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THE ROLE OF PERCEIVED LMX QUALITY IN SUBORDINATES' ENTREPRENEURIAL ORIENTATION

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ABSTRACT

Nowadays companies need to be more and more innovative in order to adapt to constantly changing and highly competitive markets. Leadership role in these circumstances becomes extremely important because leaders need to promote entrepreneurial orientation of the employees.

The purpose of this research is to analyze the relationships between perceived leader-member exchange (LMX) quality and subordinates´ entrepreneurial orientation (EO). The research is especially important for leaders to understand how their behavior can influence innovativeness, proactiveness and risk-taking of the subordinates and thus help in promoting corporate entrepreneurship.

Using a sample of 357 subordinates, the direct effects of perceived LMX were tested on three EO dimensions: innovativeness, proactiveness and risk-taking. The online questionnaires included measures of LMX adapted from Graen and Uhl-Bien (1995) and individual entrepreneurial orientation (IEO) from Bolton and Lane (2012).

The results showed that perceived LMX quality has significant positive correlations with proactiveness and risk-taking indicating that a higher LMX quality leads to more proactive and risk-taking behaviors. This study did not find significant relationship between LMX and innovativeness. The results also showed that LMX dimensions have a different impact on individual EO. Subordinates proactiveness is influenced by perceived effectiveness of working relationships and leader´s understanding of job problems, while risk-taking is affected by feedback frequency received from a leader and also by perceived effectiveness of working relationships. Help solving problems was the only item which had an impact on innovativeness.

This study was presented in 7th annual Developing Leadership Capacity Conference (DLCC) and received a strong interest in the topic by other researchers.

Keywords: Leader-member exchange, individual entrepreneurial orientation, innovativeness, proactiveness, risk-taking

JEL Classification: L26 Entrepreneurship; O15 Human Resources

RESUMO

Num mercado em constante mudança e cada vez mais competitivo a inovação das empresas é primordial, cabendo aos líderes promover uma orientação empreendedora dos colaboradores dentro da organização.

O propósito desta pesquisa é analisar o impacto da perceção da qualidade da troca líder-liderado (LMX) na orientação empreendedora dos subordinados, permitindo aos líderes perceber como o seu comportamento pode influenciar a inovação, pro atividade e a assunção de riscos dos subordinados.

Usando uma amostra de 357 subordinados que responderam a um questionário *online*, desenvolvido com base na escala de LMX de Graen e Uhl-Bien (1995) e na escala de orientação empreendedora individual de Bolton e Lane (2012), foram testados os efeitos diretos da perceção de LMX em três dimensões da orientação empreendedora: inovação, pro atividade e assunção de riscos.

Os resultados revelaram que a perceção da qualidade de LMX tem uma correlação positiva significativa com a pro atividade e assumir riscos, não havendo no entanto relações significativas com a inovação. Este estudo revela ainda que as dimensões de LMX têm um impacto diferente na orientação empreendedora. A pro atividade é influenciada sobretudo pelo entendimento do líder dos problemas no trabalho e pela perceção da efetividade das relações de trabalho, a capacidade de assumir riscos é também influenciada pela perceção da efetividade das relações de trabalho e pela frequência de feedback recebida do líder. Ajudar a resolver problemas é a única dimensão que afeta a inovação.

Este estudo foi apresentado na 7ª conferência anual de desenvolvimento das capacidades de liderança (DLCC) recebendo um sólido interesse de outros investigadores.

Palavras-chave: troca líder-liderado, orientação empreendedora individual, inovação, pro atividade, assunção de risco.

Classificação JEL: L26 Empreendedorismo; O15 Recursos Humanos

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GLOSSARY

EO – entrepreneurial orientation

IEO – individual entrepreneurial orientation

LMX – leader-member exchange

INTRODUCTION

Nowadays organizations face a highly competitive environment, constant changes in technologies, markets and customers´ needs what leads to instability and unpredictability. Companies need to keep up with the fast-paced and ever-changing business landscape, so they have to know ways to drive innovation and change within the organizations. Corporate entrepreneurship (CO) is one of the strategies to make a company grow and survive this age of extreme competition. In the study of Antoncic and Hisrich (2004) it was found that organizational profitability, wealth creation and growth have been positively and significantly correlated to the practice of corporate entrepreneurship. More recently, Corbett, O´Connor and Tucci (2013) proved that entrepreneurial orientation (EO) is a significant and positive predictor of firm performance. The leadership and management roles have become crucially important in these circumstances (Kuratko, Hornsby & Bishop, 2005). Leaders need to boost employees´ entrepreneurial orientation in order to promote entrepreneurship inside the organization and drive innovation to survive the challenges of a highly competitive market. To make this happen companies strive for innovative and proactive employees with entrepreneurial mindsets and leaders that would promote it. Thus, there appears the need for EO studies in the individual level because entrepreneurially oriented firm is a product of the entrepreneurially oriented people working there and without the individuals there is no organization. Indeed, the scholarly community started to admit the importance of individual EO to the whole organization´s innovation processes and the need to explore it has increased over the years (Goktan & Gupta, 2013; Bolton & Lane, 2012; Joardar & Wu, 2011; Kollmann, Chistofor & Kuckertz 2007). Unsworth and Parker (2003) agree that exactly innovative and proactive employees of the organization help to generate new ideas and cope with unpredictable environments. However, there is a lack of research about entrepreneurial orientation at the individual level and growing interest in it was a great motive to provide some additional knowledge of this phenomenon combining it with leadership in this study.

A proper leadership is of superior importance for the companies that seek to be innovative oriented and make their employees entrepreneurially oriented. However, there are some evidences that many leaders destroy entrepreneurial mindsets in their subordinates, falling back upon the already established rules and not allowing experimentation and risk-taking (Thornberry, 2001; Lumpkin & Dess, 2005). Studies revealed that leaders often tend to dismiss the importance of subordinates´ work or ideas through everyday actions, fail to

provide support, simply do not allow a free exchange of ideas, destroy a sense of ownership by switching people off project teams before assignment is finished (Amabile & Kramer, 2011). In some companies even unique and great ideas are rejected by the superiors (Lumpkin & Dess 2005). Moreover, leader-member exchange (LMX) theory suggests that leaders tend to differentiate their teams and only a small number of subordinates receive some recognition from the leader leaving behind all the rest subordinates. How this affects the entrepreneurial orientation of both ignored and recognized subordinates is an important question to explore in order to help organizations use leadership for its own benefit and not against.

Departing from the presented facts, this study intends to give a better understanding of how the relationships between leaders and their subordinates can either contribute to promoting entrepreneurship inside an organization or hold people back from any entrepreneurial attempts. This research aims to explore how leaders influence subordinates´ entrepreneurial orientation (EO) through leader-member exchange relationships. Even though LMX has been explored in various contexts, there was found no study which would test direct relationships between leader-member exchange and entrepreneurial orientation, so this study aims to complement these fields and give new insights for future research.

This work is structured in the following way: the first part presents a literature review that focuses essentially on two main topics namely LMX and entrepreneurial orientation, thus covering two big fields of leadership and entrepreneurship. This part also includes a proposed model for the research. The second part consists of the methodology describing sample, research process and instruments used in this study. The third part presents results obtained from this research and their analysis. The last part of this work is dedicated to conclusions followed by theoretical contributions, limitations, suggestions for the future research and practical implications.

I. LITERATURE REVIEW

1.1. LEADER-MEMBER EXCHANGE

Leadership has always captured a great amount of scholars´ attention. There are plenty of theories explaining leadership construct both from the leader and subordinate perspectives. Most of theories have emphasized leadership from the point of view of leader, such as skills approach, trait approach or style approach. Others theories such as path-goal theory, situational leadership or contingency theory focused more on the follower and the context. However, the majority of theories failed to explain how much leader´s behavior differs with each follower (Yukl, 2010). The most appropriate theory for the present investigation is Leader-Member exchange (LMX) theory, also initially called vertical dyad linkage (VDL), which explains leadership as a process that highlights the interactions between leaders and followers.

1.1.2. The construct

The interest of LMX theory has been growing over the years and it has been one of the most popular research fields among leadership scholars during the 2000 – 2012 years (Dihn et al., 2014). The LMX theory states that leaders do not treat their followers the same way as a group using one leadership style for everyone. Contrary, there exist differences between the leader and each of the followers who over time become a part of in-group (high quality exchange relationship) or out-group (low quality exchange relationships) (Dansereau et al., 1975). The exchange relationships between the leader and the subordinate are shown in the Figure 1.

According to the theory, due to the lack of available time of the leader, only a small number of trusted followers get access to the high quality relationships with the leader. Subordinates who make a part of the in-group, unlike the members of the out-group, get more support, confidence, information and concern from their leaders (Dansereau, Graen & Haga 1975) as well as more interesting tasks, greater responsibility and various tangible benefits (Yukl, 2010). For that the in-group members are expected to work harder, be loyal and committed what over a period of time often leads to a high degree of mutual dependence, loyalty and support (Yukl, 2010). Contrary to the in-group subordinates, the out-group´s work

is often restricted and unchallenging. Members in this group have low quality exchange relationships with leaders, they tend to have less access to the manager and often don't receive opportunities for growth or development.

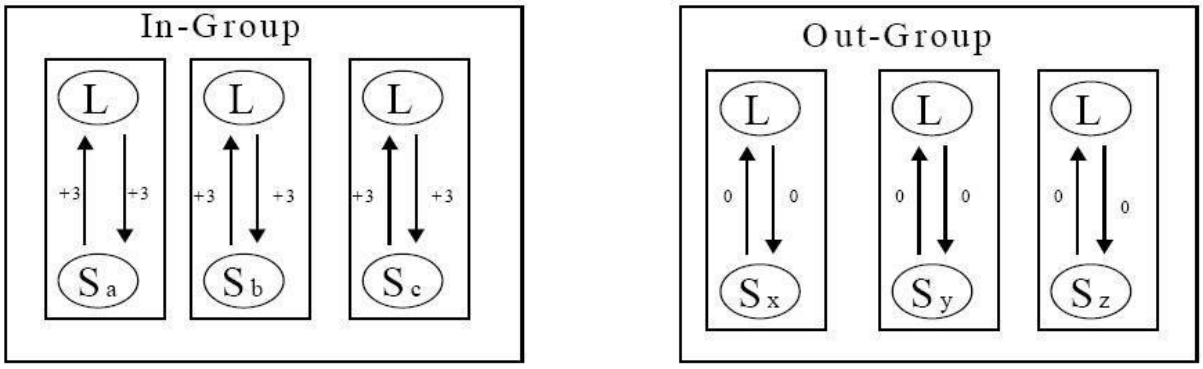

Figure 1. In-Groups and Out-Groups

Source: Adapted from Northouse (2013).

Notes: A leader (L) and his subordinate (S) form unique relationships. Plus 3 means high-quality relationships and zero means low-quality relationships.

1.1.3. Dimensions of LMX

There has been a great controversy among researchers whether LMX is a unidimensional or multidimensional construct including not only work-related behaviors but also other socially related aspects.

Three work-related dimensions namely respect, trust and obligation were proposed by Graen and Uhl-Bien (1995) as the ingredients of strong leader-member relationships. The authors defined respect as the degree to which leaders and followers have mutual respect for each other´s capabilities. Trust dimension was described as the feeling of deepening mutual trust of each other. Finally, obligation means "the expectation that interacting obligation will grow over time as career-oriented social exchanges blossom into a partnership" (Graen & Uhl-Bien, 1995, p. 237).

However, Liden, Sparrowe and Wayne (1997) argued that LMX may also embrace socially related aspects and not only job-related behaviors stressed in the LMX research of Graen and Uhl-Bien (1995). Liden and Maslyn (1998) in their study developed and validated a psychometric, multidimensional measure of LMX and proposed four dimensions of Leader-member exchange relationships. The results confirmed three previously identified dimensions by Dienesch and Liden (1986) namely perceived contribution, loyalty and affect, as well as

the fourth LMX dimension – professional respect. In the study of Liden and Maslyn (1998) the trust dimension was excluded as it was not differentiated from loyalty by the raters.

Perceived contribution was defined as "perception of the amount, direction, and quality of work-oriented activity each member puts forth toward the mutual goals (explicit or implicit) of the dyad" (Dienesh & Liden, 1986, p. 624). For example, performing beyond prescribed work responsibilities (Maslyn & Uhl-Bien, 2001).

Loyalty was described as the leader´s and subordinate´s public support for one another´s actions (Dienesh & Liden, 1986). Even though Graen and Scandura (1987) considered loyalty as the outcome of the LMX developmental process, Dienesh and Liden (1986) previously proposed loyalty as a dimension of LMX, and stressed its importance for the development and maintenance of good Leader-member exchange relationships.

According to Dienesch and Liden (1986, p. 625) affect is "the mutual affection members of the dyad have for each other based primarily on interpersonal attraction rather than work or professional values." In other words affect shows friendship between leader and member and feelings of liking each other. The affective dimension may start develop right after the first interaction during the job interview while loyalty grows over a longer period of time (Liden et al., 1997).

The fourth dimension, professional respect, was defined by Liden and Maslyn (1998, p. 49) as "the perception of the degree to which each member of the dyad has built a reputation, within and/or outside the organization, of excelling at his or her line of work." This perception may come from previous personal experience with the individual, opinions about the person from others or professional recognition reached by the individual.

Liden and Maslyn (1998) do not reject the possibility that other LMX dimensions might also exist as suggests social exchange theory. Also other dimensions such as liking, intimacy, support, openness and honesty (Graen & Scandura, 1987) might also be used to characterize LMX.

However, Graen and Uhl-Bien (1995) criticized the multidimensional point of view of LMX and stressed that the development of LMX is built on the aspects of the working relationship as opposed to the liking-based relationship. Trust, respect and mutual obligation explain precisely the individuals´ evaluations of each other´s professional capabilities and behaviors what is different from the dimensions based on interpersonal attraction or friendship.

1.1.4. LMX Development

The LMX model´s roots come from the social exchange theory and role theory which states that organizational members realize their work through roles (Liden & Maslyn, 1998). According to Graen and Scandura´s (1987) role-making model, the LMX process develops over time in three stages: the role-taking, the role-making and the role-routinization phase. Role-taking occurs when leader assigns a task to the member and then evaluates the reactions, motivations and potential of the member and decides whether proceed to the next phase or not.

If the relationship proceeds to the role-making stage, the nature of relationships between leader and member becomes more defined and the leader provides more responsibilities to the member assessing if the subordinate is interested in taking on new challenges and unstructured tasks. It is a social exchange where both a leader and a subordinate must consider the exchange relationships as fair and valuable (Graen & Scandura, 1987). The relationships between the leader and subordinate start to cement at this stage (Bauer & Green, 1996). The leader and member start developing more trust and respect towards each other and their exchange relationships become of higher-quality if the subordinate accepts the given opportunities (Liden et al., 1997).

In the role-routinization phase the behaviors of the leader and member become stable, based on understanding, clear mutual expectations and commitments and reflect high-quality exchange relationships (Liden et al., 1997).

Similarly the LMX developmental process was described later in Leadership making approach (Graen & Uhl-Bien, 1991; Graen & Uhl-Bien, 1995) and also includes 3 phases labeled the stranger phase, the acquaintance phase and the mature partnership phase (see table 1). It emphasizes the importance of leaders developing high-quality exchanges with all the members rather than just a few. The interactions between leader and subordinate during the stranger phase are based on hierarchical status, formal rules, contracts and designated organizational roles (Northouse, 2013). The subordinate´s behavior in this phase is driven more by self-interest versus the good of the group (Graen & Uhl-Bien, 1991). Similar to the exchanges of out-group members, the stranger phase has low-quality LMX due to the lack of commitment and caring from both the leader and the member (Liden et al., 1997).

The acquaintance phase, similarly to the previously described role-making stage, starts from the acceptance of career-oriented improvements. The LMX develops from strict and formal relationships to more personal way of interacting and greater sharing of information and

resources (Scandura & Pellegrini, 2008). In this phase there exist medium-quality exchanges and bigger focus on the good of the group rather than just self-interests (Graen & Uhl-Bien, 1991). Successful dyads proceed to the mature partnership phase, however, they may return to the stranger stage if the relationships do not develop properly (Graen & Uhl-Bien, 1995).

Mature partnership phase is characterized as high-quality LMX where the relationships become also emotional (Graen & Uhl-Bien, 1991). The members and leaders experience trust, support, respect, encouragement and are dependent on each other. Trust, though, remains vulnerable even in high-quality relations (Scandura & Pellegrini, 2008). Group interests become a priority versus own self-interests. According to Graen and Uhl-Bien (1991), the mature partnership phase relates to transformational leadership, while the stranger phase portraits transactional leadership.

Table 1. LMX development

	Stage 1	**Stage 2**	**Stage 3**
Leadership-making Graen & Uhl-Bien, 1991	Stranger	Acquaintance	Mature partnership
Role-making Graen & Scandura (1987)	Role-taking	Role-making	Role-routinization
LMX	Low-quality	Medium-quality	High-quality
Influence	None	Limited	Almost unlimited
Commitment	Low	Medium	High
Interests	Self	Self and team	Team
Leadership	Transactional	→	Transformational
		Time	

Source: Adapted from Graen, G. B. and Uhl-Bien, M. (1995).

1.1.5. Attributions

The way subordinates evaluate leader´s competence is highly affected by subordinates´ attributions about the leader. In general, subordinates tend to attribute failure or success at work to the personal abilities of the leader and not to the situational reasons that leader does not control. Subordinates evaluate the leader more positively and perceive him/her as more competent when the leader takes direct and visible actions in resolving immediate problems; when he/she is more concerned about the subordinates´ and all group´s

interests rather than personal career and benefits; when the leader sacrifices himself for the good of the company and takes personal risks to reach relevant goals without expecting to financially benefit from them (Yukl, 2010).

Just as subordinates make attributions about their leaders, leaders make attribution when evaluating the behaviors and performance of followers. Attributions were associated with leader-member exchange relationships by Green and Mitchell in 1979. They described how leaders identify the causes of poor or high performance of the subordinates and choose certain responses. The authors suggested that the responses of a leader to performance develop through two stages. In the first stage, leader determines the reasons of performance and starts forming attributions. In the second stage, leader selects an appropriate behaviors towards subordinates based on the made attributions. There are two types of causes that performance outcomes can be attributed to: internal (effort and ability) and external (luck and task difficulty) that is outside the control of the subordinate (Martinko, Harvey & Douglas 2007). Recent study of Eberly, Holley, Johnson and Mitchell (2011) suggested the third category named relational attribution where the cause of performance is related to self in relation to other, depending on what relationships an individual has with the others. The researchers described relational attributions more from the subordinate perspective and how he evaluates his performance.

Made attributions have an impact on leader´s expectations for future performance and his actions towards the subordinate. If the poor performance was attributed to external causes, possible behaviors of the leader include changing the assignment, providing more resources and information or not taking any action at all. In case of internal attributions, if a lack of ability was perceived as the reason of task failure, then the likely reaction of leader is to change goals and deadlines, give a subordinate simpler task or provide closer control, coaching and instructions to his work (Yukl, 2010). Withdrawal of rewards and punishment responses are likely to be used when an insufficient effort is considered to be a cause of poor performance (Martinko & Gardner, 1987).

The quality of LMX relationships affects the way leaders evaluate the performance of subordinates. Studies revealed positive correlations between LMX and internal attributions for effective performance (Heneman, Greenberg & Anonyuo, 1989). Thus, good performance of high-quality exchange members tends to be more associated with internal attributions while good performance of low-quality exchange subordinates – with external attributions. Contrary, leaders are more likely to perceive bad performance of high LMX members as

caused by external reasons, while bad performance of low-quality members – as caused by the lack of ability or effort (Yukl, 2010).

In general, leaders tend to be less strict when assessing the performance of individuals with whom they have high-quality exchanges (Duarte, Goodson & Klich, 1994).

1.1.6. Antecedents of LMX

Numerous variables have been explored in relation with LMX and were proven to function as antecedents or consequences of leader-member exchange relationships.

LMX developmental process can be influenced by a great number of aspects, such as member characteristics (performance, personality and upward influence), leader characteristics, interactional and contextual factors (Liden, Sparrowe & Wayne, 1997).

Regarding member characteristics, leader´s perception of subordinate´s performance was found to be positively related to LMX reports given by the leader (Dockery & Steiner, 1990), except when established dyads were recent, subordinate´s performance ratings did not predict later leader´s perceptions of the exchange quality (Liden, Sparrowe & Wayne, 1997). Other studies found that not performance but citizenship behaviors were predictors of LMX (Lapierre & Hackett, 2007). Also, member proactive personality led to higher LMX quality (Li, Liang & Crant, 2010) and member extroversive personality was positively related to his reports of LMX (Phillips and Bedeian, 1994), though in other study conscientiousness and agreeableness had higher positive correlations with LMX quality than extraversion (Dulebohn et al., 2012). Furthermore, it was found that member ingratiatory actions influenced leader´s evaluations of member performance through increased positive affect for the subordinate (Wayne & Ferris, 1990).

Even though member´s perceptions of the leader characteristics are thought to have less impact on LMX due to the control that leader has over the exchange relationships, leader characteristics can still be relevant when member decides whether he wants to accept proposed higher-quality exchanges or not (Liden et al., 1997). Leader delegation (Yukl, O´Donnell & Taber, 2009), empathy towards subordinates (Mahsud, Yukl & Prussia, 2010), ethical behaviors (Walumbwa et al., 2011), leader´s effort towards relationship development (Maslyn & Uhl-Bien, 2001) – all can help building good followers´ perceptions about the leader and high-quality LMX relationships.

Some interactional variables were found to play an important role for LMX. Studies revealed that leader-member similarity is an important determinant of LMX. According to Wayne and Liden (1995), demographic similarity has a significant impact on performance ratings of subordinates through leader´s perceived similarity and liking of the subordinate. Also, research confirmed a positive relationship between perceived similarity in attitudes and outlook and LMX development (Bauer & Green 1996) as well as similarity in personality traits predicted LMX quality (Bernerth et al., 2008). However, findings about LMX and gender, education and age similarity were inconsistent and while some studies did not show any correlations, other studies did (e.g. Pelled & Xin, 2000).

Dienesh and Liden (1986) suggested some contextual influences on LMX development, such as work group composition, a leader´s power and organizational policies and culture. Green et al. (1996) found that some organizational characteristics limit and others facilitate LMX process. Their findings revealed that greater financial resources had a positive correlation with LMX, while workload and group size – negative. Dansereau et al. (1975) suggested that due to the lack of time and resources leaders tend to differentiate the team and dedicate more attention to the members of in-group, thus developing higher-quality LMX with them. However, Kinicki and Vecchio (1994) argued that time constrained leaders demonstrated smaller degree of differentiation of subordinates and higher-quality LMX with them. Finally, positive correlations were found between group climate and LMX (Aryee & Chen, 2006).

1.1.7. Consequences of LMX

LMX has been associated with a wide range of individual and organizational outcomes. Attitudes and perceptions as well as behaviors are influenced by the quality of LMX.

Regarding job attitudes and perceptions, high-quality LMX leads to higher performance ratings and subordinate satisfaction (Miner, 2007), overall job satisfaction (Gerstner & Day, 1997) and satisfaction with the leader (Green et al., 1996). Also, high-quality LMX members tend to feel more psychologically empowered (Chen, Lam & Zhong, 2007). Subordinate perceptions of support for development (Kraimer et al., 2011) were found to operate as the outcome of LMX as they demonstrated positive correlations. Furthermore, subordinates having high-quality LMX, versus low-quality LMX, tend to perceive

organizational climate as more positive (Ansari, Hung & Aafaqi, 2007). LMX was found to be positively related to organizational commitment (Gerstner & Day, 1997) through an indirect effect of subordinate´s satisfaction with working relationships (Green et al., 1996).

Regarding behaviors as the consequences of LMX, high-quality exchange relationships result in increased subordinates' participation in communication with leaders (Sin, Nahrgang & Morgenson, 2009), decision making and cooperation (Green, 2008), less conflicts with the leaders (Paglis & Green, 2002), better leader ratings of performance (Liden, Wayne & Sparrowe, 2000), stronger motivation for training (Scaduto, Lindsay & Chiaburu, 2008), greater feedback seeking (Lee et al., 2007) and was positively related to innovative behaviors (Atwater and Carmeli, 2009). Positive correlations were also found between LMX and organizational citizenship behaviors (Imran & Fatima, 2013; Ilies, Nahrgang & Morgenson, 2007). Finally, research findings show significant negative correlations between LMX and turnover intentions (Gerstner & Day, 1997) and actual turnover (Dulebohn et al., 2012).

Researchers also found correlations between LMX and some outcomes given by the company. For example, high-quality exchange relationships are associated with increased perception of organizational support (Wayne et al., 1997), higher salaries increase (Golden & Veiga, 2008) and career success (Graen et al., 2006).

The overall effects of high-quality LMX are impressive and lead to subordinates feeling better, achieving more and contributing to the success of organization.

1.1.8. Strengths and criticism of LMX theory

LMX theory has many positive aspects and what makes it exceptional is that the dyadic relationship between leader and member is the focal point of the leadership process. It raises a bigger understanding and attention for leaders about conscious and unconscious biases that might affect the way they differentiate the team and who becomes a part of the in-group (Northouse, 2013).

However, LMX theory has also been highly criticized and seems to have a number of weaknesses. Even though a great body of investigations analyzed the associations between antecedents and LMX quality, it still appears to be uncertain whether a specific variable is in fact an antecedent or a consequence (Day, 2014).

Yukl (2010) noted that LMX needs to be explored in more longitudinal studies in order to understand how relationships develop over a longer period of time. Until now too many studies have been done on a static field using questionnaires.

Also, it has been argued that the impact of the contextual factors on leader-member exchange process has not been properly explained (Anand et al., 2011).

Finally, critical opinions about the measurement of LMX appear in the literature. Too many different scales were used to measure LMX relationships, what makes it difficult to compare the results (Northouse, 2013).

1.2. CORPORATE ENTREPRENEURSHIP AND ENTREPRENEURIAL ORIENTATION

Corporate entrepreneurship (CO) derives from entrepreneurship and management literatures (Antoncic & Hisrich, 2003). Entrepreneurship can be linked to the corporate entrepreneurship in terms of the pursuit of opportunities which is considered to be one of the common aspects of both concepts and is a central point of entrepreneurship, both corporate and individuals (Stevenson & Jarillo, 1990).

1.2.1. Defining corporate entrepreneurship

Corporate entrepreneurship (CO) is becoming more and more important in the literature of entrepreneurship due to its numerous benefits to organizations. Corporate entrepreneurship help organizations be more innovative, prevent stagnation and promotes them to grow into large and profitable worldwide businesses (Thornberry, 2001). However, some definitional ambiguities exist in literature and a variety or terms are used to describe entrepreneurial attempts inside an existing organization, such as corporate entrepreneurship (Zahra, 1993), intrapreneuring and intrapreneurship (Pinchot III, 1985; Antoncic & Hisrich, 2001) or internal entrepreneurship. As shown in Table 2 various definitions are used to explain the same phenomenon.

Table 2. Definitions of corporate entrepreneurship

Author	Definition
Schollhammer (1982)	"*Internal (or intra-corporate) entrepreneurship refers to all formalized entrepreneurial activities within existing business organizations. Formalized internal entrepreneurial activities are those which receive explicit organizational sanction and resource commitment for the purpose of innovative corporate endeavors - new product development, product improvements, new methods or procedures (p. 211).*"
Vesper (1984)	"*Corporate entrepreneurship involves employee initiative from below in the organization to undertake something new. An innovation which is created by subordinate without being asked, expected or perhaps even given permission by higher management to do so (p. 295).*"
Pinchot III (1985)	"*Intrapreneurs are any of the "dreamers who do". Those who take hands-on responsibility for creating innovation of any kind within an organization. They may be the creators or inventors but are always the dreamers who figure out*

(continued)

Table 2 *(continued)*

	how to turn an idea into a profitable reality (p. ix)"
Nielson, Peters & Hisrich (1985)	"*Intrapreneurship is the development within a large organization of internal markets and relatively small and independent units designed to create, internally test-market,and expand improved and/or innovate staff services, technologies or methods within the organization. This is different from the large organization entrepreneurship/venture units whose purpose is to develop profitable positions in external markets (p. 181).*"
Jennings & Lumpkin (1989)	"*Corporate entrepreneurship is defined as the extent to which new product and/or new markets are developed An organization is entrepreneurial if it develops a higher than average number of new products and/or new markets (p. 489).*"
Guth & Ginsberg (1990)	"*Corporate entrepreneurship encompasses two types of phenomena and the processes surrounding them (1) the birth of new business within existing organization, i.e. internal innovation or venturing, and (2) the transformation of organizations through renewal of the key ideas on which they are built, i.e. strategic renewal (p. 5).*"
Zahra (1995, 1996)	"*Corporate entrepreneurship – the sum of a company's innovation, renewal, and venturing efforts. Innovation involves creating and introducing products, production processes; and organizational systems. Renewal means revitalizing the company's operations by changing the scope for its business, its competitive approaches of both. It also means building or acquiring new capabilities and then creatively leveraging them to add value shareholders. Venturing means that the firm will enter new businesses by expanding operations in existent or new markets (1995, p. 227, 1996, p. 1715).*"
Antoncic & Hisrich, 2001	"*Intrapreneurship is entrepreneurship within an existing organization*" (p. 498)
Antoncic & Hisrich, 2003	"*Intrapreneurship is entrepreneurship within an existing organization, referring to emergent behavioral intentions and behaviors of an organization that are related to departures from the customary (p. 9).*"

Source: Adapted from Sharma & Chrisman (1999)

As can be seen in the table above, corporate entrepreneurship includes not only creation of new ventures but also renewal and innovation processes. Amo (2006) proposes to differentiate: corporate entrepreneurship starts in the top level of the organization and aims to reach its strategic objectives and increase its competitiveness, while intrapreneurship is a bottom-up process started by employees in order to satisfy self-interests. Despite all existing descriptions, this study will assume the definition proposed by Antoncic and Hisrich (2001) which incorporates all the characteristics mentioned by other authors. According to them,

corporate entrepreneurship can be described as entrepreneurship within an existing organization and refers to a series of actions that involves not only the creation of new business ventures but also the development of novel strategies, products and services as well as technological and administrative advances (Antoncic & Hisrich, 2001).

1.2.2. Entrepreneurial orientation

Other important term emerging within the entrepreneurship and corporate entrepreneurship literature is entrepreneurial orientation (EO). EO concept is linked to the practice of corporate entrepreneurship and is getting more and more attention in the literature (Heinonen & Korvela, 2003; Wales, Gupta & Mousa, 2013). Rauch, Wiklund, Lumpkin and Frese (2009) noted that strategy making literature gives a strong basis for the entrepreneurial orientation construct. Strategy making includes such activities as decision making, analyzing and planning as well as other organizational features namely mission, values and culture.

1.2.2.1. Defining EO

The concept of entrepreneurial orientation discusses the processes, practices, and decisions leading to new opportunity for an individual or firm (Covin & Slevin, 1989). Again, as noted by Lumpkin & Dess (2001), it´s managers´ special decision making styles and other practices that make them behave entrepreneurially. Practice of EO results into the change in the market or organization and is viewed as a firm-level inclination to practice such entrepreneurially oriented behaviors (Voss, Voss & Moorman, 2005). EO is also widely recognized as a strategic construct. As underlined by Covin, Green and Slevin (2006: 57), "*entrepreneurial orientation is a strategic construct whose conceptual domain includes certain firm-level outcomes and management-related preferences, beliefs, and behaviors as expressed among a firm's top-level managers*." Also, EO was linked to the strategy making processes which were thought to act as a basis for firm´s entrepreneurially oriented decisions and behaviors (Rauch et al., 2009).

The scientific community has clearly decided that EO is a strategic firm-level phenomenon reflected in top level managerial tendencies and decisions. However, Covin and Lumpkin (2011) do not reject the possibility that individuals can also display a propensity towards entrepreneurially oriented actions or thoughts.

1.2.2.2. The need of individual level EO

It has been thought that behaviors, decisions and beliefs of founders or senior executives provide the general strategic direction of the organization (Dickson & Weaver, 2008). This can explain the lack of research about entrepreneurial orientation at the individual level. Not denying the opinion of the authors, this study encourages viewing EO from the individual perspective from the lower levels of organization and acknowledging their contributions to the corporate entrepreneurship of the firm.

In fact, the need to explore EO at the individual level has increased over the years. Goktan and Gupta (2013) stressed that a clear separation is needed between the firm-level concept of entrepreneurial orientation and EO functioning at the individual level. Joardar and Wu (2011) even argue that some of the previous studies of EO at the firm level actually partly studied entrepreneurial orientation at the individual level because, for example, the definition of proactiveness was borrowed from the Venkataraman´s study of entrepreneurship at the individual level. Sometimes entrepreneurial orientation of the firm can be even equal to the EO of individual. For example, when company has a sole owner, all management-related decision making processes are made by only one individual (Kollman, Christofor & Kuckertz, 2007).

The term of corporate entrepreneurship presented by Vesper (1984, as cited in Sharma & Chrisman (1999), suggests that the initiative to start something new can come from employees from lower levels of organization and entrepreneurial attempts can be practiced by subordinates without being asked by the managers. This suggests that not only firm-level top management can be entrepreneurially oriented. Contrary, top management might be more engaged in vision setting while exactly at organizational members´ level the entrepreneurial behavior can be seen (Ireland, Covin & Kuratko, 2009). Indeed, as stressed by Stevenson and Jarillo (1990), the degree to which entrepreneurship is practiced inside the firm strongly depends on the individuals beneath the positions of top management. The pursuit of opportunities comes from below and individuals who perceive opportunities for the firm as similar to the ones they have personally will pursue them without being forced by top managers.

Similarly to these authors, Dess and Lumpkin (2005) remarked that the best ideas arise from the "bottom-up" which means that entrepreneurial attempts are initiated by employees to realize own interests (Amo, 2006). In other words, entrepreneurial efforts can be formal (induced) which are authorized and approved by top managers and executives, and informal

(autonomous) (Burgelman, 1991 as cited in Zahra, 1993). Exactly informal entrepreneurial undertakings reflect the autonomous attempts carried out by individual members of a firm. For those informal efforts the term of intrapreneurship was introduced (Pinchot, 1985) which reflects the entrepreneurial behaviors and mindsets in employees within the organization (Thornberry, 2001). Intrapreneurial behavior was considered as one of the most important aspects in the development of the individual and the firm (Sayeed & Gazdar, 2003). On the basis of the reviewed literature this study adopts the point of view that entrepreneurial initiatives can come from both formal and informal efforts and from everywhere in the organization including the bottom level of the firm.

Bolton and Lane (2012) suggest that it would be beneficial to measure entrepreneurial orientation of individuals rather than organizations given that the behaviors of individuals have a considerable influence to the firm. However, only a small number of studies explored EO at the individual level. The term of individual entrepreneurial orientation (IEO) was introduced. It refers to individual's orientation toward entrepreneurial activities (Jordar & Wu, 2011) or individual proclivity towards entrepreneurship (Basso, Fayolle & Bouchard, 2009). Kollman et al. (2007) used entrepreneurial orientation construct to explain how environmental factors influence EO of pre-nascent entrepreneurs. The authors applied EO of the firm level by Lumpkin and Dess (1996) to the individual level of analysis. Lim & Envik (2013) in their multi-country study of gender influences to EO also adapted EO dimensions of Lumpkin and Dess (1996) to study EO of students. Finally, Bolton and Lane (2012) developed a measure of individual entrepreneurial orientation (IEO) which was validated and tested on 1,100 university students. Again, the five entrepreneurial orientation dimensions suggested by Lumpkin and Dess (1996) were chosen as the basis for the scale. And more studies have been developed with the same applications but in the context of individual entrepreneurs, business owners, top managers, CEO´s, presidents or founders (e.g. Krauss et al., 2005; Joardar & Wu, 2011). No studies were found which would measure EO of the subordinates starting from the lowest levels of organization. IEO construct still needs to be further developed but these investigations offer a good starting point for that.

Departing from this point, this study is going to present scientific findings about a firm-level entrepreneurial orientation and later on use an adapted version of EO concept in the individual level similarly as did previously mentioned studies but with a focus on lower level subordinates. Thus, a firm level EO makes a basis for this research.

1.2.2.3. Dimensions of EO

Five dimensions of entrepreneurial orientation are used as a result of a review and combination of entrepreneurship and strategy making literatures. It is suggested that entrepreneurial orientation is exposed through an organization's actions of risk taking, innovativeness, and proactivenes (Miller, 1983). Other scholars entrepreneurial orientation concept relates to autonomy, innovativeness, risk-taking, proactiveness and competitive aggressiveness (Lumpkin & Dess, 1996). Knight (1997) considers only innovativeness and proactiveness as main characteristics of entrepreneurially orientated firms.

Bolton and Lane (2012: 220) notes the importance of taking a look at the traits of entrepreneurs when applying EO to the individual level because "*EO of an individual is a direct result of the trait and attitude measures inherent in the original EO scale*". Indeed, risk-taking, autonomy and innovativeness have been also used to describe individual entrepreneur traits (Baum, Frese & Baron, 2007). Even though this study is not based on traits because they are stable over time, do not tend to be easily changed by environmental situations (McCrae et al., 2005) and actions, rather than traits, make a person entrepreneur (Gartner, 1988), the present study intends to examine individual EO and the aspects from the trait perspective may complement the findings of entrepreneurial orientation at the firm level and give better insights about the individual level EO. The further descriptions of EO dimensions are based on the studies of firm level EO and include some explanations from the viewpoint of entrepreneurs´ personality traits.

Proactiveness is defined as initiative actions in terms of anticipation and pursuit of business opportunities and participation in new markets. (Lumpkin & Dess, 1996). Antoncic and Hisrich (2003; 2001) described proactiveness as the top management´s orientation towards pioneering, competitive aggressiveness, boldness and taking risky initiatives. Proactiveness is a forward-looking viewpoint when acting ahead of future market demands and competition by presenting novel products and services (Rauch et al., 2009) and is related to aggressive posturing against competitors (Knight, 1997). Proactiveness puts competitors to the state of alertness in order to timely respond to effective initiatives (Dess & Lumpkin, 2005). Proactive behaviors are especially important in the process of innovation because they help generated ideas to be implemented (Rank, Pace, & Frese, 2004).

Innovativeness is a centerpiece in entrepreneurship literature. The concept of innovativeness was explained as organizations´ will to engage in processes and develop new ideas that might result in the invention of new products, services or technological processes

(Lumpkin & Dess, 1996). The definition was complemented later by Knight (1997: 214): "*The innovation dimension of entrepreneurship refers to the pursuit of creative or novel solutions to challenges confronting the firm, including the development or enhancement of products and services, as well as new administrative techniques and technologies for performing organizational functions (e.g., production, marketing, sales, and distribution).*" Thornberry (2001) also underlines the creation of something new regarding not only products or services but also organizational change and creating new values for clients. So, emphasis on development and advance in technology is a vital point of innovation (Antoncic & Hisrich, 2001) as well as engagement in creativity, experimentation and R&D make the basis for innovativeness (Hansen et al., 2011; Miller, 1983). Innovativeness from the individual entrepreneur perspective refers to an individual´s eagerness and interest to seek for new ways of action (Baum, Frese & Baron, 2007).

Concerning **risk-taking** as one more entrepreneurial orientation characteristic, Dess and Lumpkin (2005) describe three types of risks: business risk (participating in unknown markets or using untested technologies), financial risk (borrowing or putting a lot of resources to promote growth) and personal risk (making decisions that influence the whole organization and might have a great impact on one´s career). Other authors risk-taking describe similarly – as an active participating in risky actions and putting resources to new business opportunities regardless the possibility of negative outcomes and loses (Antoncic & Hisrich, 2003, Lumpkin & Dess 1996). So, risk-takers show willingness to face uncertainty and the probability of failure by borrowing, investing or putting a lot of resources to businesses in uncertain settings (Miller, 1983; Covin & Slevin, 1991). Risk-taking is not only a characteristic of entrepreneurially oriented firms but also an individual propensity towards risk when a person tries to implement a business idea despite the low chances of success (Baum et al., 2007) or make investments in businesses with extremely high profits and losses (Hansen et al., 2011).

Competitive aggressiveness is company's propensity to outperform its competitors by constantly improving its products and services, lowering prices and taking all the possible actions to directly challenge them (Lumpkin & Dess 1996). Covin and Covin (1990) underline that competitive aggressiveness is a managerial willingness to seek for a competitive advantage against rivals and to put a company in a dominating position in the market. However, Antoncic and Hisrich (2003) notes that there is a small confusion in defining competitive aggressiveness and proactiveness and these two dimensions should be differentiated better.

Autonomy is a generation and completion of ideas or visions through independent and self-regulating actions of an individual or a team (Lumpkin & Dess, 1996). Autonomy in other words can mean decision making in the absence of supervisor and a will to be in control for own actions. Autonomy seems to be beneficial for the company and the team as creating and using independent work units increases the amount of innovative solutions and ideas generated to problem solving (Thompson & Brajkovich, 2003).

However, the dimensionality of EO has been the center of debate among researchers. It was argued whether the construct of EO should be seen as unidimensional (Covin & Slevin, 1989; Knight, 1997) or multidimensional (Lumpkin & Dess, 1996). In the unidimensional perspective of EO, the firm is considered as entrepreneurially oriented if all three dimensions of risk taking, innovativeness, and proactiveness are simultaneously executed by the organization. The use of one or two of these dimensions is not enough to name the organization as entrepreneurially oriented. Contrary, some studies regarding the multidimensional construct of EO suggest that all five dimensions can act independently and represent a different facet of EO (e.g. Kreiser, Marino & Weaver, 2002). Others argue that it depends on the context whether all five dimensions should be seen collectively or separately. Finally, in their common work Covin & Lumpkin (2011) suggest that unidimensional and multidimensional constructs of EO should be defined and measured separately because they are fundamentally different.

This study will examine innovativeness, proactiveness and risk-taking as these characteristics have been constantly and most often used in literature.

1.3. THE INTERSECTION OF LMX AND ENTREPRENEURIAL ORIENTATION

There are some studies which combined entrepreneurship and leadership fields comparing their commonalities and how some findings about leadership can inform entrepreneurship (e.g. Vecchio, 2003; Cogliser & Brigham, 2004). However, the intersection of LMX and EO seems to be an unexplored field and these constructs have not been linked to each other. Still, there is extensive body of literature about LMX and each of the characteristics of EO studied and linked to LMX separately. Previous studies in LMX field suggest that high quality of Leader-Member exchange brings numerous of benefits to both the subordinate and the leader as well as to the organization overall.

1.3.1. LMX and innovativeness

There are some important findings regarding LMX and innovativeness that are crucial for contemporary organizations. For example, studies about creativity as the outcome of LMX are very important as the innovative potential of a company lies in the creativity of its employees (Chen, Chang & Chang 2015). Creativity shows the degree to which unique solutions to problem solving are being used by the employees of a company (Day, 2014). Unsworth & Parker (2003) underline, that creativity includes the generation of the idea, whereas innovativeness is not only the generation but also the implementation of that idea. Thus, creativity is an integral and central part of innovativeness what makes it beneficial to consider the findings about creativity along with innovativeness.

In the study of Atwater and Carmeli (2009) LMX was found to be positively related to self-rated creative behaviors in a workplace. This study showed that perceived high-quality LMX enhance employees´ feelings of energy which in turn contributes to a greater involvement in creative work. Also, LMX positively related to the amount of additional benefits received for creative behaviors and was mediated by subordinates´ self-efficacy (Liao, Liu & Loi, 2010). In the study of Amabile et al. (2004) it was found that perceived leader support positively related to subordinates´ creativity suggesting that the effects of perceived LMX quality on innovative behaviors might be similar since subordinates receive more support when they have high quality LMX relationships. And other scholars have also

proved that the quality of leader-member exchange has positive associations with innovative and creative performance either directly or through mediators (e.g. Volmer, Spurk & Niessen, 2012; Janssen & Van Yperen, 2004; Basu and Green, 1997).

Another interesting fact is that transformational leadership, which has been associated with mature partnership, also has been reported to result in enhanced followers´ innovativeness (Lee, 2008) suggesting that perceived high quality LMX might have similar effects on subordinates´ innovativeness.

Therefore, based on these findings we assert the following hypothesis:

Hypothesis 1: Perceived LMX quality is positively related to subordinates´ innovativeness.

1.3.2. LMX and proactiveness

Findings in the scientific literature suggest that LMX affects proactiveness mostly in mediating relationships. Graen (1989, as cited in Graen and Uhl-Bien, 1991) argued that high quality LMX relationships create a working atmosphere in which subordinates are eager to put extra efforts in their work, go above the minimum prescribed job activities and take more initiative. This suggests that higher LMX quality makes subordinates behave in more proactive ways.

Proactive behaviors can also result from the feelings of positive affect (Parker, Bindl & Strauss, 2010) that come from the affective commitment which is also found in mature partnership relationships between leaders and subordinates. Furthermore, the authors underline that positive affect states impact expectations of success ("can do" state) and perceptions of subjective task value ("reason to" state) thus encouraging employees´ proactiveness in this way.

It is beneficial to take a look at transformational leadership again as it makes a part of high quality relationships. Transformational leadership with a strong leader vision was found to facilitate proactive behaviors of the followers (Griffin, Parker & Mason, 2010). Transformational leaders manage to stimulate strong followers´ organizational commitment (Avolio et al., 2004) and organizational commitment was found to increase proactiveness of the subordinates, as stated Strauss, Griffin and Rafferty (2009).

Therefore, based on these findings we consider the following hypothesis:

Hypothesis 2: Perceived LMX quality is positively related to subordinates´ proactiveness.

1.3.3. LMX and risk-taking

Regarding risk-taking, there is some evidence that LMX can affect subordinate´s risk-taking as some studies show that high quality LMX encourages risk-taking (e.g. Bettencourt, 2004 as cited in Bauer & Erdogan, 2015). Other findings are related with the feelings of psychological safety at work (Lee et al., 2004). Leaders tend to be less strict and punishing for failure when assessing the performance of individuals who have high-quality relationships with the leader (Duarte, Goodson & Klich, 1994). Thus, support and tolerance for failure increases members´ psychological safety, engagement in experimentation and suggests that perceived LMX quality could be positively correlated with risk-taking because when fear of failure is reduced, employees are much more likely to practice risk-taking behaviors (Lee et al., 2004). Finally, Gittel (2000) study showed that financially punishing airline employees for emerged problems negatively affected their eagerness to take on new activities.

Based on this rationale, the following hypothesis was asserted:

Hypothesis 3: Perceived LMX quality is positively related to subordinates´ risk-taking.

1.4. AIMS, HYPOTHESES AND PROPOSED MODEL

As can be seen from the previously presented literature review there exist some potential relationships between LMX and individual entrepreneurial orientation that should be explored. As this study intends to give a more profound understanding of how the relationships between leaders and their subordinates can either contribute to encourage entrepreneurship inside an organization or prevent employees from any entrepreneurial undertakings, the main objective of this study is to examine how LMX correlates with individual EO. This will allow finding existing relationships between these constructs.

Therefore, the present research pretends to answer the following question: how perceived quality of LMX relates to subordinates´ entrepreneurial orientation? In order to answer this question three hypotheses were stated for this study:

Hypothesis 1: Perceived LMX quality is positively related to subordinates´ innovativeness.

Hypothesis 2: Perceived LMX quality is positively related to subordinates´ proactiveness.

Hypothesis 3: Perceived LMX quality is positively related to subordinates´ risk-taking.

The model proposed for this investigation in presented in Figure 2.

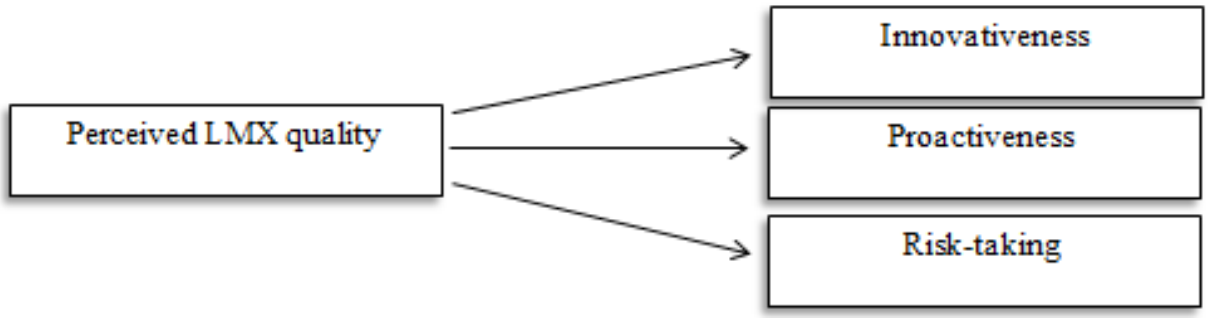

Figure 2. The proposed model of relationships between perceived LMX quality and three IEO dimensions: innovativeness, proactiveness and risk-taking

II. METHODOLOGY

2.1. Sample

In this study participated 562 working professionals from different sectors of activity and from different age groups, not limiting the study to any particular company or country. All respondents had to have a leader, assuring their role in leader-member relationships. 129 respondents reported that they did not have any leader or supervisor so they were excluded from the further analysis. Also, the answers of 76 respondents were considered not appropriate for this study because they possessed a position of top management (e.g. CEO, COO, director, etc.) or their jobs represented unqualified or unskilled labor (e.g. floor cleaner, wall painter, etc.). Our study is focused on jobs where more intellectual and not physical work is done or includes some direct interactions with the customers. These 76 respondents did not possess required qualifications for this study so they were excluded from the further analysis. The responses were checked for incomplete entries and duplication resulting in 357 answers that were accepted for the study. The information about respondents' demographics is presented in table 3.

Table 3. Demographic information of respondents

		N	%	M	SD	Min	Max
Sex	Male	127	35,57	-	-	-	-
	Female	230	64,43	-	-	-	-
Age		-	-	30,40	6,98	18	60
Education	High school	27	7,56	-	-	-	-
	Associate degree	29	8,12	-	-	-	-
	Bachelor´s degree	259	72,55	-	-	-	-
	Master´s degree	128	35,85	-	-	-	-
	Doctoral degree	11	3,08	-	-	-	-
	Other	3	0,84	-	-	-	-
Years in the company	Less than 2 years	167	46,78	-	-	-	-
	2-5 years	120	33,61	-	-	-	-
	More than 5 years	70	19,61	-	-	-	-
Leadership role	Yes	151	42,30	-	-	-	-
	No	206	57,70	-	-	-	-
Entrepreneurial experience	Yes	136	38,10	-	-	-	-
	No	221	61,90	-	-	-	-
Months working with the leader		-	-	21,62	21,26	1	150

As demonstrated in table 3, the majority of participants were females (64,43%) with a lower percentage of males (35,57%). The age varied from 18 to 60 years with the average of

30,40 years. In terms of education, the majority (72,55%) of respondents had completed a bachelor´s degree, followed by master´s degree which was the highest education level of 35,85% of participants. 46,78% of the respondents had been working in a company for less than 2 years, 33,61% - for 2-5 years and 19,61% - for more than 5 years. The leadership role was performed by 42,30% of respondents while 57,70% did not have any subordinates. Regarding entrepreneurial experience, 61,90% of participants reported to have not been engaged in entrepreneurial activities before, while 38,10% had some entrepreneurial experience in the past. In terms of time working with the leader, the results varied from 1 month to 12,5 years (150 months) with the medium length of 1,8 years (21,62 months).

Figure 3 represents the composition of the sample in terms of sectors of activity in which the respondents were employed.

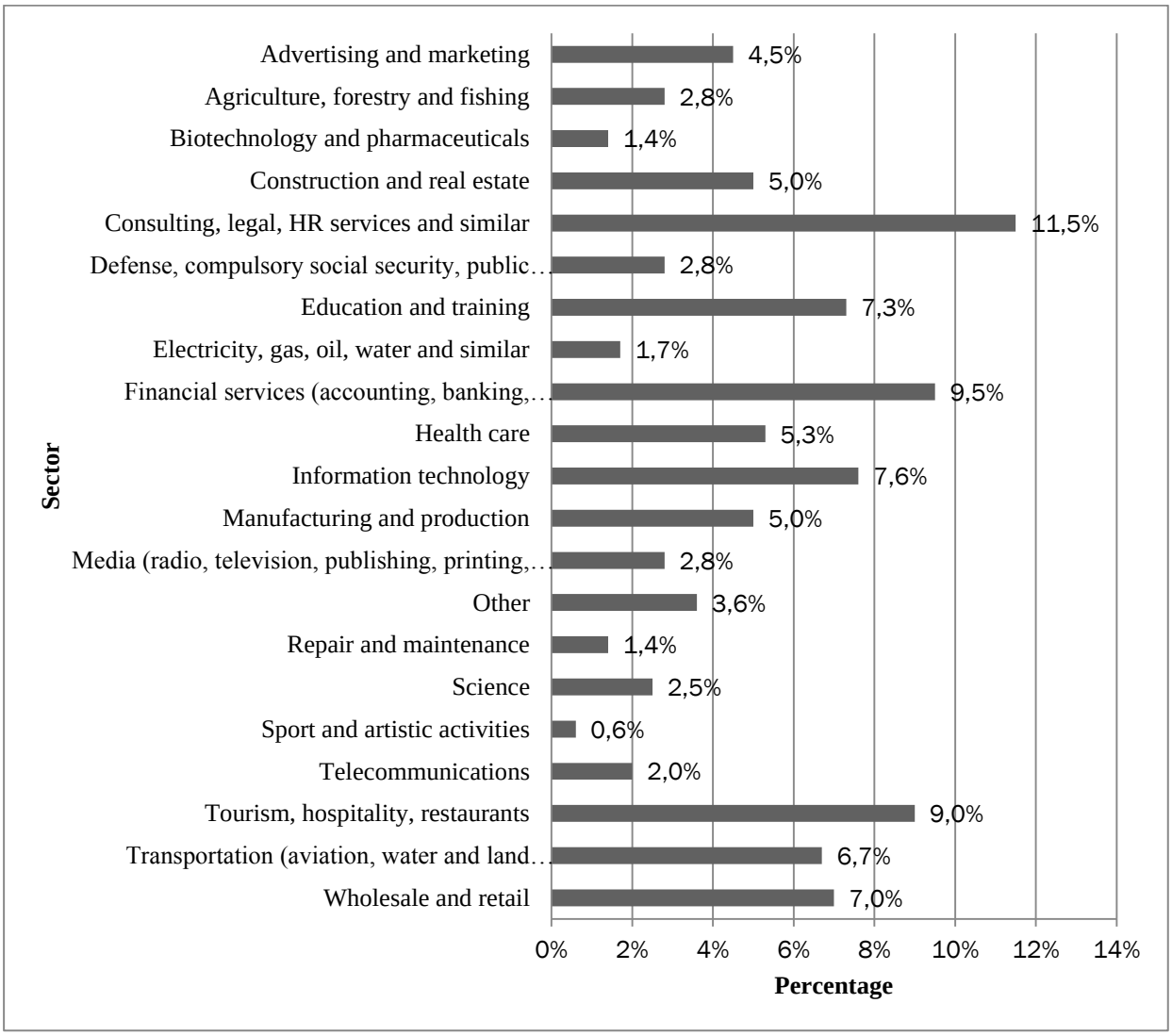

Figure 3. Sectors of activity in which respondents were employed

As shown in figure 3, there is a big diversity in terms of sectors of activity. Still, the majority of respondents were working in consulting, legal, HR or similar professional services (11,5%), followed by financial services (9,5%) and tourism and hospitality sector (9%).

2.2. Process

The data collection process was initiated by contacting respondents through the email and various social networking websites where they were asked to fill in the online survey in Qualtrics. Additionally, numerous team leaders were contacted and asked to share the link of the survey at work for their subordinates to respond. Online process was chosen versus surveys on paper as it tends to result in higher response rates (McCabe, 2004), allows data to be treated more easily and has the advantage of lower costs (Kaplowitz, Hadlock, & Levine, 2004). The respondents were asked to answer the questions and statements about their perceptions regarding LMX and their individual entrepreneurial orientation, as well as give some demographic information.

2.3. Instruments

For data collection there were used online self-reported questionnaires based on previous literature review. The first control question was asked in order to know if the respondent had a leader or not. The negative answer resulted in the end of the survey. The questionnaire consists of three parts: the first one evaluates subordinate´s perceptions about the quality of the relationships he/ she has with the leader (LMX), the second – his/ her individual entrepreneurial orientation, and the third – participants´ demographic information. The questionnaire is presented in Annex A.

To measure LMX we adapted LMX7 scale proposed by Graen and Uhl-Bien (1995) which consists of 7 items and is based on three LMX dimensions designed to measure leader-member relationships: respect, trust and obligation. The LMX7 scale was chosen as it was considered as the most recognized and widely used in the literature (Yukl, 2010), offers a reliable measure of the LMX quality (Northouse, 2013) and fits the best the present study as it can also be completed by only one side, either the leader or the subordinate, without losing the meaning what was relevant for this study. The questions of LMX7 were also thought to fit the best the present study as it intends to analyze job-related relationships rather than

friendship or liking as is proposed in other measures (e.g. Liden and Maslyn, 1998). The questionnaire includes 7 questions such as "*How well does your leader recognize your potential?*" with 5 possible answers varying from "*Not at all*" to "*Fully*" or "*How would you describe your working relationships with your leader?*" with 5 possible answers ranging from "*Extremely ineffective*" to "*Extremely effective*". These answers were measured by the scale from 1 to 5 where the higher score means stronger and higher-quality leader-member relationships. Some minor modifications were made in order to increase the comprehensibility of the questionnaire. For example, some phrases from the original questionnaire were changed to the more understandable and concrete ones (e.g. "bail you out" was changed to "defend"). The scale was tested and validated in its original study (Scandura & Graen, 1984) with a Cronbach alfa being 0.90 and additional meta-analysis confirmed its good psychometric properties with Cronbach alfa being between 80% and 90% (Gerstner & Day, 1997).

To measure individual entrepreneurial orientation we used individual entrepreneurial orientation scale proposed by Bolton and Lane (2012). The items for the scale are based on three firm-level entrepreneurial orientation dimensions: innovation, proactiveness and risk-taking (Lumpkin & Dess, 1996) that were later adapted by the authors to the individual level of analysis. This measure was chosen because it was adapted to the individual level in such a way that the questions were appropriate to use with the lower level subordinates and not with top management, CEO´s, founders or individual entrepreneurs and this was not proposed by any other existing measure of IEO. Moreover, this measure confirms three dimensions that have been the most widely and constantly used in the literature of EO (Rauch et al., 2009). The original scale has 4 items for innovation, 3 items for proactivity and 3 items for risk-taking. In this study one item of innovation was excluded as it is addressed more to students and not working professionals and did not fit this study ("*I prefer to try my own unique way when learning new things rather than doing it like everyone else does*"). Also, removing this item assures equal weight of all dimensions. Thus, three items were addressed to measure innovation (for example, "*I often like to try new and unusual activities that are not typical but not necessarily risky*"), three items were used to measure proactivity (for example, "*I usually act in anticipation of future problems, needs or changes*") and three items for risk-taking (for example, "*I am willing to invest a lot of time and/or resources on something that might yield a high return*"). The items were measured using a five-point Likert scale (from 1 – strongly disagree to 5 – strongly agree). The scale of Bolton and Lane (2012) was validated, tested and is a reliable measure for individual entrepreneurial orientation (IEO) with Cronbach alphas on all three dimensions meeting the criterion of 0.7 for scale development.

III. RESULTS

3.1. Confirmatory factor analysis

First of all, a confirmatory factor analysis (CFA) was conducted for the individual entrepreneurial orientation scale in order to test the three dimensional structure of the entrepreneurial orientation and whether this model fits the data (see table 4).

Table 4. Results of confirmatory factor analysis of individual entrepreneurial orientation (IEO)

	χ2	**df**	**p-value**	**χ2/df**	**CFI**	**RMSEA**	**GFI**
IEO	93.014	24	.000	3.876	0.928	0.09	0.948

As can be seen from the table above, chi-square value is large and significant ($\chi 2$ = 93.014; $p < .01$), what reflects a poor fit of the model and suggests that it should be rejected. However, this measure is not very reliable due to the big sample and degrees of freedom (*N*=357; *df*=24) of this study. Chi-square is sensitive to big samples and tends to be higher when sample size is larger. Thus, other fit indexes are more appropriate measures in evaluating the model fit in this case.

Regarding other fit indexes, χ^2/df value slightly exceeds the desirable limit, but is still acceptable (χ^2/df = 3,876). The values of comparative fit index (*CFI = 0*.928) and root mean square of approximation (*RMSEA* = 0.09) reflect a moderate fit and goodness of fit index (*GFI = 0*.948) indicate that the model has a great fit. Thus, minimum requirements of a well-fitting model were achieved.

Additionally, correlations between the factors were further analyzed and all the values were within an acceptable range, as well as factor loadings did not show any irregularities with all values higher than .30 (p<.05) which is the criterion for a sample over 300 (Field, 2013). The confirmatory factor analysis scheme is demonstrated in Figure 4.

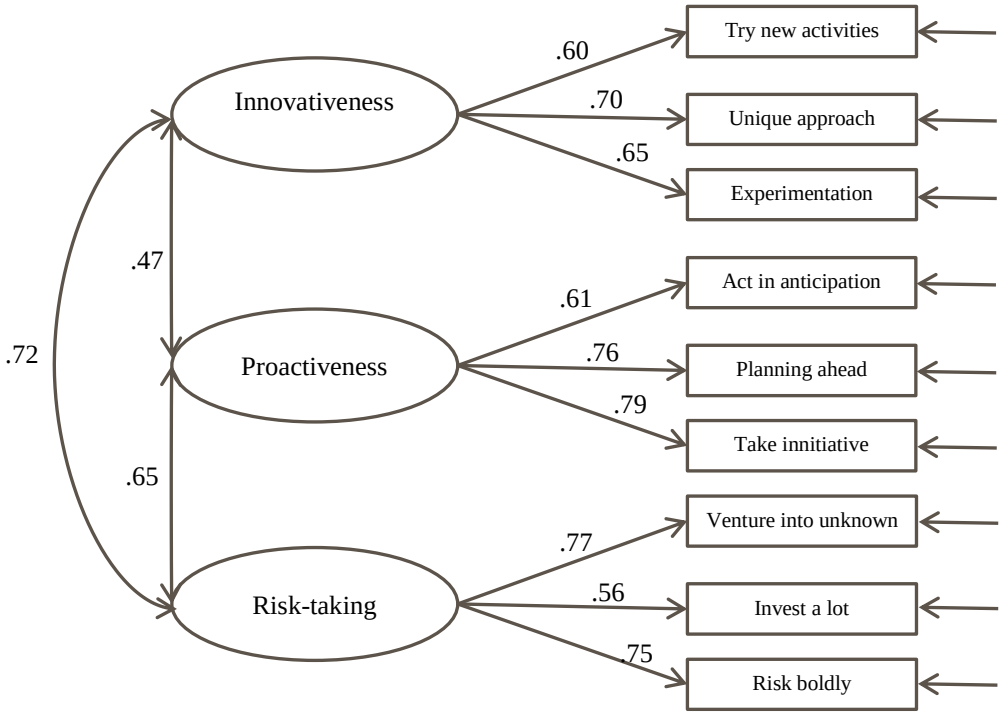

Figure 4. Factor loadings of individual entrepreneurial orientation scale

Given mentioned observations it can be concluded that the results supported the three factor solution (innovativeness, proactiveness and risk-taking), despite the fact that some fit indexes are slightly above the threshold. Therefore, it was decided to use the computes with the three items for innovativeness, proactiveness and risk taking.

3.2. Internal consistency of the scales

This study measured the internal consistency of the scales and the results are presented in Table 5. In order to have a more profound knowledge of the reliability of the IEO scale, it was decided to verify the consistency of all three subscales of IEO as well.

Table 5. Internal consistency of the scales

Scale	Chronbach alfa
LMX	α=.901
IEO	α=.824
Innovation	α=.752
Proactivity	α=.681
Risk-taking	α=.713

As can be seen from table 5, both LMX and IEO scales in general show very good results, α=.901 and α=.824 respectively. Chronbach α>.70 indicates that the scales are reliable and appropriate for the study (Maroco, 2007). After analyzing the three subscales of IEO, the less favorable results were identified for proactiveness (α=.681). Even though the dimension of proactiveness has a slightly lower value than required, it was decided to do no changes with this dimension as it represents only a very small difference from the desired value of α=.70 and because it consists only of three items making it difficult to eliminate any item without losing the quality of the evaluation of this subscale. Thus, no items were eliminated assuring that all three dimensions have equal number of items and equal weight for the study.

3.3. Descriptive statistics

Table 6 represents the descriptive statistics for each variable in LMX and IEO scales. According to the analysis, the quality of LMX in general was perceived better than average (M=3.73, SD=0.80). In terms of the chances that the leader would use his/ her power to help solve problems at work, the respondents perceived them as quite high (M=3.83, SD=1.04) making it the highest evaluated item, where it can also be observed a more elevated standard deviation which indicates that the values are spread more widely around the mean. The participants also tend to often know how satisfied the leader is with their work (M=3.81, SD=0.93) and perceive working relationships with the leader as more effective than average (M=3.76, SD=0.94).

Table 6. Descriptive statistics of LMX and IEO variables

	M	**SD**
LMX	**3.73**	**0.80**
Knowing leader´s satisfaction	3.81	0.93
Understanding job problems	3.57	1.01
Recognizing potential	3.71	1.02
Help solving problems	3.83	1.04
Defend actions and decisions	3.62	1.00
Confidence in defending leader´s decisions and actions	3.74	0.97
Effectiveness of working relationships	3.76	0.94

(Continued)

IEO (individual EO)		
Innovativeness	**3.25**	**0.89**
Trying new activities in a workplace	3.16	1.17
Preference of unique approaches	3.22	1.04
Favoring experimentation	3.39	1.07
Proactiveness	**4.06**	**0.70**
Acting in anticipation of future needs	3.89	0.92
Planning ahead	4.02	0.91
Preference to "step-up" and get things going on	4.28	0.86
Risk-taking	**3.59**	**0.81**
Liking to take bold actions by venturing into the unknown	3.42	1.06
Will to invest time and/ or resources on something that might yield a high return	4.02	0.96
Tendency to act boldly in risky situations	3.34	1.02

Regarding the entrepreneurial orientation, proactiveness represents the highest value (M=4.06, SD=0.70), following by risk-taking (M=3.59,SD=0.81) and innovateness (M=3.25, SD=0,.89). A higher value means a stronger respondent´s agreement to the given statements and thus indicates a stronger entrepreneurial orientation. It means that the subordinates are the most proactive, especially in planning ahead (M=4.02, SD=0.91) and taking initiative in getting things done (4.28, SD=0.86) but the least innovative. The respondents neither agreed nor disagreed with the statement that they often try new and unusual activities in their workplace (M=3.25, SD=1.17) making it the lowest evaluated item but also having the more elevated standard deviation which indicates a greater dispersion of values or the answers distributed further from the average. Despite the fact of being the least innovative, the respondents appeared to be strongly willing to take risks in terms of investing time and/ or resources on something that might yield a high return (M=4.02, SD=0.96).

3.4. Hypothesis testing

In order to test the hypothesis and verify the correlations between LMX and three dimensions of IEO (innovativeness, proactiveness and risk-taking) Pearson correlation analysis was conducted. The results are shown in table 7.

Table 7. Pearson correlation between LMX and IEO variables

	1	2	3	4
1. LMX	-			
2. Innovativeness	.09	-		
3. Proactiveness	.17**	.38**	-	
4. Risk-taking	.23**	.23**	.53**	-

Note: **p<.01

Hypothesis 1: Perceived LMX quality is positively related to subordinates´ innovativeness.

The relationship between perceived leader-member exchange quality and innovativeness was analyzed using Pearson correlation coefficient. There was found no significant correlation between the two variables (r=.09, p>.05). It means that perceived quality of LMX does not have an impact on subordinates´ innovativeness and presents controversial results from what was expected. Given these results, hypothesis 1 was not supported in this study.

Hypothesis 2: Perceived LMX quality is positively related to subordinates´ proactiveness.

Regarding the relationship between perceived leader-member exchange quality and proactiveness, a small but significant positive correlation was found between the two variables (r=.17, p<.01). It indicates that the better the subordinates perceive LMX quality, the more proactive they are. As it was expected, hypothesis 2 was supported.

Hypothesis 3: Perceived LMX quality is positively related to subordinates´ risk-taking.

Pearson correlation analysis between perceived LMX quality and risk-taking revealed a significant positive correlation between the two variables (r=.23, p<.001). As predicted, the better perceived LMX quality, the more risk-taking subordinates are. Thus, hypothesis 3 was supported. Risk-taking appeared to have the strongest correlation with perceived LMX quality.

Despite the fact that Pearson correlation analysis showed no correlation between perceived LMX and innovativeness, it was considered to be beneficial to further analyze LMX not as a compute but with separate items in order to see how each of the items affects IEO dimensions. Thus, a hierarchical regression analysis was conducted with separate items of LMX to evaluate their effects on innovativeness, proactiveness and risk-taking.

3.5. Hierarchical regression analysis

Initial analyses were conducted to guarantee that the assumptions of normality, linearity, multicollinearity and homoscedasticity were not violated. Tolerance values for all the variables were within the acceptable range with the lowest value of .344 and VIF values were well below the acceptable maximum limit of 10 with the highest value of 2.908. The P-P Plot and the Scatterplots demonstrated no major deviations from normality and no significant outliers that could distort the results. For more detailed information the outputs of all regression analyses are presented in Annex B. The results of hierarchical regression analysis between LMX and innovativeness, controlling for age and time working with a leader, are presented in table 8.

Table 8. The results of regression analysis between LMX and innovativeness controlling for age and time working with a leader

	DV: innovativeness	**β**	**Sig**
1	Age	.092	.096
	Time working with a leader	-.052	.342
Note: R^2 =.009; R^2Adj =.003			
2	Age	.101	.068
	Time working with a leader	-.058	.292
	Knowing leader´s satisfaction	.087	.210
	Understanding job problems	-.095	.209
	Recognizing potential	.099	.210
	Help solving problems	-.160	.044
	Defend subordinate´s actions and decisions	.072	.373
	Confidence in defending leader´s decisions and actions	.106	.159
	Effectiveness of working relationships	.060	.502
Note: R^2 =.056; R^2Adj =.031; ΔR^2 =.047, p=.017			

As shown in table 8, the degree to which the variance in innovation is explained by age and time working with a leader is extremely low (R^2 = .009). After entering the scale of LMX the total variance explained by the model as a whole increased to 5,6% (R^2 = .056, p<.05) and explained an additional 4,7% of the variance in innovativeness (ΔR^2 =.047, p<.05). The ANOVA test showed that the model as a whole significantly fits the data (p<.05).

Help solving problems was found to be the only item that made the strongest unique contribution in explaining innovativeness with a significant and negative effect on this

dimension (β =-.165, p<.05). It indicates that the higher the chances that a leader would help solve problems at work, the less innovative subordinates are. Neither age nor time working with a leader influenced subordinates´ innovativeness.

Regression analysis between LMX and proactiveness, controlling for age and time working with a leader, was further conducted. The outcomes are presented in table 9.

Table 9. The results of regression analysis between LMX and proactiveness controlling for age and time working with a leader

	DV: proactiveness	**β**	**Sig**
1	Age	.093	.091
	Time working with a leader	-.016	.769
Note: R^2 = .008; R^2Adj = .003			
2	Age	.125	.022
	Time working with a leader	-.029	.588
	Knowing leader´s satisfaction	.110	.109
	Understanding job problems	-.171	.022
	Recognizing potential	.086	.268
	Help solving problems	-.021	.785
	Defend subordinate´s actions and decisions	.063	.430
	Confidence in defending leader´s decisions and actions	-.021	.778
	Effectiveness of working relationships	.207	.019
Note: R^2 = .083; R^2Adj = .06; ΔR^2 = .075, p=.000			

The results show that 8,3% of total variance in proactiveness is explained by the model as a whole (R^2 = .083, p<.001). It is an additional 7,5% of the variance (ΔR^2 = .075, p<.001) that was explained after the entry of independent variables of LMX, controlling for age and time working with a leader. The ANOVA test showed that the model as a whole significantly fits the data (p<.001).

Age, understanding job problems and perceived effectiveness of working relationships are the aspects that made the strongest unique contributions in explaining proactiveness and have the most influence in proactiveness. Other variables did not have a significant effect on this dimension (p>.05). Older subordinates appeared to be more proactive while time working with a leader did not influence their proactiveness. Understanding job problems was found to be negatively related to proactiveness (β = -.171, p<.05). It means that the more the leader

understands the job problems, the less proactive the subordinates are. Thus, leader´s understanding of job problems does not contribute to promoting proactive behavior.

Contrary, perceived effectiveness of working relationships has a significant positive effect on proactiveness (β =.207, p<.05) and indicates that the better the subordinates perceive the effectiveness of working relationships with the leader, the more proactive they are. Therefore, effective working relationships proved to be very important in encouraging subordinates´ proactiveness.

Finally, the results of hierarchical regression analysis, which was conducted to evaluate the relationship between the variables of perceived LMX and risk-taking, controlling for age and time that subordinates had been working with a leader, are shown in table 10.

Table 10. The results of regression analysis between LMX and risk-taking controlling for age and time working with a leader

	DV: risk-taking	**β**	**Sig**
1	Age	.086	.118
	Time working with a leader	-.031	.579
Note: R^2 = .007; R^2Adj = .001			
2	Age	.124	.022
	Time working with a leader	-.047	.375
	Knowing leader´s satisfaction	.160	.018
	Understanding job problems	-.111	.133
	Recognizing potential	.094	.221
	Help solving problems	-.006	.936
	Defend subordinate´s actions and decisions	.023	.769
	Confidence in defending leader´s decisions and actions	-.014	.845
	Effectiveness of working relationships	.194	.026
Note: R^2 = .108; R^2Adj = .085; ΔR^2 = .101, p=.000			

As can be seen from the table above, the model as a whole explains 11% of the variance in risk-taking (R^2 = .108, p<.001). LMX measure explained an additional 10% of the variance in risk-taking (ΔR^2 = .101, p<.001), after taking into account the impact of two control variables, age and time working with a leader. The ANOVA test showed that the model as a whole significantly fits the data (p<.001).

The analysis revealed that age (β =.124, p<.05), knowing leader´s satisfaction with work results (β =.160, p<.05) and perceived effectiveness of working relationships (β=.194, p<.05) made the strongest unique contributions to explaining risk-taking and have significant

positive effects on subordinates´ risk-taking. Knowing leader´s satisfaction with work means that the more often the subordinates receive a feedback from the leader about their performance, the more they tend to participate in activities where risk and uncertainty is involved. Also, older subordinates are more tend to take risks while time working with a leader does not influence their risk-taking behaviors. Perceived effectiveness of working relationships was found to be the most important influential aspect not only in subordinates´ proactivity but also risk-taking. In terms of other variables, there were found no significant effects on risk-taking ($p>.05$).

Even though the R^2 values are low in all regression analyses, there are still significant relationships between the predictors and the dependent variables, as indicated by low *p* values ($p<.05$). It means that the predictor variables are still able to provide information about the three IEO variables (innovativeness, proactiveness and risk-taking) despite the fact that values lie more distant from the regression line indicating the existence of a high-variability data.

Overall, regression analysis revealed that LMX dimensions have a different impact on individual entrepreneurial orientation. Subordinates proactiveness is influenced by perceived effectiveness of working relationships and leader´s understanding of job problems, while risk-taking is affected by feedback frequency received from a leader and also by perceived effectiveness of working relationships. Help solving problems was found to be the only item which has an impact on subordinates' innovativeness.

IV. CONCLUSIONS

4.1. Main conclusions and discussion

This study aimed to provide a deeper understanding of how the relationships between leaders and their subordinates can either contribute to promoting entrepreneurship inside an organization or prevent people from taking any entrepreneurial initiatives. More precisely, this research explored how LMX correlates with individual entrepreneurial orientation. With the asserted hypothesis it was expected that LMX would be positively related to all three IEO dimensions. There was found significant positive correlations between LMX and two IEO dimensions – proactiveness and risk-taking. However, it was found no significant relationship between LMX and innovativeness. For a more deep understanding LMX was further analyzed not as a compute but as separate items in order to see how each of LMX items affects IEO dimensions (innovativeness, proactiveness and risk-taking). The findings revealed that LMX dimensions have a different impact on individual entrepreneurial orientation.

Regarding hypothesis 1, there was found no significant correlation between LMX and innovativeness what allows to conclude that perceived quality of LMX does not have an impact on subordinates´ innovativeness. These findings appear to be contradictory to the ones obtained in other studies where high LMX quality was associated with increased innovativeness (e.g. Basu & Green, 1997). However, in most studies LMX is related to innovativeness not directly but through mediators and some studies failed to provide evidence that LMX has direct relation with innovativeness (e.g. Lee, 2008) but proved to be mediated by enhanced feeling of energy (Atwater & Carmeli, 2009) or increased self-efficacy (Liao, Liu & Loi, 2010). Therefore, many factors might influence these relationships such as environment, specific individual characteristics, job type and other aspects which were not taken into consideration in this research but should be explored in the future studies. Taking into account these points, it would be beneficial to analyze the intervening variables in order to better explain the ways that LMX influence subordinates´ innovative behaviors. Another possible explanation why there was found no significant correlation between LMX and innovativeness is that this study was developed with lower level subordinates who might not have enough authority to decide about new innovations and changes in the company despite good relations with a leader. Obtained lower *Mean* loadings on innovativeness (compared to proactiveness and risk-taking) might signify that subordinates are simply restricted to

innovate and experiment in a workplace because leaders do not allow it, what was previously pointed out by some researchers (e.g. Thornberry, 2001; Lumpkin & Dess, 2005).

A regression analysis which explored separate LMX items and their relationships with innovativeness revealed that help solving problems at work has a negative impact on subordinates´ innovativeness. It implies that the more help subordinates receive from their leaders, the less innovative they become. Thus, always providing subordinates with solutions is not beneficial neither to the subordinate himself nor to the company and can impede self-starting behaviors (Parker & Williams, 2006) which are important to creativity, especially in identifying problems and producing innovative solutions (Unsworth & Parker, 2003). It suggests that leaders should encourage subordinates to solve emerged problems and try to find solutions on their own being more autonomous and independent thus highlighting the importance of job autonomy for innovative behavior. Indeed, in previous research autonomy was found to be an important influential aspect in these relationships because when employees were given more autonomy the positive relationship between LMX and engagement in creative work was stronger (Volmer, Spurk & Niessen, 2012). Therefore, in defining strategies to increase subordinates´ innovativeness leaders should take into account the important role of autonomy.

Regarding hypothesis 2, the present research provides evidence that LMX has a significant positive correlation with proactiveness what indicates that the higher perceived LMX quality, the more proactive subordinates tend to be. Thus, high quality relationships with the leader result in increased subordinates´ initiative to get things done, make them act more often in anticipation of future problems and plan ahead on work assignments. The results of this research are consistent with the findings in other studies which tested the effects of LMX on proactiveness in mediating relationships. In Graen´s study (1989, as cited in Graen and Uhl-Bien, 1991) it was found that high quality LMX relationships create a working atmosphere in which subordinates are eager to put extra efforts in their work, go above the minimum prescribed job requirements and take more initiative. Also, increased proactiveness results from positive affect (Parker, Bindl & Strauss, 2010), which subordinates experience in high quality LMX relationships. This suggests that higher LMX quality makes subordinates behave in more proactive ways and indicates the existence of a positive relationship between LMX and proactiveness, as was proved in the present study.

After exploring the effects of separate LMX items on proactiveness, there was found that perceived effectiveness of working relationships is the only item that has a positive effect on this dimension. In other words, subordinates are more proactive and initiative when they

perceive the relationships with the leader as more effective. Effective working relationships are associated with a high quality LMX so the findings on this item were not surprising as it is known that higher quality relationships are positively related to organizational citizenship behaviors (Imran & Fatima, 2013) which in their nature are proximal to proactiveness.

One interesting result was found regarding proactiveness. Understanding job problems and needs appeared to have a negative effect on proactiveness which indicates that the better subordinates perceive leader´s understanding of their job problems and needs, the less proactive they tend to be. The existing literature does not provide sufficient evidence on these issues as there was found no similar study focusing on this specific relationship. Thus, it is not possible to compare the results and explain affecting factors. One possible explanation could be that when subordinates perceive that leader understands job problems, they might feel that leader is fully aware of the existing obstacles which impede them from taking action. Subordinates might feel that they have a clear justification why a specific work assignment could not be initiated or an idea successfully implemented and thus prevent them from taking proactive actions towards that project, postponing it and waiting for the situation to be regularized by the leader. However, this in only an alternative explanation and these relationships should be explored more deeply in future studies.

Regarding hypothesis 3, there was found a significant positive relationship between LMX and risk-taking from what it can be concluded that the higher perceived LMX quality, the more risk-taking behaviors subordinates are tend to undertake. Thus, it proposes that high quality relationships with the leader result in greater tendency to act boldly in risky work situations and venture into unknown as well as increased willingness to invest a lot of time and resources on something that might produce great outcomes (Bolton & Lane, 2012). These results were expected as previous studies have shown the evidence that high quality LMX encourages risk-taking (e.g. Bettencourt, 2004 as cited in Bauer & Erdogan, 2015).

The regression analysis of separate LMX items on risk-taking revealed that risk-taking is positively affected by two LMX items – knowing leader´s satisfaction with work results and perceived effectiveness of working relationships. As it was mentioned before, effective working relationships are associated with a high quality LMX so the findings on this matter were plausible as it is known that higher quality relationships encourage risk-taking behaviors (e.g. Bettencourt, 2004 as cited in Bauer & Erdogan, 2015).

In terms of knowing leader´s satisfaction with work results, it was found that frequent feedback received from the leader results in increased subordinates´ risk-taking. Frequently providing feedback leaders monitor subordinates´ performance, communicate satisfaction

level with the work and set new improvement strategies what makes subordinates be more aware of what needs to be done in order to meet leader´s expectations (Lam, Huang & Snape, 2007). It suggests that there is more clarity and self-confidence when performing work assignments on which subordinates received feedback, what might encourage risk-taking. Thus, in defining strategies to increase subordinates´ risk-taking leaders should consider the important role of feedback. Nevertheless, knowing leader´s satisfaction with work results and risk-taking need to be explored in future studies in order to obtain more evidence and understanding of the affecting factors in these specific relationships.

4.2. Theoretical contributions

This study provides an original way of looking at leadership and entrepreneurship. First of all, it complements these two research fields by testing direct relationships between LMX and individual entrepreneurial orientation what was not performed in any previous study to date. The findings of this research contributes to the more profound understanding of how relationships between leader and subordinate influence individual entrepreneurial orientation of subordinates and suggests that entrepreneurial orientation could be viewed as an outcome of LMX. There were found positive relationships between LMX and proactiveness, LMX and risk-taking and a negative relationship with innovativeness what offers a more diverse view of LMX effects on innovativeness and indicates that these constructs still need to be explored in broader contexts.

Furthermore, the findings of this study draw attention to the importance of frequent feedback in subordinates´ risk taking and the significance of job autonomy to their innovativeness thus complementing literature in these fields as well. This research also found some new relationships, for example, a negative effect of leader´s understanding of job problems on subordinates´ proactiveness what could be an interesting topic to explore in future studies.

This study responded to the need of exploration of entrepreneurial orientation at the individual level of analysis which was previously identified in the literature (e.g. Goktan & Gupta, 2013; Joardar & Wu, 2011). Moreover, the present research addressed the necessity of confirmatory factor analysis in order to confirm the newly developed subscales of IEO (Bolton & Lane, 2012).

Finally, this research measures individual entrepreneurial orientation of subordinates from the lower levels of organization what is not common among other studies which focused more on the firm-level EO, top managers and independent entrepreneurs (e.g. Krauss et al., 2005; Joardar & Wu, 2011). Thus, this study offers a different way of application of IEO scale.

4.3. Limitations and future research suggestions

Even though this study presents various theoretical contributions, there are some limitations which should be taken into consideration.

This study was based only on subordinates´ point of view and did not obtain perceptions from the leaders regarding LMX relationships what made it not possible to compare the opinions. Thus, it might not have reflected the real quality of LMX relationships. It is suggested for a future research to include the opinions of both leaders and subordinates for the more accurate results.

Some limitations can be identified in application of the questionnaires. As the respondents were surveyed online, the investigator was not present what could have caused some problems in understanding the questions in terms of ambiguities or a total miscomprehension of the items and result in more inaccurate answers.

Due to the original approach of this research, there was found no similar study with the same characteristics what made it impossible to perform a proper comparative analysis with other results. Also, existing studies which explored LMX with innovativeness, proactiveness and risk-taking not as the dimensions of IEO were using various mediators and different measures than the ones used in this research and that also made it difficult to compare the results.

Furthermore, the IEO scale is a self-report measure what might have made subordinates evaluate themselves better or worse thus not reflecting so well the actual situation. The measure of individual entrepreneurial orientation is recently developed and still needs to be explored in broader contexts to further validate it.

While this study has made important contributions to the understanding of how leader-member exchange affects IEO, it is still a long way from a complete and comprehensive story of this relationship. It is suggested for the future studies to analyze the intervening variables in order to better explain the ways that LMX influence subordinates´ innovativeness, proactiveness and risk-taking.

Another aspect which should be addressed in future research is the negative effect of leader´s understanding of job problems on subordinates´ proactiveness. Also, future studies could focus on exploring the effects of feedback on subordinates´ risk-taking as these relationships still need more clear explanation. It is suggested for the future research to replicate this study in a different sample in order to compare the results.

It would be also interesting to explore the relationships between LMX and IEO in longitudinal studies what would show us in which LMX development stage subordinates are and how being in different stages affects their IEO as well as how IEO changes over time in response to the changes in these stages.

4.4 Practical implications

As promotion of corporate entrepreneurship nowadays has become of an extreme importance to every organization, this research is useful for leaders to better understand how their behavior can enhance innovativeness, proactiveness and risk-taking of subordinates. The findings of this study can serve as a guide for leadership training as they provide a clear view of what behaviors to adopt in order to increase subordinates´ entrepreneurial orientation. For example, this study suggests that it is important that leaders keep effective working relationships with subordinates because this leads to increased proactive and risk-taking behaviors. Thus, training based on the findings of this study could develop necessary leadership competencies of the superiors.

People responsible for making decisions within organization can also use the results of this study to guide the development of strategies necessary to promote entrepreneurial orientation of subordinates. The findings suggest that leaders should take into account the importance of autonomy when defining strategies to stimulate subordinates´ innovativeness. Leaders should encourage subordinates to solve emerged problems at work and find new solutions on their own instead of providing immediate help. A better way leaders could help solve problems without decreasing subordinates´ innovativeness might be to create independent work units (Thompson & Brajkovich, 2003) or an open environment at work where subordinates could freely exchange information and ideas, what is a valuable source of innovation (Hülsheger, Anderson & Salgado, 2009).

This study also offers to leaders and top managers some valuable insights on the role of feedback frequency in subordinates´ risk-taking and helps create better strategies to encourage risk-taking behaviors. The results suggest that leaders should communicate more

often their satisfaction with subordinates´ work because it fosters their risk-taking. For instance, leaders could create an open feedback environment in the organization to address this issue.

It is important that leaders take these aspects into consideration when managing their teams because they influence not only subordinates entrepreneurial orientation but might also be critical to the ability of a whole organization to surpass its competitors.

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ANNEXES

Annex A – Instrument

ISCTE Business School
Instituto Universitário de Lisboa

Questionnaire

This questionnaire is a part of the study for a master degree in Human Resources Management at ISCTE-IUL about leadership and entrepreneurship and intends to analyze people´s behaviors in the organizational context.

The present questionnaire describes some possible situations that occur at your workplace and asks you to indicate the answer. There are no correct or incorrect answers, so please answer all the questions sincerely that represent the best your current situation.

The questionnaire is anonymous and all the data will be used only for research and statistical reasons assuring a total confidentiality of collected information.

This questionnaire is divided in three parts and takes only 5 minutes to complete. All the instructions of how to fill and answer the questions are written in the beginning of each part of the questionnaire. In case you have any doubt, do not hesitate to contact me for additional information via this email: viktorija.vilk@gmail.com.

Thank you for your collaboration!

PART I

Think about the relationships with your direct leader/ supervisor. For each of the questions, circle the answer which you think portraits the best your current situation with your leader.

1. Do you know how satisfied your leader is with what you do?

Never	Rarely	Sometimes	Often	Always

2. How well does your leader understand your job problems and needs?

Not at all	A little	Moderately	Mostly	Fully

3. How well does your leader recognize your potential?

Not at all	A little	Moderately	Mostly	Fully

4. What are the chances that your leader would use his/ her power to help you solve problems in your work?

None	Small	Moderate	High	Very high

5. What are the chances that your leader would defend your actions and decisions?

None	Small	Moderate	High	Very high

6. I have enough confidence in my leader that I would defend and justify his/her decision if he/ she were not present to do so.

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

7. How would you characterize your working relationships with your leader?

Extremely ineffective	Worse than average	Average	Better than average	Extremely effective

PART II

Think now about your behaviors at the <u>workplace</u>. Please indicate to what degree you agree with the following items, using the five-point scale provided below, where 1 corresponds to "Totally disagree" and 5 counts for "Totally agree".

1. I often try new and unusual activities in my workplace that are not typical	1	2	3	4	5
2. In general, I prefer a strong emphasis on unique, one-of-a-kind approaches in projects rather than revisiting tried and true approaches used before	1	2	3	4	5
3. I favor experimentation and original approaches to problem solving rather than using methods that everyone else in my workplace generally use	1	2	3	4	5

4. I usually act in anticipation of future problems, needs or changes in my work	1	2	3	4	5
5. I tend to plan ahead on projects and work assignments	1	2	3	4	5
6. I prefer to "step-up" and get things going on rather than sit and wait for someone else to do it	1	2	3	4	5
7. At work, I like to take bold and courageous actions by venturing into the unknown	1	2	3	4	5
8. I am willing to invest a lot of time and/ or resources on something that might yield a high return	1	2	3	4	5
9. I tend to act boldly in work situations where risk is involved	1	2	3	4	5

PART III

Please indicate your current demographic information by marking X on the correct answer or filling in the empty lines.

1. Gender: Masculine ◯ Feminine ◯

2. Age: _____

3. What is your highest academic qualification that you completed?

High school (12 years) ◯ Associate degree ◯ Bachelor´s degree ◯

Master´s degree ◯ Doctoral degree ◯ Other _____

5. What is your professional occupation? _____

6. Do you perform a leadership role? Yes ◯ No ◯

7. Do you have a leader/ supervisor? Yes ◯ No ◯

8. Period of time (months) you work with your leader/ supervisor: _____

9. How long have you been working in the company?

Less than 2 years ◯ 2 – 5 years ◯ Over 5 years ◯

10. What is the sector of activity of the company you work in?

◯ Advertising and marketing ◯ Agriculture, forestry and fishing

- ◯ Biotechnology and pharmaceuticals
- ◯ Construction and real estate
- ◯ Consulting, legal, HR services and similar
- ◯ Defense, compulsory social security, public administration
- ◯ Education and training
- ◯ Electricity, gas, oil, water and similar
- ◯ Financial services(accounting, banking, investments) and insurance
- ◯ Health care
- ◯ Information technology
- ◯ Manufacturing and production
- ◯ Media (radio, television, publishing, printing, internet)
- ◯ Repair and maintenance
- ◯ Science
- ◯ Sport and artistic activities
- ◯ Telecommunications
- ◯ Tourism and hospitality
- ◯ Transportation (aviation, water and land transportation) and storage
- ◯ Wholesale and retail
- ◯ Other

11. Do you have any previous entrepreneurial experience? Yes ◯ No ◯

Annex B – Outputs of hierarchical regression analyses

Dependent variable: Innovativeness

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Estatísticas de mudança				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,093[a]	,009	,003	,89325	,009	1,532	2	354	,218
2	,236[b]	,056	,031	,88054	,047	2,470	7	347	,017

a. Predictors: (Constant), Time working with a leader, Age

b. Predictors: (Constant), Time working with a leader, Age, Knowing leader´s satisfaction, Understanding job problems, Recognizing potential, Help solving problems, Defend subordinates actions and decisions, Confidence in defending leader´s decisions and actions, Effectiveness of working relationships

ANOVA[a]

Model		Sum of Squares	df	Mean Square	Z	Sig.
1	Regression	2,444	2	1,222	1,532	,218[b]
	Residual	282,453	354	,798		
	Total	284,897	356			
2	Regression	15,849	9	1,761	2,271	,018[c]
	Residual	269,048	347	,775		
	Total	284,897	356			

a. Dependent variable: Innovativeness

b. Predictors: (Constant), Time working with a leader, Age

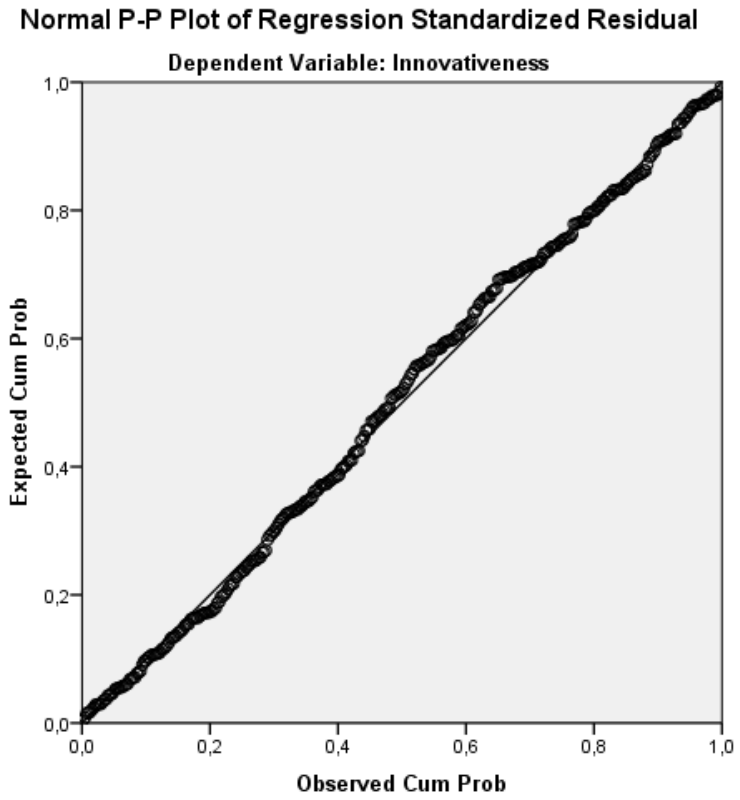
c. Predictors: (Constant), Time working with a leader, Age, Knowing leader´s satisfaction, Understanding job problems, Recognizing potential, Help solving problems, Defend subordinates actions and decisions, Confidence in defending leader´s decisions and actions, Effectiveness of working relationships

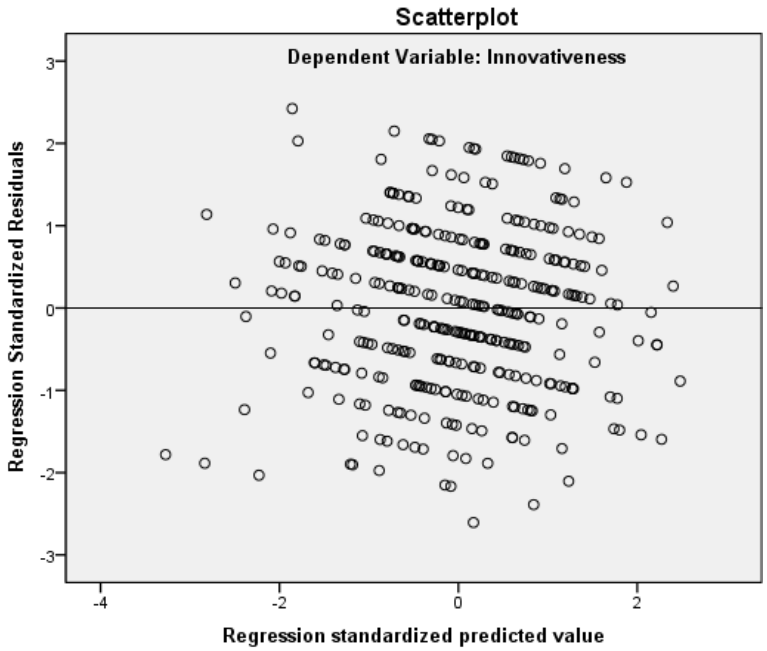
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2,949	,212		13,932	,000					
	Age:	,012	,007	,092	1,669	,096	,078	,088	,088	,929	1,077
	Time working with a leader	-,002	,002	-,052	-,952	,342	-,028	-,051	-,050	,929	1,077
2	(Constant)	2,290	,330		6,944	,000					
	Age:	,013	,007	,101	1,828	,068	,078	,098	,095	,891	1,123
	Time working with a leader	-,002	,002	-,058	-1,056	,292	-,028	-,057	-,055	,916	1,092

Knowing leader´s satisfaction	,084	,067	,087	1,257	,210	,132	,067	,066	,569	1,758
Understanding job problems	-,084	,067	-,095	-1,258	,209	,031	-,067	-,066	,476	2,102
Recognizing potential	,087	,069	,099	1,255	,210	,127	,067	,065	,436	2,291
Help solving problems	-,138	,069	-,160	-2,017	,044	,010	-,108	-,105	,433	2,308
Defend subordinates actions and decisions	,065	,073	,072	,891	,373	,097	,048	,046	,411	2,431
Confidence in defending leader´s decisions and actions	,098	,070	,106	1,411	,159	,125	,076	,074	,482	2,076
Effectiveness of working relationships	,057	,085	,060	,673	,502	,108	,036	,035	,344	2,908

a. Dependent variable: Innovativeness





Dependent variable: Proactiveness

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Estatísticas de mudança				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,090[a]	,008	,003	,70116	,008	1,450	2	354	,236
2	,289[b]	,083	,060	,68078	,075	4,073	7	347	,000

a. Predictors: (Constant), Time working with a leader , Age
b. Preditors: (Constant), Time working with a leader , Age, Knowing leader´s satisfaction, Understanding job problems, Recognizing potential, Help solving problems, Defend subordinates actions and decisions, Confidence in defending leader´s decisions and actions, Effectiveness of working relationships

ANOVA[a]

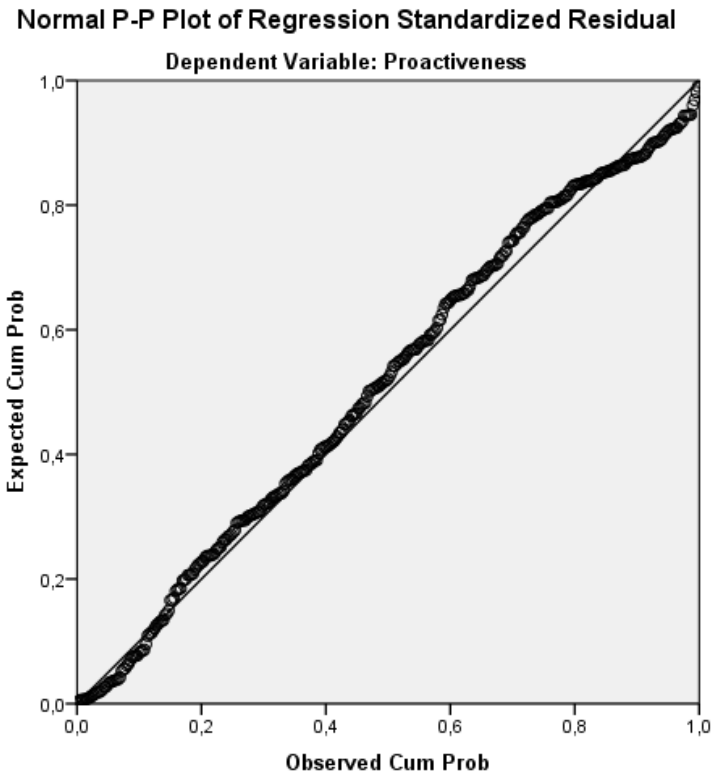
Model		Sum of Squares	df	Mean Square	Z	Sig.
1	Regression	1,426	2	,713	1,450	,236[b]
	Residual	174,037	354	,492		
	Total	175,463	356			
2	Regression	14,641	9	1,627	3,510	,000[c]
	Residual	160,822	347	,463		
	Total	175,463	356			

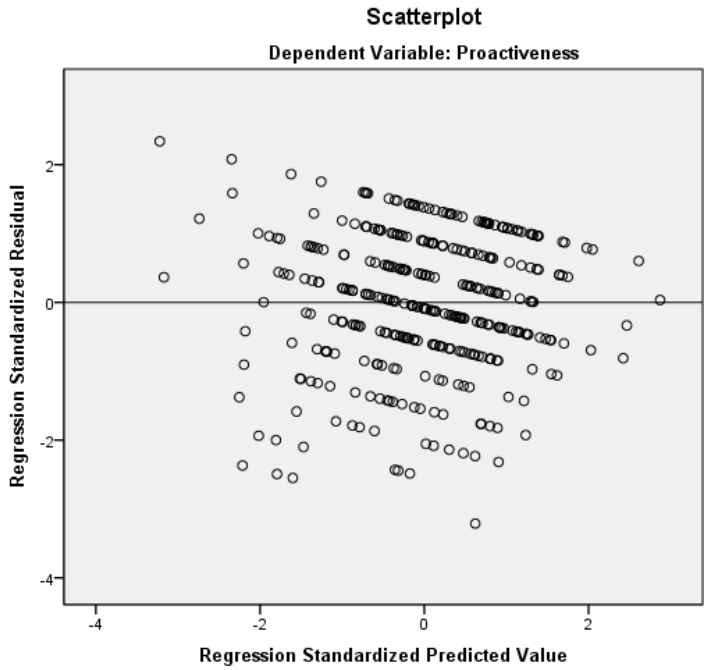
a. Dependent variable: Proactiveness
b. Predictors: (Constant), Time working with a leader , Age
c. Predictors: (Constant), Time working with a leader , Age, Knowing leader´s satisfaction, Understanding job problems, Recognizing potential, Help solving problems, Defend subordinates actions and decisions, Confidence in defending leader´s decisions and actions, Effectiveness of working relationships

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	3,788	,166		22,796	,000					
	Age:	,009	,006	,093	1,695	,091	,089	,090	,090	,929	1,077
	Time working with a leader	-,001	,002	-,016	-,294	,769	,009	-,016	-,016	,929	1,077
2	(Constant)	2,958	,255		11,604	,000					
	Age:	,013	,005	,125	2,297	,022	,089	,122	,118	,891	1,123
	Time working with a leader	-,001	,002	-,029	-,542	,588	,009	-,029	-,028	,916	1,092
	Knowing leader´s satisfaction	,083	,052	,110	1,608	,109	,186	,086	,083	,569	1,758
	Understanding job problems	-,119	,052	-,171	-2,299	,022	,067	-,122	-,118	,476	2,102
	Recognizing potential	,059	,054	,086	1,109	,268	,191	,059	,057	,436	2,291
	Help solving problems	-,014	,053	-,021	-,273	,785	,118	-,015	-,014	,433	2,308
	Defend subordinates actions and decisions	,044	,056	,063	,790	,430	,157	,042	,041	,411	2,431
	Confidence in defending leader´s decisions and actions	-,015	,054	-,021	-,282	,778	,134	-,015	-,015	,482	2,076
	Effectiveness of working relationships	,155	,066	,207	2,362	,019	,206	,126	,121	,344	2,908

a. Dependent variable: Proactiveness





Dependent variable: Risk-taking

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Estatísticas de mudança				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,083[a]	,007	,001	,80944	,007	1,240	2	354	,291
2	,328[b]	,108	,085	,77500	,101	5,594	7	347	,000

a. Predictors: (Constant), Time working with a leader , Age

b. Preditors: (Constant), Time working with a leader , Age, Knowing leader´s satisfaction, Understanding job problems, Recognizing potential, Help solving problems, Defend subordinates actions and decisions, Confidence in defending leader´s decisions and actions, Effectiveness of working relationships

ANOVA[a]

Model		Sum of Squares	df	Mean Square	Z	Sig.
1	Regression	1,625	2	,812	1,240	,291[b]
	Residual	231,939	354	,655		
	Total	233,564	356			
2	Regression	25,144	9	2,794	4,651	,000[c]
	Residual	208,419	347	,601		
	Total	233,564	356			

a. Dependent variable: Risk-taking

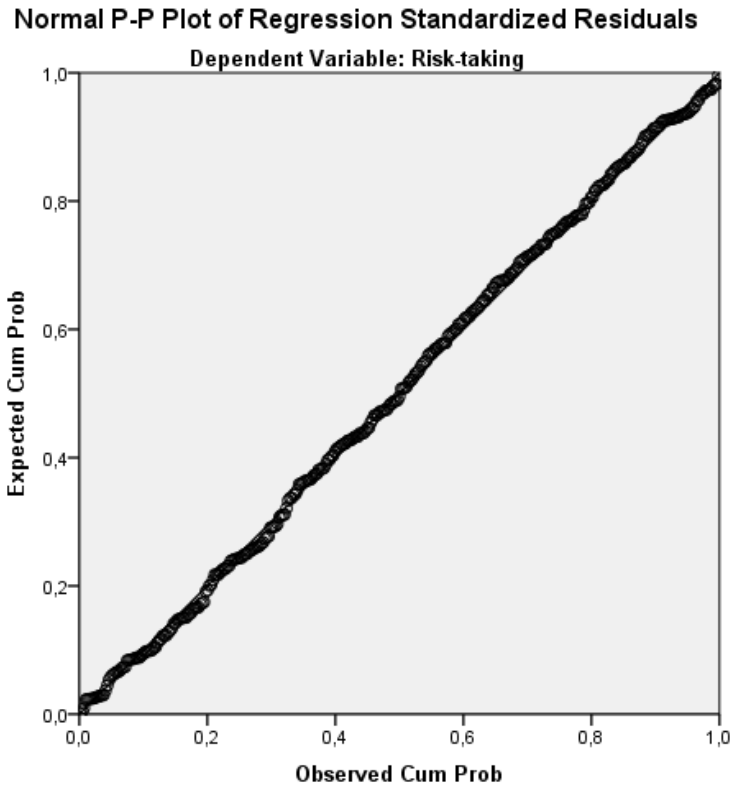
b. Predictors: (Constant), Time working with a leader , Age

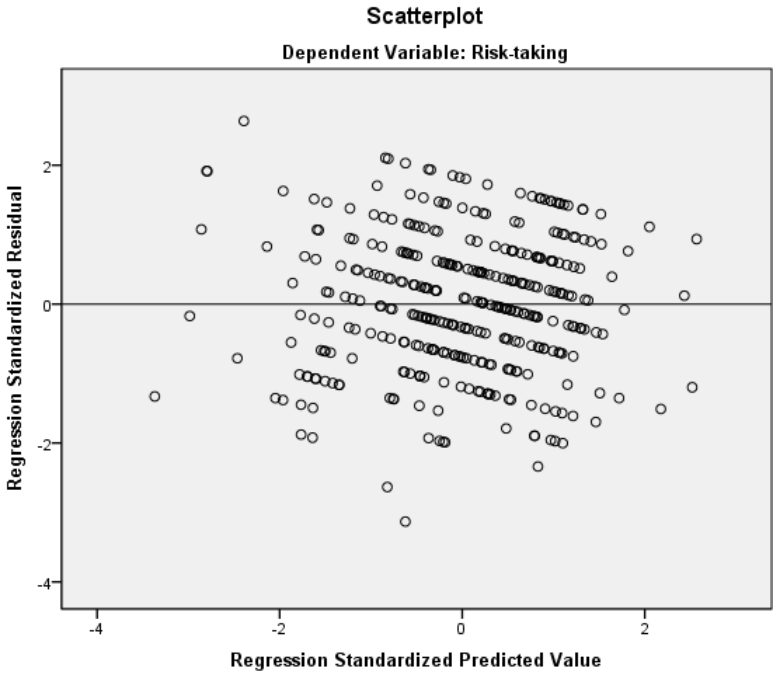
c. Predictors: (Constant), Time working with a leader , Age, Knowing leader´s satisfaction, Understanding job problems, Recognizing potential, Help solving problems, Defend subordinates actions and decisions, Confidence in defending leader´s decisions and actions, Effectiveness of working relationships

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	3,313	,192		17,273	,000					
	Age:	,010	,006	,086	1,568	,118	,078	,083	,929	,929	1,077
	Time working with a leader	-,001	,002	-,031	-,555	,579	-,008	-,030	,929	,929	1,077
2	(Constant)	2,070	,290		7,133	,000					
	Age:	,014	,006	,124	2,306	,022	,078	,123	,891	,891	1,123
	Time working with a leader	-,002	,002	-,047	-,888	,375	-,008	-,048	,916	,916	1,092
	Knowing leader´s satisfaction	,160	,059	,160	2,376	,018	,254	,127	,569	,569	1,758
	Understanding job problems	-,089	,059	-,111	-1,507	,133	,137	-,081	,476	,476	2,102
	Recognizing potential	,075	,061	,094	1,226	,221	,246	,066	,436	,436	2,291
	Help solving problems	-,005	,060	-,006	-,081	,936	,164	-,004	,433	,433	2,308
	Defend subordinates actions and decisions	,019	,064	,023	,295	,769	,185	,016	,411	,411	2,431
	Confidence in defending leader´s decisions and actions	-,012	,061	-,014	-,196	,845	,170	-,011	,482	,482	2,076
	Effectiveness of working relationships	,167	,075	,194	2,241	,026	,249	,119	,344	,344	2,908

a. Dependent variable: Risk-taking




Scatterplot
Dependent Variable: Risk-taking
Regression Standardized Residual
Regression Standardized Predicted Value
2
0
-2
-4
-4
-2
0
2