees' innovative behaviors, as it was suggested by previous scholars (Grant, 2007; Grant, 2008; Bawuro et al., 2019; Schmitt, 2019). In this way, the deriving outcomes make the actual theory grow thanks to new hints, supporting the idea of Nuzzo (2014), who advocated that quantitative examinations need several replications for coming up with truly confident and acceptable results.

### 5.3 Implications for practice

Innovative behaviors put in place by employees are considered as an essential factor in order to reach the goals that an organization has defined, ultimately participating to the creation of its competitive advantage (Axtell et al., 2000; Thurlings et al., 2015). In accordance with this thinking is also Jafri (2010), who underlined the prominence that innovative behaviors present in determining the general success of a firm. Because of the above reflections, it is



desirable for contemporary companies to encourage practices which can raise the level of innovative behaviors within their workers. In this way, organizations may benefit from these conducts for the objective of carrying out different approaches and delivering new products and services. For these reasons, the purpose of the current research is exactly to suggest some meaningful insights on how companies can promote innovative behaviors. The present study's findings indicated that transformational leadership is a valuable antecedent of employees' innovative behaviors. Consequently, it is key for a firm to implement actions for guaranteeing that the largest possible number of workers have the chance of dealing with supervisors with transformational characteristics. In order to so, distinct human resource procedures can be applied.

In the first place, it is convenient for an organization to recruit transformational managers since the beginning. With this aim, a worthwhile practice is the one of submitting candidates to specific evaluations during the recruitment process, for understanding an individual's transformational features (Noe et al., 2014). As an example, a popular approach is the Multifactor Leadership Questionnaire, commonly known as MLQ (Bass and Avolio, 2004). This inventory allows to look into several styles of a leader through the quick rating of a set of items for evaluating a range of transformational, transactional and non-leadership styles. Beyond being time-effective, this method has been validated over different countries and organizations for distinguishing successful supervisors from unsuccessful ones (Bass and Yammarino, 1991; Howell and Avolio, 1993; Avolio et al., 1996). Hence, on the basis of the evaluation's results, employers can more easily be able to hire managers with an inner transformational nature, lastly facilitating the spread of innovative behaviors among their followers. Obviously, once supervisors have been finally recruited, it is advisable to continuously keep on monitoring them, just like the other employees. In order to so, a frequently used technique is represented by assessments, that help pointing out resources' trends and preferences, also offering precise feedbacks (Noe et al., 2014). In this way, companies can become able to rapidly track their leaders' shifts with respect to the aforementioned transformational attributes.

Subsequently, it is recommended that organizations try to set up professional and personal training programs for the improvement and upgrade of their managers towards ever more

transformational aims. Initiatives of this kind can have two main beneficial consequences. On the one hand, they can give participants the opportunity of refining behavioral capabilities such as public speaking. The latter, in fact, is considered as a paramount driver of the transformational dimension of inspirational motivation, by which leaders tend to inspire their followers and boost their optimism with the goal of having a significant organizational impact (Bass and Avolio, 1990). On the other hand, activities of that sort can also focus on evolving management skills and on shaping and sharing the firm's best practices in order to effectively administer functional as well as cross-functional groups of people. With these purposes, an increasing number of companies tend to arrange seminars and speeches with external attested parties, since a non-domestic standpoint can generate more trustworthiness, not being based on biases or preconceptions (Saunders et al., 2016). Moreover, if in possession of the required assets, companies are also growingly willing to create specific institutions like corporate universities for upskilling the ruling class in the finest possible form.

Furthermore, it is interesting to reflect upon the theme that in a meritocratic organization like the one constituting the context of this research, today's followers will be future leaders. Therefore, taking an employees' perspective, another human resource practice that firms can adopt is represented by the so-called interpersonal relationships. Among them, it is possible to cite mentoring and coaching as the most effective methods for developing workers, enlarging their knowledge and abilities (Noe et al., 2014). Specifically, mentoring is related to the selection of a more experienced individual for improving the protégè's performance and job mindset (Noe et al., 2014). In parallel, coaching refers to the assistance from a peer or a line manager for enhancing an employee's skills and talents also thanks to constructive criticism and reinforcement (Noe et al., 2014). In such a way, companies can offer its members the opportunity of shaping their personal traits with the aim of becoming the transformational leaders of tomorrow and supporting the implementation of forthcoming employees' innovative behaviors.

By way of conclusion, the current section has showed some useful insights regarding those human resource techniques that organizations can enact in order to encourage innovative behaviors among their workers.

## 5.4 Limitations of the study

Even though the present research has been able to provide some remarkable theoretical and practical contributions, it is also necessary to address some of its potential limitations.

First of all, it is appropriate to remind that the related quantitative evidence has been gathered from a single company. Thus, because this firm's employees may be very alike among themselves and may answer to the same inputs with similar conducts, a latent risk of homogeneity exists. Indeed, as earlier disclaimed, the context of the current analysis influences its findings and conclusions, decreasing the likelihood of generalizing the results to a multitude of different organizations with regard to the mission. Nevertheless, it is rational to assume that investigations undertaken in settings marked by similar prosocial values can virtually bring to akin achievements. Similarly, also the Norwegian culture as well as mentality may affect the outcome of this research, since the reference company is founded and led in Norway, despite operating internationally. In fact, in this country firms are usually characterized by low power distances and soft hierarchical structures, emphasizing distinct matters than the mere profit maximization (Warner-Soderholm and Cooper, 2016). Hence, these features can possibly sway workers' innovative behaviors, ultimately impacting this study's interpretation.

Secondly, the set of data rated by the participants in the examined population can represent another disadvantage. Specifically, the restricted number of statements included in the survey did not allow to receive deep-rooted insights regarding respondents' thoughts. Indeed, this kind of research strategy is seen as more impersonal compared to, for instance, interviews, even if it also offers several upsides (Saunders et al., 2016). Therefore, employees may not have been able to comprehensively indicate the reasons at the basis of their answers. This can potentially be a drawback of the current thesis, because more detailed information would have allowed to provide even more significant suggestions on how to incentivize innovative behaviors.

Lastly, it is logical to presume that other variables not included in this analysis can predict variations in the levels of employees' innovative behaviors to a greater extent. As an

example, it is plausible that an individual's mood or perceived stress level can affect her/ his innovative behaviors on-the-job. Consequently, the herein investigated relationship may be impacted by also other mediators or moderators than those previously taken into account. To sum up, another limitation of this study can be that it only considers two factors for depicting the variance in the dependent variable.

## 5.5 Future research

Starting from all the previous reasoning, possible directions for future research can be proposed. Indeed, this is the latest aim of the present analysis.

Firstly, in connection with the preceding section's end, upcoming scholars could focus on further investigating the treated relationships through different mediators and/ or moderators. In this way, it would be possible to ulteriorly enlarge the literature regarding innovative behaviors in the workplace. This goal could be achieved also thanks to additional quantitative evidence, for reaching findings of total significance and reliability (Nuzzo, 2014). In greater detail, the supplementary exploitation of a moderating construct may lead to meaningful outcomes not yet disclosed. In fact, since a moderator is an element affecting the strength of the connection among an independent and a dependent variable (Saunders et al., 2016), its examination could clarify what is able to reinforce or weaken the relationship between transformational leadership and innovative behaviors. Moreover, prospective research could take a step beyond transformational leadership, developing a comparison with transactional one. Indeed, it would be worthwhile to understand whether and how the degree of innovative behaviors put in place by employees changes with respect to distinct features of their supervisors. Additionally, it would be interesting to explore the variation in innovative behaviors' levels also among various occupational levels, like within managers themselves. This would represent another enrichment to the existing theory, discovering if there are other measures that can predict the dependent variable as well as the rationale for eventual discrepancies.

As already reiterated throughout subchapter 5.4, the data of this study come from just one company, which is characterized by an evident prosocial mission that makes it unique in a

certain sense. Hence, it can be challenging to generalize the arising results to other contexts. From this perspective, future research could analyze if these findings emerge from organizations based on different values too. Similarly, future research could also concentrate on scanning this model in firms rooted to countries other than Norway. Actually, as previously anticipated, Norwegian customs and traditions have an impact on the background of the company (Warner-Soderholm and Cooper, 2016), even if it is present internationally. For this reason, it would be remarkable to investigate the current relationships in diverse environments and cultures, such as South America, Asia or Africa.

In closing, another path that next studies could undertake is to follow up on the survey's answers for comprehensively understanding what they really meant. In order to do so, more qualitative techniques could be exploited, like interviews or focus groups (Saunders et al., 2016). Even if these actions could not provide any additional theoretical implication, they could be still helpful for the reference organization. In fact, recognizing the inner reasons that led to the implementation of innovative behaviors from an employee could detect some new relevant antecedents of them. In this way, companies could eventually be able to set up novel practices for furtherly promoting these positive conducts among their workers.

## 6. Conclusion

The ultimate objective of this thesis was to extensively explore the effect that transformational leadership can generate on employees' innovative behaviors in the context of a mission-driven company. Starting from previous literature research on the treated topics, I presented a research model. The latter was a mediation one, since the construct of state-like prosocial motivation was taken into account with the aim of explaining the connection between the already introduced independent and dependent variables. Subsequently, four hypotheses were developed, eventually suggesting that the positive impact of transformational leadership on workers' innovative behaviors was mediated by their prosocial motivation.

The first relevant outcome of the study was that transformational leadership has been genuinely found as a pertinent antecedent of on-the-job innovative behaviors. I argued that this assertion was supported by the characteristic of intellectual stimulation, thanks to which transformational managers encourage their followers to evolve new ideas for disrupting the actual paradigms of normality (Bass and Avolio, 1990).

Next, the current research ascertained that the formerly addressed relationship was significantly mediated by employees' state-like prosocial motivation. However, the last-mentioned had a negative indirect effect on innovative behaviors, reducing the positive direct one of transformational leadership. In greater detail, on the one hand transformational leadership favorably affected employees' prosocial motivation, since supervisors adopting this kind of attitude tend to direct the ethics of their votaries towards prosocial goals (Bass, 1985). On the other hand, the same prosocial motivation showed to impact workers' innovative behaviors in a significant but negative manner. With regard to this, it is possible that prosocial motivation can lead to other types of behaviors such as performance-oriented or helping ones, which can turn out not to necessarily be innovative (McNeely and Meglino, 1994). Additionally, only observing the state-like dimension of prosocial motivation could be insufficient for satisfactorily predicting innovative behaviors. In fact, they can also depend on other determinants not explicitly contemplated here, such as trait-like prosocial motivation.

Subsequently, the just discussed findings provided three appropriate contributions for theory. Firstly, they enlarged the existing literature concerning innovative behaviors through a novel quantitative research model, namely a mediation one, whose variables have not been examined together before. Moreover, the results confirming that transformational leadership positively affected state-like prosocial motivation proposed relevant insights on how the latter can be influenced by a peculiar environment. Finally, precisely the consideration of the state-like side of prosocial motivation brought about another possible theoretical contribution. Indeed, as asserted by Bolino and Grant (2016), the majority of earlier analyses mainly focused on this concept from a trait-like perspective.

In conjunction, the current research also offered salient implications for practice. In fact, prior scholars stated that innovative behaviors implemented by workers can embody a key driver of success for modern companies (Axtell et al., 2000; Jafri, 2010; Thurlings et al., 2015). For this reason, contemporary firms have a clear inducement to foster particular practices for the promotion of such actions within their employees. Consequently, this thesis provided and explicated some worthwhile human resource techniques that organizations can carry out for that final objective. Concretely, I comprehensively lingered over the procedures of specific recruiting evaluations, monitoring, training programs and interpersonal relationships.

Obviously, this investigation presented some limitations as well, which could become the starting point of future research. In the first place, the risk of homogeneity deriving from the single source of data could be overcome by analyzing the model in different companies and nations. Then, prospective inquiries could flank the survey strategy by more qualitative approaches like interviews, in order to avoid the hazard of not receiving really profound answers. In this way, it could be possible to further understand innovative behaviors' determinants for ensuing even more meaningful contributions. Lastly, with the objective of explaining a greater portion of variance of innovative behaviors, other new variables could be examined. For instance, the respondents' mood as well as personal stress level could be exploited either as mediators or moderators.

By way of conclusion, this thesis helped enlarging the existing literature about innovative behaviors, demonstrating that they can be positively impacted by higher layers of transformational leadership. Besides, the arising implications for practice could be useful for modern firms in order to put in place those processes aimed at incentivizing such beneficial conducts. In parallel, with the intent of a forthcoming and continuous enrichment, the outlined findings could be supplementary expanded by future research, as previously illustrated.



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