

**INFLUENCE OF ATTACHMENT THEORY ON
DEVELOPMENTAL NETWORKS**

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Abstract

Attachment theory has become one of the most influential theoretical approaches for studying close relationships across the lifespan. The influence of this theory on organizational scholarship is growing exponentially and prior research has focused on how attachment theory impacts workplace dyads, as the leader-follower and mentoring relationships. Recently, some scholars have proposed that it is relevant to extend it to other developmental relationships as peers and even to whole developmental networks. Thus, this empirical study addresses how attachment anxiety and attachment avoidance impact developmental networks by assessing them in terms of size, range and the quality of the relationships, for both career support and psychosocial support. Data collected for this study was obtained from a sample of 106 employees from a Portuguese company. In general, results revealed a rather small impact of attachment dimensions on developmental networks as most hypotheses were not supported. The significant results revealed that individuals with high avoidance attachment tend to have smaller and less diversified developmental networks receiving in general less developmental support. We discuss the implications of our findings for both theory and practice.

Keywords: attachment theory, mentoring, developmental networks, work relationships.

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Resumo

A teoria do apego tornou-se uma das abordagens teóricas mais influentes para estudar relacionamentos íntimos ao longo da vida. A influência desta teoria nos estudos organizacionais tem vindo a crescer exponencialmente e estudos anteriores têm focado primeiramente no impacto da teoria nas díades do local de trabalho, como as relações entre líder e seguidor e as relações de mentoria. Recentemente, alguns investigadores propuseram que é relevante estender a investigação a outras relações de desenvolvimento como colegas e até mesmo a redes de desenvolvimento inteiras. Assim, este estudo empírico aborda como as dimensões da teoria do apego, ansiedade e evitação, impactam as redes de desenvolvimento, avaliando-as em termos de tamanho, diversidade e qualidade das relações, tanto para suporte de carreira quanto para suporte psicossocial. Os dados recolhidos para este estudo foram obtidos a partir de uma amostra de 106 colaboradores de uma empresa portuguesa. Em geral, os resultados revelaram pouco impacto das dimensões de apego nas redes de desenvolvimento, uma vez que a maioria das hipóteses não foram suportadas. Os resultados significativos revelaram que os indivíduos com alta evitação de apego tendem a ter redes de desenvolvimento menores e menos diversificadas, recebendo em geral menos apoio ao desenvolvimento. São discutidas as implicações dos resultados tanto para teoria quanto para prática.

Palavras-chave: teoria do apego, mentoria, redes de desenvolvimento, relações no trabalho.

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Introduction

Understanding workplace relationships is of growing importance in the current fast-changing world. With globalization, increasing technology, and competition, organizations need to be fast learners and innovate to keep their competitive advantage. Thus, the informal links connecting employees are now more relevant than ever and the growing need to work in teams and collaborate in dynamic networks is highlighting the importance of developing relational skills.

Moreover, research has shown that workplace relationships contribute to personal development and growth by providing career-enhancing and psychosocial functions (Eby, 2012). Specifically, receiving informal mentoring from a network of several developmental relationships has been confirmed to potentiate this development and offer even more positive career outcomes. (Dobrow, Chandler, Murphy and Kram, 2012)

Because understanding how individual factors influence these beneficial developmental networks can bring a lot of value, for both individuals and organizations, this research intends to focus on this matter.

The main objective of this study is to explore how the attachment anxiety and avoidance of individuals impact the amount of developmental support received. This will be achieved by assessing the developmental networks size, range and the quality of the relationships for each type of support received: career support and psychosocial support.

Attachment anxiety and avoidance are probable antecedents of the size and quality of developmental networks, as attachment theory has become one of the most influential theoretical approaches for studying close relationships across the lifespan (Finkel & Simpson, 2015; Cassidy & Shaver, 2016). Being a theory that examines how and why people seek (or avoid) close relationships (Bowlby, 1973), scholars have recently mentioned the need for research of attachment dynamics to advance the understanding of network phenomenon such as developmental networks (Yip, 2017; Yip & Kram, 2017). The present study contributes to filling a research gap by addressing this identified research need.

This Master thesis is organized in two main parts: Literature Review and Empirical Study. In the literature review, key theories and existent empirical research are presented for the main variables assessed in the subsequently presented Empirical Study: developmental networks

and attachment theory. The second part is then organized starting with the presentation of hypotheses and followed by the applied research methods, results obtained and discussion of the findings. Next, the limitations of the study are acknowledged and suggestions for future research directions are presented. Finally, the practical implications that organizations and practitioners should take into account are outlined.

I) Literature Review

1. Developmental Networks

1.1. Traditional Mentoring

Traditionally, mentoring used to be conceptualized as “*a developmentally oriented interpersonal relationship between two individuals: a more senior or experienced organizational insider (the mentor) and a more junior or less experienced organizational member (the protégé)*” (Eby, 2012: 1).

Mentoring relationships have been growing in importance and use by organizations as a tool for employees’ career development. A body of research has presented several positive outcomes of these relationships. According to the meta-analysis from Allen, Eby, Poteet, Lentz, & Lima (2004), there are two categories of benefits for protégés. One includes objective career outcomes as promotion and compensation, and the other consists of subjective career outcomes which includes less tangible signs of career success, such as career satisfaction, job satisfaction, and turnover intentions. According to this article, the reasons why mentoring is related to career success comprise the exchange of information and knowledge it provides, the easier access to social networks, and the learning of the rules that govern effective behavior in the organization, through the social learning process. Moreover, through friendship and acceptance, the mentor also helps with the development of a sense of professional competence and self-esteem.

Broadly speaking, there are two types of mentor functions which were identified by Kram (1985). One is career-related support, which comprises functions that enhance protégés advancement in organizations: sponsorship, exposure and visibility, coaching, protection, and challenging assignments. The other type is psychosocial support comprising: friendship, acceptance, confirmation, counseling, and role-modeling. More recently, some other functions have been identified, as for example, in the relational mentoring index developed by Ragins (2012). This RMI consisted of personal learning and growth, inspiration, self-affirmation, reliance on communal norms, shared influence and respect, and trust and commitment.

This traditional dyad concept of mentoring started being challenged by Kram (1985) when assumed the existence of a wide range of developmental relationships that could provide these mentoring functions (e.g. peers, subordinates, and bosses).

1.2. Foundational Theory

Research indicates that the traditional dyad mentoring concept is not sufficient for tackling individuals' developmental needs and organizations' ongoing learning and growth, especially in contemporary's volatile, uncertain and fast-paced work-settings. (Higgins & Kram, 2001; Murphy and Kram, 2014). Moreover, having several mentors has been shown to yield better outcomes. (Baugh & Scandura, 1999). Thus, research has focused on the support provided to individuals from a constellation of several people from different social arenas, what is called "*developmental network*" (Higgins & Kram, 2001; Kram, 1985). Higgins and Kram's (2001) foundational definition of developmental networks has been utilized in nearly all published conceptual and empirical papers (Dobrow et al., 2012: 268): egocentric, content-based networks comprised of "*people a protégé names as taking an active interest in and action to advance the protégé's career by providing developmental assistance*".

This typology uses core concepts of social networks theory, extending Kram's (1985) initial proposition that individuals receive informal mentoring from multiple people. These people, named "*Developers*", can come from inside protégé's current or previous organization (peers, supervisors, subordinates) or from outside work (family member, friend, or other) (Murphy & Kram, 2010).

In social network research, a social network is composed of a set of ties representing relationships. The specific content of the relationships represented by the ties is limited only by the researcher's interest. However, flows of information (communication, advice) and expressions of affect (friendship) are frequently studied (Brass, 2012). In the case of developmental networks, the content of the relationships is the developmental support introduced by Kram (1985) which has 2 types, as mentioned before: career support or/and psychosocial support.

1.3. Structural Characteristics

Although the most unique contribution of the network perspective relies on going beyond the dyad and considering the structure of a whole network, this study focuses on the individual level characteristics of developmental networks and so it targets only ego-network data (the focal individuals identify its developers). Thus, it is not relevant to pursue measures of whole networks since this is what researchers call an “*egocentric network*”.

According to the recent review of Yip & Kram (2017: 93), the assessment of developmental networks may include questions about length of relationship, social arena, frequency of contact, psychological closeness, and developmental functions (psychosocial support and career support). The data collected through the assessment can then be analyzed in terms of:

- Network size: “*the number of people who an individual can name as actively supporting them in their personal or professional development.*”
- Tie Strength: “*the quality of the developmental relationship between developer and protégé. The strength of tie can be measured along a number of dimensions, including psychological closeness, frequency of communication or levels of career and psychosocial support.*”
- Diversity(range): “*diverse social identities represented by members within a developmental network*”
- Density: “*interconnectedness of ties within a network.*”
- Multiplexity: “*the occurrence of multiple developmental functions within one relationship*” (developers who provide both career and psychosocial support).

1.4. Outcomes

After the new typology introduced by Higgins and Kram (2001), researchers started to assess the consequences of the developmental networks. According to the review from Dobrow et al. (2012), developmental networks are valuable for achieving a variety of career outcomes which can be objective, as promotion and compensation, or subjective, which includes less tangible signs of career success, such as career satisfaction, and turnover intentions.

Following the typical 2 types of support identified by Kram (1985), research has identified psychosocial support as being positively related to work satisfaction (Higgins, 2000) and optimism (Higgins, Dobrow & Roloff, 2010). Likewise, career support is related to retention

(Higgins & Thomas, 2001), career-related self-efficacy and perceptions of career success (Higgins, Dobrow & Chandler, 2008).

However, to better understand the impact of different amounts of support, it is important to take into account the outcomes related to different structural characteristics. Thus, the existent studies that detailed the different outcomes associated with network size, tie strength, network range or others, will be outlined in the following paragraphs.

1.4.1. Network Size

The network size has been revealed to be positively related to job and career satisfaction (Higgins, 2000; van Emmerik, 2004), job performance and rank (Kirchmeyer, 2005), retention and promotion (Higgins & Thomas, 2001). Moreover, Baugh and Scandura (1999) found that the number of developers is positively associated with organizational commitment, career expectations, perceptions of alternative employment and lower role ambiguity. However, it appears that a bigger network is not always better, as it may also increase role conflict (Baugh and Scandura, 1999; Higgins, 2000). In addition, it should be taken into consideration that when an individual has many developers, it may be difficult to find the time to improve the quality of the several relationships. (Murphy and Kram, 2014; Yip & Kram, 2017).

1.4.2. Tie Strength

Drawing back from social networks research, strong ties have been shown to be related to various benefits as organizational knowledge, task mastery, and role clarity (Brass, 2012).

In the case of developmental networks, the quality of the relationships is positively related to higher job satisfaction (Higgins, 2000; van Emmerik, 2004) and salary (Kirchmeyer, 2005). Additionally, some scholars have defined high-quality connections as an important means for the development and growth of individuals, enriching identities, forming attachments to organizations and creating moments of mutual learning. Furthermore, organizational units, which have these connections among its members, have higher levels of psychological safety and trust which can foster increased cooperation and coordination (Stephens. Heaphy & Dutton, 2011).

1.4.3. Network Range

A body of research has presented that the diversity of a group increases the range of knowledge, skills, and contacts available, thus enhancing problem-solving capabilities (Higgins, 2001).

Having developers from different social arenas (e.g. colleagues, friends, family) increases the exposure to different information and resources, reducing the risk of receiving only redundant information (Dobrow et al., 2012). Thus, individuals with a broad range of developers will access thought-provoking ideas, which will foster learning, risk-taking, and innovation (Yip & Kram, 2017).

In addition, higher job performance (Kirchmeyer, 2005), intentions to remain in the organization (Higgins & Thomas, 2001), and career and life satisfaction (Murphy & Kram, 2010) are positive outcomes associated with having developers from outside work. Further, research has also revealed that the range of developers providing psychosocial assistance is positively related to protégés' confidence to overcome obstacles (Higgins, 2001). Nonetheless, organizations may suffer from having employees with a high range of developers providing career support, which increases the likelihood of changing careers (Higgins, 2001; Podolny & Baron, 1997).

1.4.4. Other

Even though density as a structural characteristic of developmental networks will not be addressed in this empirical study, it also has outcomes that can be relevant to mention. According to the chapter review from Brass (2012), densely connected networks, where the direct ties are connected between themselves, results in the closure of the network and tends to constrain attitudes and behaviors. This constraint may create good outcomes, like trust, norms of reciprocity, monitoring and sanctioning of inappropriate behavior, or bad outcomes, as redundant information and a lack of novel ideas. Additionally, the density of developmental networks is negatively associated with professional identity exploration (Dobrow & Higgins, 2005). Since having developers who know each other well increases the probability of accessing similar viewpoints and contacts, it may be harder to find new opportunities. This has a clear negative impact in cases where there is a desire to change organizations or careers.

1.5. Antecedents

According to the proposed framework by Higgins and Kram (2001), what shapes developmental networks formation are a combination of work environment factors and individual-level factors. Further, their paper mentioned the complexity of the interaction between these factors since “*individuals both shape and are shaped by their social networks*” (Higgins and Kram, 2001: 273). As subsequent studies on developmental networks have primarily focused on the consequences rather than on antecedents (Dobrow et al., 2012), the following paragraphs will outline the few papers that have studied the latter and that have at least contributed theoretically to the clarification of the role of individual differences in predicting the composition and content of a person’s developmental network.

1.5.1. Individual-Level Influences

According to the theoretical model of Higgins and Kram (2001), individual-level antecedents would be categorized in personality, demographics and perceived needs for development. Even though most proposed individual antecedents have yet to be empirically examined, several variables have been theoretically highlighted as important antecedents, e.g. personality and gender (Dougherty, Cheung, & Florea, 2008; O'Brien, Biga, Kessler, & Allen, 2010), and will be described in the following paragraphs.

Personality. Taking from Higgins and Kram’s conceptualization of types of developmental networks, Dougherty, Cheung, and Florea, (2008) have theoretically explored how personality characteristics may play a key role as individual-level influences on the strength of ties and range of developmental networks. In their paper, personality characteristics were chosen based on the possible predictability of people’s degree of proactivity in interactions. From the Big Five Factor Model, 3 factors were identified as potentially relevant predictors: extroversion/introversion, conscientiousness, and openness to experience. As expectable, extroversion can play an important role in shaping developmental networks as it refers to the individual's’ tendency to seek out and enjoy social interaction. Moreover, individuals high in conscientiousness may tend to seek both strong and diverse ties as they are organized, high in achievement striving and persistent and so will likely be selective and chose developers who have access to critical resources. Further, people with high openness to experience may have an inclination to welcome new experiences, interactions and information and could also be inclined to build developmental relationships with developers from diverse backgrounds (Dougherty et al., 2008). Furthermore, 2 more traits were identified as possible predictors:

independent/interdependent self-construal and core self-evaluations. The former is rooted in the coexisting human needs for autonomy and belongingness. Thus, it was proposed that individuals with an independent self-construal would seek weak ties due to viewing themselves as stable and separate from others, whereas individuals with interdependent self-construal would seek strong ties due to viewing themselves as flexible, context-dependent, and connected with others. The latter trait encompasses levels of self-worth, locus of control, self-efficacy and neuroticism, and it was proposed that high levels of core self-evaluations would be positively related to seeking diverse networks (Dougherty et al., 2008). Even though these propositions have yet to be empirically examined, they offer relevant views that may help stimulate thinking on the potential role of personality characteristics in individuals' forming of different developmental network structures. Since proactivity has been previously shown to be positively related to the amount of mentoring received, by a meta-analysis from Ghosh (2014), and all proposed relations were justified based on the predictability of people's degree of proactivity in interactions, this study will take advantage of this theoretical contribution to partly define its own empirical contribution. Nonetheless, it is important to notice one empirical study that has explored associations between big 5 personality factors and the amount of informal mentoring received (Bozionelos, Bozionelos, Polychroniou, & Kostopoulos, 2014). Its findings demonstrated a positive linear relationship for both emotional stability (neuroticism) and conscientiousness with mentoring receipt. On the other hand, the association of openness to experience and agreeableness with mentoring receipt was of inverted U-shape, meaning that its benefits ceased to exist at high values of these traits. Furthermore, another empirical study that also focused on the big 5 personality factors, has explored associations with relationship closeness, which has also been named tie strength. Its findings suggested that conscientiousness, extraversion, agreeableness and neuroticism were positively related to relationship intimacy which would then have a positive relation to psychosocial and career assistance (Wu, Foo, & Turban, 2008). Additionally, a paper from Chandler, Hall, and Kram (2010) identified that relational competence may help people form large, diverse networks. It looks that relational savvy individuals are highly proactive in seeking out others' support, manage their interactions with care and have outstanding social skills. For example, an empirical study verified that expatriates with strong relational competencies tend to initiate and cultivate new mutually beneficial relationships more easily and can guarantee higher career and psychological support in their developmental networks (Shen, 2010).

Demographic characteristics. A meta-analysis on gender differences in mentoring from O'Brien, Biga, Kessler, & Allen (2010) indicated that mentors' and protégés' gender is likely to influence the type and quality of support in mentoring relationships. Whereas male protégés report receiving less psychosocial support than female protégés, they are more likely to serve as mentors than females and report giving more career development. However, the extent that differences in reported mentoring are a function of true differences in mentoring is unknown. Moreover, following similarity-attraction theory, which states that people are attracted to similar others, Higgins, Chandler, & Kram (2007) suggested that gender, age and socioeconomic status may impact the structure of developmental networks people are likely to create. However, the effect of similarity regarding gender remains hard to understand as some studies show a positive relation between gender similarity and levels of mentoring functions while others show otherwise (Ghosh, 2014).

1.5.2. Environmental Influences

Studies on the environmental influences are still quite limited. Higgins and Kram (2001), had initially expected that the organizational context, the industry context and task requirements would be antecedents of the structure of developmental networks. For example, in the organizational context, implicit values and norms that shape the individual behavior may affect an individual's opportunities and constraints. Further, since developmental networks include both intraorganizational and interorganizational developers, individuals who are working in dynamic industries or on tasks that include extra-organizational activities, as engaging with clients, will normally encounter a greater variety of potential developers (Higgins & Kram, 2001).

More recently, a study from Lee (2017) verified this proposition of the organizational context as an antecedent. Adhocracy culture, defined by a flexible and entrepreneurial environment, was positively associated with range, tie strength and network size, while market culture, defined by a focus on stability and control, was negatively associated with tie strength. Moreover, service firms have a positive relationship with network range and tie strength.

In the case of expatriates, organizational culture, relocation support, and characteristics of the host country can affect developmental networks' structure and content (Shen, 2010). For instance, results of this study suggested that a strong developmental culture is positively associated with a high percentage of intra-organizational developers.

2. Attachment Theory

Attachment theory has become one of the most influential theoretical approaches for studying close relationships across the lifespan (Finkel & Simpson, 2015; Cassidy & Shaver, 2016) and the influence of this theory on organizational scholarship is growing exponentially (Yip, Ehrhardt, Black, & Walker 2017).

2.1. Foundational Attachment Theory

Attachment theory was first conceptualized by Bowlby (1979: 127) to examine how and why people seek (or avoid) close relationships due to "*the propensity of human beings to make strong affectional bonds to particular others*". He hypothesized that individuals are born with an innate desire to seek proximity to others in times of need or distress to enhance their survival prospects.

When originally developed, the theory was based on the study of early childhood relationships and the emotional bonds of children with their primary caregivers. These caregivers were thought to offer a "*safe haven*" in times of distress and infants would approach them for protection, comfort and support in emotion regulation. In situations where the "*attachment figures*" are not reliably available and supportive, it is built a sense of distrust on the effectiveness of pursuing proximity to others. This lack of a stable sense of security can develop into hyperactivation of the attachment behavioral system, with anxious and intrusive efforts to receive more attention, or deactivation, with avoidance of support-seeking and "*compulsive self-reliance*".

With time, the initial expectations and positive/negative experiences in these early attachment relationships shape our "*internal working models*" and become the basis for how we perceive and interpret close relationships across the lifespan (Bowlby, 1982; Frías, Shaver and Mikulincer, 2015).

2.2. Attachment Styles

As mentioned above, our early attachment relationship experiences are the basis for our working models, the cognitive-affective representations of the self and others in relationships, which are also called attachment styles. Attachment styles reflect 2 working models: a

working model of the self, which is represented by a person's belief of self-worth in receiving support; and a working model of others, represented by a person's belief regarding the accessibility and availability of other people in times of need (Mikulincer & Shaver, 2007). However, it is important to mention that scholars recognize the possibility that various stimuli can also activate short-term attachment states, influencing behaviors which are unrelated to the more general attachment style. (Mikulincer, Gillath, & Shaver, 2002).

The first model of attachment styles was developed by Ainsworth, Blehar, Waters, and Wall (1978), which identified anxious, avoidant and secure as the 3 styles of attachment. Having a secure attachment style is associated with higher levels of emotional stability and positive views of the self and others, by having the belief that others will be available and supportive when necessary. In contrast, anxious attachment refers to *“the extent to which a person worries that others will not be available in times of need and anxiously seeks for their love and care”* and avoidant attachment refers to *“the extent to which a person distrusts others' good will and defensively strives to maintain behavioral and emotional independence”* (Mikulincer & Shaver, 2015: 18).

Although the original three-component model of attachment styles developed by Ainsworth et al. (1978) remains the most popular among researchers of adult attachment (Yip et al., 2017), Bartholomew & Horowitz (1991) have proposed an alternative four-category model based on combinations of a person's self-image (positive or negative) and image of others (positive or negative) composed by: secure (positive self-image , positive image of others), dismissing/avoidant (positive self-image, negative image of others), preoccupied/anxious (negative self-image, positive image of others), and fearful (negative self-image, negative image of others) attachment styles. This latter model has been applied to workplace contexts by several researchers (Yip et al, 2017) and its applications will be further detailed in the empirical study of this paper.

Indeed, as previously mentioned, early attachment styles have been shown to impact adult attachment relationships. Although the majority of prior research on adult attachment has been focused on romantic relationships, there is already evidence that similar attachment dynamics can be found in other types of relationships as in organizational relationships (Harms, 2011; Yip et al., 2017).

2.3. Attachment in the Workplace

As stated above, research on adult attachment has found similar attachment patterns in organizational settings, which include relationships with leaders, coworkers, mentors, and the organization as sources of social support and membership (Yip et al., 2017).

In the next paragraphs, we will address work-related outcomes of employees' attachment styles and the influence on the two salient types of dyadic work relationships where research on attachment theory has had a substantive contribution: leader–follower relationships and mentoring relationships.

2.3.1. Work Attitudes

Job Satisfaction. A research by Hazan and Shaver (1990) was among the first to explore the effects of the employee's attachment styles in the workplace. Part of their research was specifically focused on the satisfaction with several workplace aspects. Their study verified that employees with secure attachment styles report higher satisfaction with most aspects as job security, recognition, coworkers, learning, advancement, challenge, etc. More recently, and consistent with these findings, other studies have found that both insecure attachment styles are negatively related to job satisfaction (Lopez & Ramos, 2016; Dahling and Librizzi, 2015)

Organizational Commitment. Research has shown that some attachment styles relate differently to the distinct commitment dimensions. According to the study from Scrima, Di Stefano, Guarnaccia, and Lorito (2015: 433), employees with secure attachment had higher affective commitment (*“identification with, involvement in, and emotional attachment to an organization”*) than avoidant and anxious workers. Whereas, in the case of normative commitment (*“feeling of loyalty toward the organization based on a perceived obligation to be loyal”*), was higher for avoidant than for secure and anxious workers. Finally, continuance commitment (*“maintain one's membership of the organization based on recognition of the costs associated with departure”*) was higher in anxious than in secure and avoidant individuals. Another study from Schmidt (2016) concluded that both insecure attachment styles tend to perceive higher levels of psychological contract breach. While this is usually associated negatively with organizational commitment, in his study only anxious individuals had psychological contract breach significantly mediating the relationship with affective organizational commitment.

Turnover Intentions. A study from Tziner, Ben-David, Oren and Sharoni (2014) found that avoidant and anxious employees have higher levels of turnover intentions. However, anxiously attached individuals were found to be more prone to it. This finding is in line with the research from Richards and Schat (2011: 179) where it was concluded that “*anxious individuals tend to display dysfunctional interaction patterns by being less likely to display pro-social behavior and more likely to think about quitting their job*”.

Well-being. The research mentioned above from Hazan and Shaver (1990) also revealed that people with secure attachment style are less prone to report hostile outbursts in the workplace, feelings of depression, loneliness and anxiety and psychosomatic and physical illnesses. Secure individuals usually generate more secure, supportive and healthy relationships with coworkers, whereas insecure attachment is linked to higher work stress and burnout (Lopez & Ramos, 2016; Littman-Ovadia, Oren & Lavy, 2013; Pines, 2004). For avoidant individuals, this can be explained by their lower levels of emotional support-seeking (Richards and Schat, 2011) and inability to disengage from negative emotions (Gillath, Bunge, Shaver, Wendelken & Mikulincer, 2005). Whereas for anxious individuals, it can be justified by the highly emotional worrying about relationship loss and social rejection. (Gillath et al., 2005).

2.3.2. Work Behaviors

Moral Judgement, Ethical Decision Making and Organizational Citizenship Behavior. Refining our understanding of insecure attachment, Koleva, Selterman, Iyer, Ditto, and Graham (2013) identified that avoidance and anxiety have distinct moral profiles. They concluded that high attachment avoidance predicted weaker moral concern for harm and unfairness which was mediated by low empathic concerns and disgust sensitivity. In addition, Chopik (2015) found evidence that attachment avoidance was associated with more unethical workplace decisions, but that this relationship was mediated by emotional exhaustion. Moreover, some studies showed that secure attachment is positively related to organizational citizenship behaviors (OCBs), while avoidant attachment is positively related to deviance behavior (Desivilya, Sabag, & Ashton, 2006; Little, Nelson, Wallace, & Johnson, 2011).

Work-Family Interface. Sumer and Knight (2001) identified individual differences in work-family spillover with different attachment styles. Securely attached people tended to experience more positive spillover between work and family, while individuals with anxious attachment style were more likely to experience negative spillover than others. This conclusion was suggested to be explained by the fact that anxious people focus obsessively on

their close relationships, and so have a hard time in maintaining boundaries and not bringing the problems to the work domain. These findings are aligned with the prior research from Hazan and Shaver (1990) where securely attached individuals were less likely to report that work was interfering with their home life. Additionally, insecurely attached individuals were more likely to mention that their work was more important than their home-life to their overall happiness.

2.3.3. Dyad Relationships

2.3.3.1. Leader–Follower Relationships

In organizational settings, the leader-follower relationship is the dyad relationship with more extensive research related with attachment theory (Yip et al. 2017). Having this in mind, exploring them gives us a better understanding of the impact of the attachment theory in the work relationships in general and insights on how attachment styles may impact other types of dyad relationships.

In this type of dyad relationship, research has highlighted that individuals have a need for “*felt security*” and have similar support seeking dynamics as in attachment theory (Hudson, 2013; Yip et al. 2017). This means that followers who receive inconsistent support from the leader may display avoidance, by distancing themselves from leaders, or anxiety, by manifesting attention-seeking behaviors, which results in counterproductive work (Yip et al. 2017). Moreover, research reveals that the attachment needs of followers are projected onto leaders and can bias their perceptions when evaluating leader behaviors (Yip et al., 2017). For example, a study from Hansbrough, (2012) found that individuals with high anxiety attachment identify transformational leadership even in leaders who do not act transformationally. Likewise, other studies found that avoidant subordinates may be resistant and distrust the leader due to their previous negative relationships (Frazier, Gooty, Little, & Nelson, 2015; Keller, 2003).

In terms of the leader’s attachment style, it has been found to be associated with specific leadership styles. For example, research from Doverspike, Hollis, Justice, and Polomsky (1997) identified that secure leaders express a relational leadership style with a greater concern for followers’ development, and leaders with an avoidant orientation tend to have a task-oriented leadership with a greater focus on rewards and recognition. Another relevant finding is the negative association between avoidant leaders and the follower’s well-being

(Davidovitz, Mikulincer, Shaver, Izsak, & Popper, 2007). However, this relationship is moderated by the follower attachment style, as secure followers do not feel the effect.

2.3.3.2. Mentoring Relationships

More recently, and in line with research on the leader-follower relationship, mentors have also been identified as potentially providing the “*secure base*” and “*safe haven*” that attachment figures are expected to (Wang, Noe, Wang & Greenberger, 2009). The mentoring functions of career support and psychosocial support were suggested to be analogous to these two basic functions (secure base and safe haven) of the attachment system (Wang, et al., 2009). According to a later review, “*the mentor provides encouragement, support and advice when needed and provides the base from which the protégé can explore new behaviors in the work environment, with the assurance that he/she will be comforted and assisted by the mentor when distress is experienced.*” (Wang, Greenberger, Noe & Fan, 2017: 65).

Some studies have already explored how attachment styles are impacting the mentor-protégé relationship. For example, Allen, Shockley, and Poteat (2010) found that anxiety attachment in protégés is negatively associated with feedback seeking and feedback acceptance from mentors, as they may see it as a threat to the self. Further, they also found that in these cases, mentors will end up giving less feedback which decreases protégé productivity. However, it is important to note that a later study from the same researchers concluded that the relationship between protégé anxious attachment style and protégé feedback seeking and feedback acceptance was mediated by protégé’s commitment to the mentoring relationship (Poteat, Shockley & Allen, 2015). Regarding avoidance attachment, a similar negative association with feedback-seeking from mentors may be the case as Richards and Schat (2011) reported that this attachment is associated with lower levels of support seeking in work relationships in general.

Avoidant and anxious individuals have also been shown to have a negative relation with willingness to mentor in the future, regardless of whether they were in the mentor or protégé role, (Wang, Noe, Wang & Greenberger, 2009). Furthermore, Germain (2011) took both mentors’ and protégés’ attachment styles into account and proposed different combinations that may lead to positive relationships. This consideration of the impact of both attachment styles on the relationship quality may be important when matching employees in formal mentoring programs. Aligned with this conceptual study, the theoretical chapter of Wang et al. (2017) proposed that secure-secure mentor-protégé dyads will have the highest

relationship quality, followed by secure-insecure, with insecure-insecure dyads having the lowest relationship quality.

In addition, Wang et al. (2017) also proposed some more outcomes related to attachment theory which go beyond the traditional benefits of mentoring relationships. His proposition stated that the higher the relationship quality, the greater level of exploration, self-esteem, well-being and positive views of self and others, which in turn will positively influence relationship quality (as a feedback loop). However, these propositions have yet to be empirically studied.

Even though most research relating attachment theory with mentoring relationships has been focused on single traditional dyads, some scholars have proposed that it is relevant to extend it to other developmental relationships as peers (Wang et al., 2017) and even to whole developmental networks (Yip, et al. 2017). Having this need in mind, it is the goal of the present study to fill this research need and explore the impact of attachment dimensions on individual developmental networks.

II) Empirical Study

Research described in the previous section has provided important insights on the associations between attachment theory and developmental relationships. As identified, attachment relationships are formed with individuals that can provide a safe haven in times of distress and who can be relied on to encourage and support exploration and new experiences. At the same time, mentors were identified as possible attachment figures and the functions provided by them can be split between several individuals (Trinke & Bartholomew, 1997; Dobrow et al. 2012; Yip et al., 2017). Having this in mind, in the context of multiple mentors/developers, it is reasonable to assume that the attachment dimensions may influence the structure of developmental networks, as they are composed by the several people who provide career and psychosocial support.

Therefore, this study intends to explore how the individual's prevalence of avoidance attachment and anxiety attachment can impact the size, tie strength and range of the developmental network. This empirical study will shed light on a highly probable individual antecedent of developmental networks, contributing to a research gap which will advance the

understanding of the impact of attachment theory in the workplace and on individuals' career development.

According to Wang et al., 2017, attachment theory can provide an explanation to why research has found that mentoring experiences have an effect on the engagement of future mentoring relationships (Wang et al., 2009). Even though research is limited, the proposition that previous negative mentoring experiences are likely to have a negative relation with initiation of future mentoring can be moderated by attachment styles, such that the relation is stronger for insecure individuals (mentor or protégé) than for secure individuals (Wang et al., 2017). This chapter review explained this proposition with the fact that individuals' attachment styles likely affect their interpretation and perception of their social interactions: *“Due to the inherent negative views of self or others, negative experiences likely influenced insecure individuals more than secure individuals and such experiences may be likely to be perceived more negatively and reinforce one's negative views.”* (Wang et al., 2017: 87). Giving an example, when a mentor shows unavailability or breaks a promise, an avoidantly attached protégé would likely interpret this experience to reinforce its belief that other people cannot be trusted, whereas an anxiously attached protégé would likely interpret the same negative experience as one more proof that he or she is not lovable enough and increase its self-doubt leading to fear of establishing new connections. Having these negative views in mind, and the fact that avoidance attachment results in distrust of others and high self-reliance, while anxiety attachment results in highly emotional worrying about relationship loss, it is reasonable to assume that both are negatively related to the size of developmental networks.

H1: Anxiety attachment is negatively related to the size of developmental networks of:

- a) Career-Enhancing Support*
- b) Psychosocial Support*

H2: Avoidance attachment is negatively related to the size of developmental networks of:

- a) Career-Enhancing Support*
- b) Psychosocial Support*

Following Bartholomew & Horowitz's (1991) attachment classification system, a positive model of the self (characteristic of secure and avoidant attachments) should reflect a high self-esteem and so better core-self evaluations. Moreover, as mentioned in the literature

review, high levels of core self-evaluations and self-esteem were hypothesized to be positively related to seeking diverse networks since resources may not be easily available and they will confidently reach out to people outside their immediate work group to fulfill their developmental needs (Dougherty et al., 2008). It was further explained that “*these feelings of being competent, empowered, and confident enable individuals to reach out to a greater range of people*” and “*maintain positive perceptions of their capabilities to mobilize cognitive/motivational resources and take actions to control their relationships with others.*” (Dougherty et al., 2008: 659). In accordance with this hypothesis, and since attachment avoidance is characterized by a positive model of the self, we hypothesize that it is positively related to the range of developmental networks. In essence, even though these individuals distrust others, in a situation where support is necessary, we predict that their high self-esteem would lead them to reach out to others without any inhibition. On the other hand, since attachment anxiety is characterized by a negative model of the self, which reflect lower self-esteem and so lower levels of core-self evaluations, we could simply hypothesize that it is negatively related to the range of developmental networks. Since they have positive views of others, it could also make sense to predict a higher interest in looking out for support with many people. However, we anticipate that the combination of a positive view of others with a low self-esteem could actually result in 2 unsuccessful behaviors. Firstly, it could lead to an exaggerated effort to receive attention, which could push people away. Secondly, it could lead to focusing all the efforts in keeping their current closest relationships and leave behind any others that are not so present in their lives. Therefore, we hypothesize that anxiety attachment is negatively related to the range of developmental networks.

H3: Anxiety attachment is negatively related to the range of developmental networks of:

- a) Career-Enhancing Support*
- b) Psychosocial Support*

H4: Avoidance attachment is positively related to the range of the developmental networks of:

- a) Career-Enhancing Support*
- b) Psychosocial Support*

According to the same research from Dougherty et al., (2008), it was also hypothesized that individuals with an independent self-construal seek weak ties due to viewing themselves as stable and separate from others, whereas individuals with interdependent self-construal seek

strong ties due to viewing themselves as flexible, context-dependent, and connected with others. Since avoidance attachment is characterized by a negative view of others and high self-reliance, we believe that it should reflect an independent self-construal and so we hypothesize it is negatively related to the strength of ties/relationships quality of developmental networks. On the other hand, anxiety attachment is characterized by positive views of others and most probably by an interdependent self-construal. Furthermore, their fear of relationship loss will most likely result in a higher dedication towards their relationships which will make it easier to develop stronger bonds. Therefore, we hypothesize that anxiety attachment is positively related to the strength of ties/relationships quality of developmental networks.

H5: Anxiety attachment is positively related to the strength of ties of developmental networks of:

- a) Career-Enhancing Support*
- b) Psychosocial Support*

H6: Avoidance attachment is negatively related to the strength of ties of developmental networks of:

- a) Career-Enhancing Support*
- b) Psychosocial Support*

3. Methodology

3.1. Sample and Procedure

This cross-sectional study collected data from a medium-sized Portuguese company with 210 employees around 24 offices. All employees from the company were eligible to participate in the study and received an invitation to do so by email. The process of data collection took place for 3 weeks, between the 9th of January 2018 and 1st of February 2018. It was conducted with a survey and distributed by Qualtrics using the mailing list of professional emails of all employees.

To incentivize their engagement and accurate responses, it was expressed the opportunity to receive a short individual report with the relevant results, optionally sent to them by

indicating the personal email address after the completion of the study. To potentiate engagement with the study, after the first email invitation, 2 reminders were sent to the unfinished respondents, together with reminders coming from the HR department of the company.

Furthermore, the survey was not anonymous but communicated strictly confidentiality of the provided responses. Even though the purpose of the study was to analyze ego network data (typically used when sampling unrelated egos from a large population), there was the possibility to also analyze the whole network data and may be an interesting option for future studies (since the data collected came from a specific network of a particular organization. (Brass, 2012)).

From the 210 employees, 137 responded to the survey of which 31 were excluded for being collected with less than 50% of completeness or for lacking accuracy by having invalid data. Accordingly, the final study sample size used for analysis was 106 of which 27% were male and 73% female, which was representative of the population. Participants had an average age of 31.5 (SD = 7.22) and an average of 9.47 working years (SD = 7.35).

3.2. Measures

Translated to Portuguese from its original English version, the survey had a duration of around 20 minutes and included a short introduction with the purpose of explaining the aim of the study and its relevance to the company. In general, the questionnaire had some initial demographic questions, plus the 2 main measures utilized for this thesis (developmental networks and attachment dimensions) and 2 other scales to measure proactive career behaviors from Strauss, Griffin & Parker (2012) and career self-management attitudes from Porter, Woo & Tak (2016), which are not going to be detailed for not being relevant for this analysis.

Developmental Networks

Following the conceptualization of Developmental Networks by Higgins and Kram (2001), in which this study is based, the assessment instrument used was the usual name generator that asks protégés to name people who they consider having an active interest in advancing their career and so they considered being their developers. (Dobrow et al., 2012; Yip & Kram, 2017). Because this process usually elicits four to five people (Higgins, 2001), respondents

could identify a maximum of 10 developers for each function of support identified by Kram (1985): career support and psychosocial support.

Consistent with subsequent research that has encouraged scholars to examine both extraorganizational as well as intraorganizational developmental relationships, it was also requested that respondents identified who these people were in relation to them, by revealing the social arena where they belonged: friend, family, colleague, superior, subordinate, and if from the current organization or a previous one. (Higgins, 2001; Higgins and Thomas, 2001; Murphy and Kram, 2010).

Finally, it was requested to rate each developer on a five-point Likert scale ranging from “Very Little” to “Very Much” based on the intensity of support they considered each developer provided.

In sum, the total number of individuals that the participants listed indicated the “*Network Size*”, while the number of different relationship contexts, to which an individual had ties, indicated the “*Network Range*”. Finally, the five-point rating had the purpose of verifying the quality of the developmental relationships, which to some extent, may be named “*Tie Strength*”. Moreover, it is important to note that the two types of network, “*Career Support*” and “*Psychosocial Support*”, were the starting point for building the assessment and the properties above refer to both types leading to 2 separate identification exercises.

The use of a survey to assess the developmental networks is aligned with the methods used in social network analysis, where, according to Brass (2012), most researchers use questionnaires to obtain self-reports from actors, since is less time-consuming and still a reliable method in this kind of research.

Attachment Dimensions

Conceptually, this study follows Bartholomew & Horowitz’s (1991) four-category attachment classification system, based on combinations of a person's self-image (positive or negative) and image of others (positive or negative).

Earliest measures of adult attachment in organizational settings used a typology approach by asking respondents to choose the description that best represented them (Hazan & Shaver, 1990). However, this approach has been widely substituted by a dimensional approach, after research showed that attachment is something where people vary in degree rather than in kind (Richards & Schat, 2011).

Consistent with this, this study used the shortened version of Brennan's (1998) Experience in Close Relationships scale (ECR) from Wei, Russell, Mallinckrodt & Vogel (2007), which is a self-report survey that assesses adult attachment along 2 continuous dimensions, anxiety and avoidance.

The choice of the used measure for this study was in accordance with the recent review on attachment theory at work from Yip et al. (2017), which stated that both ECR and its shortened version from Wei et al. (2007) have high popularity and sound psychometric properties. Furthermore, since the scale was limited to romantic relationships, the items were adapted using the adaptation of the ECR scale from Richards & Schat (2011), named Experience of Relationships Scale (ERS), which essentially replaced references of "*partner*" with "*others*".

The Wei et al. (2007) short-form of ECR used for this research, is comprised of 12 items, two 6-item subscales measuring the same two dimensions. Responses were provided on a 7-point Likert scale ranging from strongly disagree to strongly agree and sample items are "*I get frustrated if others are not available when I need them.*" (anxiety) and "*I try to avoid getting too close to others*" (avoidance).

Control Variables

Because of the potential impact of demographic and work experience variables, the following variables were included as control variables in further analysis: gender, years of work experience and number of companies where respondents worked. Since we are analyzing the size and range of the networks, the work experience and number of companies where respondents worked will most likely impact these variables, as more senior people with a vast range of experiences were more exposed to a bigger and more diverse amount of people. Moreover, as presented in the literature review, the amount of help provided by developers and so the quality of the relationships may depend on the gender of the protégé (O'Brien et al., 2010).

4. Results

4.1. Exploratory Factor Analysis

Before further analysis, it was performed an exploratory factor analysis in IBM SPSS Statistics Software. In this analysis, it was included the 2 subscales for Attachment Avoidance (6 items) and Attachment Anxiety (6 items). The objective of this step was to validate the empirical distinctiveness of the assessed constructs and to confirm the internal validity of the scale.

Having a strong theoretical basis for the 2 dimensions of attachment, we have pre-selected a 2-factor extraction for this principal component analysis. Table I results suggested that 4 factors should have been extracted represented by the eigenvalues equal or greater to than 1. However, we decided to keep the 2-factor scale that explained 46.2% of total variance, so that the study is in accordance with the previous research and allows for consistent theoretical conclusions.

Table I. Principal Component Analysis: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.485	29.040	29.040	3.485	29.040	29.040
2	2.041	17.012	46.051	2.041	17.012	46.051
3	1.233	10.271	56.323			
4	1.089	9.073	65.396			
5	.856	7.132	72.528			
6	.734	6.118	78.645			
7	.651	5.426	84.071			
8	.516	4.301	88.372			
9	.451	3.757	92.130			
10	.429	3.572	95.702			
11	.331	2.757	98.459			
12	.185	1.541	100.000			

Note. Extraction Method: Principal Component Analysis

In Table II, the final solution of the exploratory factor analysis can be observed. Given the initial results on the Pattern Matrix, several items had to be excluded due to low factor loadings (<0.5) or to not loading on the expected factor as presented on the original short-form of ECR from Wei et al. (2007). An iterative process of excluding items was necessary, and so only the final solution is presented in Table II. The final 2-factor scale explained 83.2% of total variance and its 4 items had high factor loadings, where 3 of them belonged to

the avoidance attachment dimension, and only 1 was part of the anxiety attachment dimension.

In sum, after having confirmed the validity of the avoidance attachment construct with only 3 items ($\alpha = 0.84$), it was computed the final variable to be used in further analysis.

Table II. Final solution of the Exploratory Factor Analysis on attachment dimensions

Component	Factors	
	1	2
Initial Eigenvalues	2.4	1.0
Cumulative %	59.2	83.2
Pattern Matrix		
3. "I am nervous when other people get too close to me." (avoidance)	.90	
2. "I want to get close to others, but I keep pulling back." (avoidance)	.89	.10
5. "I try to avoid getting too close to others." (avoidance)	.83	
10. "I get frustrated if others are not available when I need them." (anxiety)		.99

Note. Method Oblimin with Kaiser Normalization

4.2. Descriptive Analysis and Bivariate Correlations

Descriptive statistics (mean, standard deviation) and bivariate correlations for the study variables are reported in Table III. As mentioned earlier, after the exclusion of 31 respondents, the remaining sample size of the respondents who provided valid answers was 106. This final size of the working sample is sufficient to invoke the Central Limit Theorem ($n \geq 30$) and assume the normality of the distributions.

The descriptive analysis showed a significant number of respondents that reported having 0 or 1 developer for either career support (33%) or psychosocial support (41.5%). Further, around half of the respondents reported having between 2 and 5 developers for both career support (56.6%) and psychosocial support (51%). As such, only a low percentage of respondents identified more than 5 developers (to a maximum of 10) for both career support (10.4%) and psychosocial support (7.5%). This analysis revealed that some of the respondents may have no support at all or simply did not make the effort to complete the exercise, which in that case

could affect negatively the results of this study. On average, the number of developers identified for providing career support ($M=2.92$) was higher than for psychosocial support ($M=2.42$). However, the dispersion of values was also higher for career support ($sd=2.32$) than for psychosocial support ($sd=1.91$), which demonstrates that employees tend to have a smaller network of people which they trust when they are looking for emotional well-being and personal support.

Another result that is worth mentioning is that no one identified its own supervisor as a developer of his own, not even for career support. Furthermore, around half of the respondents reported having developmental networks which were not diversified, meaning that all the developers identified belonged to the same social arena. This may again be due to the low number of developers identified which can represent the reality or a lack of engagement with the survey.

Regarding the strength of support, it is important to mention that almost everyone rated its developers from 3 to 5 creating skewed distributions with a high mean of strength for both career support ($M= 4.4$; $sd=0.69$) and psychosocial support ($M=4.67$; $sd=0.52$). A possible explanation for this phenomenon could be that when doing the exercise respondents remembered more easily their strong ties, and weak ties were left unmentioned. In addition, time pressure at work or survey fatigue could also make respondents to not give much thought into the exercise and include only the top of mind people. To solve the skewed distribution, the variables were normalized by transforming it into 3 categories and only after used for regression analysis.

Finally, both attachment anxiety ($M=3.85$) and attachment avoidance ($M=2.80$) had low means which is in accordance with previous studies where it was identified more than half of the general population as securely attached individuals (Bakermans-Kranenburg & van IJzendoorn, 2009).

When observing the bivariate correlations between variables, it is interesting to notice that the network intensity for career support was positively correlated with gender, meaning that women tend to perceive their developers as providing more career support than men.

Additionally, network size and network range were positively correlated with each other in both types of support, but not with network strength. This may reveal that individuals who have bigger networks or developers from several social arenas, do not necessarily have strong relationships with each.

Regarding the variables of the hypotheses, there were significant correlations only for 3 of them, out of 12. The results indicate that attachment avoidance was significantly associated with both career support network size and range ($r = -.26, p < .01$ and $r = -.33, p < .01$, respectively), whereas attachment anxiety was significantly associated with psychosocial support network range ($r = .29, p < .01$).

In sum, the statistically significant correlations among some of the key variables served well as an empirical justification for the progression with further analyses, with the purpose of testing the proposed hypotheses.

Table III. Means, Standard Deviations and Correlations

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender	1.73	.45												
2. Age	31.54	7.25	-.24*											
3. Organizational Tenure (months)	31.48	38.93	-.08	.45**										
4. Work Experience (years)	8.97	7.42	-.28**	.87**	.32**									
5. Number of Companies Worked	3.73	1.94	-.18	.45**	.02	.43**								
6. Career Support Network Size	2.92	2.33	-.07	-.05	.10	.03	-.04							
7. Career Support Network Strength	4.40	0.69	.23*	-.05	-.01	-.10	-.12	-.01						
8. Career Support Network Range	0.24	0.28	-.05	-.07	.11	.02	.01	.63**	-.03					
9. Psychosocial Support Network Size	2.42	1.91	.06	-.14	.07	-.13	-.05	.57**	-.00	.566**				
10. Psychosocial Support Network Strength	4.67	0.52	.17	-.07	-.03	-.08	.04	.01	.59**	.05	-.03			
11. Psychosocial Support Network Range	0.24	0.26	.03	-.17	.10	-.18	-.07	.38**	-.02	.55**	.63**	.00		
12. Attachment Avoidance	2.80	1.52	.06	-.10	-.12	-.00	-.02	-.26**	-.02	-.33**	-.09	-.11	-.06	
13. Attachment Anxiety	3.85	1.76	-.02	-.03	.06	.04	.02	.10	.03	.03	.16	-.02	.29**	.17

Notes. N=106;

* $p < 0.05$; ** $p < 0.01$ (2-tailed)

4.3. Regression Analysis

Results of the regression analyses related to the hypotheses are shown in Table IV. All the regressions conducted included the 3 control variables: gender, work experience, and number of companies where respondents have worked.

To test H1a and H2a, which presumed a negative effect of both attachment dimensions on career support network size, a linear regression model with the 3 control variables and both attachment styles was analyzed. The results indicated predictive validity of the proposed model ($F=2.376$, $\rho=.05$) and the findings showed that the effects of attachment anxiety were not significant ($\rho>.05$), whereas the effects of attachment avoidance were significant ($\beta=-.55$, $\rho=.00$). In other words, this result reveals that individuals with high attachment avoidance tend to have smaller career support networks. Thus, hypothesis H2a was supported, while H1a was not.

Similarly, to test H1b and H2b, which presumed a negative effect of attachment dimensions on psychosocial network size, an identical regression model was analyzed. However, predictive validity of the model was not achieved ($F=1.492$, $\rho=.201$) and the findings showed that the effects of both attachment avoidance and attachment anxiety were not significant ($\rho>.05$). Thus, hypotheses H1b and H2b were not supported.

To test H3a and H4a, which presumed respectively a negative effect of attachment anxiety and a positive effect of attachment avoidance on the career support network range, we analyzed an identical regression model. The results indicated predictive validity of the proposed model ($F=2.625$, $\rho=.30$) and the findings showed that the effects of attachment anxiety were not significant ($\rho>.05$), whereas the effects of attachment avoidance were significant ($\beta=-.08$, $\rho=.00$). However, our hypothesis H4a had presumed a positive relation between the variables instead of the revealed negative one. Therefore, this result reveals that individuals with high attachment avoidance tend to have less diverse social identities in their career support networks. Thus, hypothesis H3a was not supported, but also hypothesis H4a as it revealed a significant relation but in the opposite direction.

Sequentially, to test H3b and H4b, which presumed respectively a negative effect of attachment anxiety and a positive effect of attachment avoidance on the psychosocial support network range, we analyzed an identical regression model. The results indicated that the predictive validity of the model tends to significance ($F= 2.225$, $\text{Sig.}=.06$) and the findings showed that the effects of attachment avoidance were not significant ($\rho>.05$), whereas the

effects of attachment anxiety were significant ($\beta=.04$, $\rho=.01$). However, similarly to the previous model described, our hypothesis H3b had presumed a negative relation between the variables instead of the revealed positive one. Therefore, this result reveals that individuals with high attachment anxiety tend to have more diverse social identities in their psychosocial support networks. Thus, hypothesis H4b was not supported, but also hypothesis H3b as it revealed a significant relation but in the opposite direction.

Further, to test H5a and H6a, which presumed respectively a positive effect of attachment anxiety and a negative effect of attachment avoidance on the career support network strength, we analyzed again an identical regression model. However, predictive validity of the model was not achieved ($F=.877$, $\rho=.50$) and the findings showed that the effects of both attachment avoidance and attachment anxiety were not significant ($\rho>.05$). Thus, hypotheses H5a and H6a were not supported.

Finally, to test H5b and H6b, which presumed respectively a positive effect of attachment anxiety and a negative effect of attachment avoidance on the psychosocial support network strength, we analyzed again an identical regression model. Similarly, the predictive validity of the model was not achieved ($F=.915$, $\rho=.48$) and the findings showed that the effects of both attachment avoidance and attachment anxiety were not significant ($\rho>.05$). Thus, hypotheses H5b and H6b were also not supported.

Table IV. Regression Coefficients: Predicting Developmental Networks' Characteristics from Avoidance Attachment and Anxiety Attachment

Predictors	Career Support Network Size			Psychosocial Support Network Size			Career Support Network Range			Psychosocial Support Network Range			Career Support Network Strength			Psychosocial Support Network Strength		
	β	ρ	p	β	ρ	p	β	ρ	p	β	ρ	p	β	ρ	p	β	ρ	p
Gender	-.20	.72		.18	.70		.02	.81		.04	.55		.31	.10		.23	.10	
Work Experience (years)	.01	.83		-.04	.17		.00	.79		-.01	.09		.00	.99		-.01	.51	
Number of Companies Worked	-.08	.55		.01	.96		.01	.73		.01	.73		-.03	.47		.03	.33	
Attachment Avoidance	-.55	.00		-.23	.10		-.08	.00		-.02	.27		-.02	.76		-.04	.33	
Attachment Anxiety	.20	.15		.20	.08		.01	.42		.04	.01		.02	.65		-.01	.85	
R-squared	.124			.082			.149			.128			.055			.058		
Adjusted R-squared	.072			.027			.092			.070			-.008			-.005		
F	2.376*			1.492			2.625*			2.225 [†]			.877			.915		

Notes. N = 106. β values are unstandardized regression coefficients.
* $p < 0.05$; [†] $p < 0.1$.

5. Discussion

Research relating attachment theory with mentoring relationships has focused on single traditional dyads. As some scholars have proposed that it is relevant to extend it to other developmental relationships as peers (Wang et al., 2017) and even to whole developmental networks (Yip, et al. 2017), this research intended to fill this gap. To our knowledge, this is the first empirical study to test the impact of attachment theory in individual developmental networks.

Since mentors have been previously identified as possible attachment figures, it was hypothesized that attachment dimensions could also influence the size, tie strength and range of whole developmental networks, as they are composed by the several people who provide career and psychosocial support. In general, the results of this study revealed a rather small impact of attachment styles on developmental networks. A possible explanation for these findings may be related to the adequacy of the measures used, as it will be further detailed in the limitations chapter. However, taking into account attachment theory and previous studies which focus on relationships with close “*significant others*” (e.g. romantic partner, leader), it may be the case that, in overall, attachment loses its relevance when predicting multiple relationships.

Starting with the findings related to attachment avoidance, negative relations with career support network size as well career support network range were verified. This result is in accordance with the high self-reliance and distrust of others representative of avoidance attachment, as well as with the findings of Richards and Schat (2011) which revealed a negative relation between attachment avoidance and levels of support seeking in work relationships in general. However, the impact on network range was the opposite of the predicted. The hypothesis had presumed that people with high avoidance attachment, who are likely to have high self-esteem and positive core self-evaluations, wouldn't restrict themselves when looking for resources and would reach to different people to achieve their goals (Dougherty et al., 2008). However, being very self-reliant could result in not investing the time and dedication necessary for a relationship to evolve into a deeper support-based interaction. Moreover, even if having established developmental connections, they may believe these relations are not intense enough to include them on the name-generator exercise. In sum, our results suggest that individuals with high avoidance attachment tend to receive

less developmental career support, which in turn will probably lead to lower levels of beneficial career outcomes.

Even though it was hypothesized a similar result for the psychosocial support network size and network range, this study did not find significant relations between avoidance attachment and developmental networks of this type. A possible explanation may be the structure of the measurement instrument which had the exercise of psychosocial support placed in second. Potential survey fatigue and a lower willingness to keep identifying more people could then be one reason for results being inconclusive for this type of support. Additionally, each of our hypotheses predicted a similar relation for both career support and psychosocial support, assuming insecure attachment would result in a certain behavior that would be independent of the type of support. However, it is also possible that individuals would behave differently when looking for support like career guidance and coaching, then they would when looking for friendship and personal counseling. However, in the case of attachment avoidance, represented by high distrust of others, it would be surprising if the negative relations found with career support network would not happen for psychosocial support as the latter tends to be more personal and intimate. Thus, further research with a bigger sample is necessary to verify if in fact this relation is non-existent.

Finally, the strength of developmental networks did not reveal any significant relation with both attachment dimensions. Looking at the descriptive statistics, the high mean of intensity of support disclosed a clear common reaction to the exercise. Respondents have only identified the developers with which they have closer relations and higher intensity of support, most probably in an effort of also quickly finish the survey. As it was mentioned in the literature review, people are more likely to remember their strong ties in name generators as they are top of mind. Thus, the alternative roster method, where respondents are asked to select their relationships from a list of all names in the network of interest, may be preferable for future research that may attempt to also tap the weak ties.

Regarding the hypotheses on attachment anxiety, there was a clear challenge with the construct since the beginning, which compromised all possible findings. As explained in the principal component analysis, the original short-form of ECR from Wei et al. (2007) had to be reduced and the anxiety dimension was left with one item, resulting in unverified reliability. Having this into account, the inconclusive results related to these hypotheses are not surprising. Nevertheless, a potential positive relation between anxiety attachment and the

network range of psychosocial support should be considered for future research as a significant result was revealed after regression. Initially, this study had hypothesized a negative relation between these variables, however, it may be reasonable to consider that attachment anxiety, described as high emotional worrying about relationship loss, could result in higher diversification of developmental relationships in an effort to decrease the risk of being left alone. As such, it is a possibility that attachment anxiety is positively related to the range of developmental networks, but further investigation is necessary due to lack of reliability of the construct.

In conclusion, most hypotheses of this study were not verified. Nonetheless, our significant results on avoidance attachment provide support for attachment dimensions as a theoretical foundation for understanding some differences in individual developmental networks. In accordance with Wang et al. (2017) conceptual model, we still believe that both attachment dimensions may be antecedents of the structure and relationship quality of developmental networks. Many limitations, which will be further developed in next chapters, may have impacted the results of this study and therefore further research is necessary to verify the existence of relations between the constructs.

6. Limitations and Future Directions

The current study provides a foundation for future research and theory building on the impact of attachment dimensions on developmental networks. However, there are some limitations to the present research which should be further detailed while creating the basis for suggestions on future directions.

Firstly, the study was conducted with a sample strictly composed of Portuguese employees which limits its generalization to other cultures. Additionally, the small sample of 106 respondents limits the potential for significant results and may explain why many hypotheses were not confirmed. It is therefore important to conduct similar studies with bigger samples and with different nationalities so that the general validity of the results is confirmed.

Secondly, the measurement instrument had to be translated to Portuguese which may have resulted in some “loss in translation” and misinterpretation of the questions. Further research to validate the scale with a Portuguese version is then necessary. Moreover, the attachment scale used from Wei et al. (2007) was initially built for romantic relationships and had to be adapted for relationships in general, which may have created unclarity in some questions as “I

do not often worry about being abandoned.”. In addition, the attachment scale did not achieve internal validity during PCA and had to be reduced from 12 to 4 items which likely influenced the inconclusiveness of some analysis. Hence, it is advisable that the full scale of ECR is used for future studies.

Regarding the assessment of Developmental Networks, it was requested that respondents would mention everyone that gives them developmental support. However, people are more likely to remember their strong ties, so weak ties may be left unmentioned. Time pressure or survey fatigue may also make them lose willingness to put much thought into the exercise and include only the connections that are top of mind. As a result, this does not provide a correct assessment of the size, range and intensity of the networks and people with bigger networks may not be differentiated from others. Accordingly, for future research that aims to also tap weak ties, one recommendation is that developers are selected from a roster of all names in the network of interest. In addition, another option may be to collect data within existing developmental programs which would ensure that participants are engaged with the exercise and have the necessary concentration and focus to answer accurately.

Furthermore, like most research available, this study assumed that people have general trait-like attachment orientations which then may impact many relationships in an individual's network and would be reflected in its structural characteristics. However, it is also likely that a person's orientations can be somewhat different in different relationships which could then limit the impact of attachment theory on developmental networks.

Additionally, for the purpose of this study, the attachment style of developers was not considered, neither the mutuality of each relationship. Nonetheless, it is likely that they have an impact on the intensity and quality of the relationships, thus it is relevant to conduct further studies that include these components.

Since developmental relationships take time to evolve and unfold, it may also be interesting to explore a longitudinal perspective and understand how attachment styles may influence the creation and development of the relationships, and how networks may change over time.

Moreover, qualitative studies would also be useful to provide a more complete understanding of individual views of self and others and how these may lead to different behaviors towards developmental relationships.

Finally, the investigation of mediators will also lead to a better understanding of the reasons behind the differences in the developmental support received. For example, people with different attachment styles may differ in certain behaviors (e.g. proactive career behaviors) which may lead to differences in their developmental networks. Also, moderators may clarify

which conditions affect the strength of these relations, as the organizational culture or other individual characteristics (e.g. age, career stages), and therefore should also be explored in the future.

7. Practical Implications

Having in mind the high impact of developmental networks on employees, which varies from job satisfaction (Higgins, 2000; van Emmerik, 2004), and job performance (Kirchmeyer, 2005), to retention, promotion (Higgins & Thomas, 2001) and many others, it is essential for organizations to increase their understanding of the factors influencing its characteristics. Even though further research is necessary to clarify the varied ways in which both attachment dimensions are impacting the several characteristics of developmental networks, this study is a first step in the direction of a deeper understanding of the significant role that attachment theory plays in the creation and maintenance of work relationships. As research on attachment theory is mainly concerned with how and why individuals establish, develop and maintain relationships, practitioners should be aware that it is central to the creation of social capital and therefore to the success of organizations.

The centrality of attachment dynamics to mentoring and developmental relationships suggests a need for more attachment informed interventions and decisions. Despite the fact that most research supports the idea that people have general trait-like attachment orientations, it is also possible that an individual's orientations can be somewhat different in different relationships. (Wang et al., 2017). Because it is very difficult to change individual's dispositional attachment styles, this acknowledgment allows us to avoid adopting a pessimistic view on people with insecure attachment styles as they may still be able to develop positive mentoring relationships. Thus, practitioners should develop strategies to cultivate high-quality connections.

One possible approach may relate to job design. Because avoidant individuals tend to have smaller and less diverse developmental relationships, organizations may tackle this issue by creating interdependent roles with secure individuals. For example, as proposed by Yip et al. (2017: 12), "*Work environments that are structured to promote interdependence may allow avoidant individuals to receive social support without actively seeking it out and provide anxious individuals an increased sense of belonging.*". Therefore, organizations should take

further attention to creating a positive social environment where positive and reliable social relationships between employees increase trust for avoidantly attached individuals.

Secondly, it will be beneficial to create multiple opportunities for employees to come together with their peers, to coach and support one another in challenges and to increase mutual learning. While formal mentoring programs may be valuable, they are no longer enough for the world's current demands and challenges. Several organizations are now having new initiatives as peer coaching, mentoring circles and learning partners to provide other opportunities for building richer developmental networks (Kram & Higgins, 2009). These interventions are already showing results on employee engagement, faster cycle times in product development, customer satisfaction, and employee retention, demonstrating how the quality of developmental relationships can have a real business impact. (Kram & Higgins, 2009).

Thirdly, it is recommended that training and self-assessments are provided to employees so that they become aware of how their attachment styles have the potential to affect their developmental relationships and consequently their own career.

Finally, fostering a developmental culture that encourages, recognizes and rewards efforts to form high-quality relationships may be essential to make sure that all the organization initiatives have effective results. This means that any intervention made should be supported by adaptation of HR systems and practices so that there is alignment with the intended behaviors. In sum, when creating new programs and policies, practitioners should remember the core principles of leveraging relationships: individuals can improve their developmental networks by increasing self-awareness, being intentional, reaching out proactively, practicing relational skills, seeking mutuality, striving for diversity and periodically reassessing their developmental networks. (Kram & Higgins, 2009).

Conclusion

Research relating attachment theory with mentoring relationships has been focused on single traditional dyads. With the intention of filling a research gap already identified by several scholars (Wang et al., 2017; Yip & Kram, 2017; Yip et al., 2017), this is the first empirical study, to our knowledge, to test the impact of attachment theory in individual developmental networks. Even though further research is necessary to validate several proposed hypotheses, the study findings provide the first link between both theories. Significant results have revealed that individuals with high avoidance attachment tend to have smaller and less diversified developmental networks receiving in general less support, which in turn may lead to lower levels of beneficial career outcomes. Given the important role that developmental relationships play in individuals' career and on organization outcomes as retention, learning and innovation (Dobrow et al., 2012), a better understanding of the impact of attachment theory is then needed.

In sum, we believe this study represents an important step towards a more in-depth understanding of how differences in attachment can influence the amount of developmental support individuals receive, which in turn should guide practitioners' decisions when creating interventions with a relationship-building focus.

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