Networking Behaviors under the Microscope: Examining Networking Actions from Different Perspectives[1]

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Submitted on the 19th of August 2020

Presented and defended publicly on the 14th of October 2020

Archived in January 2021

[1] **DISCLAIMER:** After my dissertation defense, members of my committee strongly suggested that I:

- Add an acknowledgment section thanking some committee members.
- Add references to papers authored by the same committee members, even though they were unrelated to the topic of the dissertation.
- Remove elements highlighting issues in a published paper, on the basis that published papers cannot be criticized.

I think that each of those demands illustrates the ills academia suffers from:

- A culture of deference,
- A disregard for science,
- A work environment that favors secrecy, abusive behaviors, and lack of accountability.

The present version of my dissertation is therefore free of coercive acknowledgement, free of coercive citations, and free of censorship.

Many have marked the speed with which Muad'Dib learned the necessities of Arrakis. The Bene Gesserit, of course, know the basis of this speed. For the others, we can say that Muad'Dib learned rapidly because his first training was in how to learn. And the first lesson of all was the basic trust that he could learn. It is shocking to find how many people do not believe they can learn, and how many more believe learning to be difficult. Muad'Dib knew that every experience carries its lesson.

Dune, Volume I, Chapter 9, Frank Herbert

On a bien souvent évoqué la rapidité avec laquelle Muad'Dib apprit les nécessité d'Arrakis. Les Bene Gesserit, bien sûr, en connaissent la raison. A l'intention des autres, nous pouvons dire ici que Muad'Dib apprit aussi rapidement parce que le premier enseignement qu'il eut reçu était de savoir apprendre. Et la leçon première de cet enseignement était la certitude qu'il pouvait apprendre. Il est troublant de découvrir combien de gens pensent qu'ils ne peuvent apprendre et combien plus encore croient que c'est là chose difficile. Muad'Dib savait que chaque expérience porte en elle sa leçon.

Dune, Volume I, Chapitre 9, Frank Herbert

Abstract

In this dissertation, I examine between-people variations in their engagement in networking behaviors. In particular, I investigate the emotions, cognition, motivations and network properties associated with those networking behaviors.

In chapter one, I challenge the theoretical premises and empirical evidence provided by Casciaro, Gino, and Kouchaki (2014) on the feelings of dirtiness people experience when networking. I then offer a different perspective on the discomfort people feel when networking. Based on the literature on moral emotions, I argue and show that people experience guilt when networking partly because they construe networking as the objectification of others. I also investigate prosocial motives as a potential moderator of the effect, but do not find supporting evidence for this effect.

In chapter two, I examine why women seem to benefit less than men from their networking activities. Based on the literature on gender stereotypes, I argue that certain networking strategies carry a risk to women's image, because of a stereotype painting them as able and willing to use their power of attraction to manipulate men. As such, women could be less likely to engage in actions aimed at deepening and strengthening relationships with their male supervisors for fear that it will reflect negatively on their image. I find that while women do associate more image risk with network-deepening actions when the target is a supervisor of the opposite (rather than same) gender, they are not less likely than men to engage in those actions. I also find that men are less likely than women to engage in network-deepening actions with a colleague of the opposite (rather than same) gender because of the image risk they associate with those actions. Finally, I find women's concerns for their image to be unwarranted: Third parties do not judge women more harshly than men when engaged in networking-deepening actions with supervisors of the opposite gender.

In chapter three, I propose that different motivations (i.e., for power, affiliation, and achievement) could be associated with different networking behaviors (i.e., search, maintenance, and leverage). In turn, I explore how each of those networking behaviors relate to different network properties (i.e., size, diversity, and density). Using data collected from a cohort of EMBA students, I show that motivation for power is positively related to search, and motivation for affiliation is positively related to both search and maintenance, but do not find significant association between motivation for achievement and networking behaviors. In turn, I find that greater engagement in both search and maintenance is associated with larger networks, and greater engagement in maintenance is associated with sparser networks, but do not find significant associations between any type of networking behaviors and network diversity.

Résumé

Dans cette thèse, j'examine les comportements de réseautage, aussi appelé « *networking behaviors* », et plus précisément les variations individuelles en matière d'engagement dans ces comportements. En particulier, j'étudie les émotions, processus cognitifs, motivations et propriétés du réseau associés à ces comportements de réseautage.

Dans un article de recherche publié en 2014, Casciaro, Gino, et Kouchaki expliquaient la réticence des individus à réseauter par le sentiment de « saleté » que les gens éprouveraient quand ils réseautent. Dans le chapitre 1, je remets en cause les prémices théoriques sur lesquelles reposent ces preuves empiriques et apporte un éclairage différent quant à l'inconfort moral qui pourrait empêcher les individus de réseauter. En me basant sur la littérature en psychologie documentant les émotions morales, je montre que les individus peuvent ressentir de la culpabilité quand ils réseautent, en partie parce qu'ils construisent leurs activités de réseautage comme une tentative d'objectification de leurs partenaires. J'examine ensuite comment réduire cet inconfort moral et prédis que réseauter pour le bénéfice d'autrui pourrait jouer un rôle modérateur dans l'expérience de culpabilité ressentie. Je ne trouve cependant pas de preuve confirmant cette hypothèse.

Dans le chapitre 2, j'examine la raison pour laquelle les femmes semblent moins bénéficier de leurs activités de réseautage que les hommes. En me basant sur la littérature documentant les stéréotypes de genre, j'explique comment certaines stratégies de réseautage comportent un risque pour l'image des femmes. En particulier, l'existence d'un stéréotype de genre peignant les femmes comme capables et prêtes à utiliser leur pouvoir de séduction et d'attraction pour manipuler les hommes pourrait présenter un risque réputationnel pour les femmes. En raison de ce stéréotype, les femmes pourraient donc être moins à même de s'engager dans des actions de réseautage visant à renforcer et approfondir leurs relations avec des supérieurs masculins, par crainte que ces actions ne se reflètent négativement sur leur image. Dans une première expérience, je montre que, bien que les femmes associent effectivement plus de risque que les hommes à ces actions de réseautage quand elles visent des supérieurs de sexe opposé, elles ne sont pour autant pas moins susceptibles que les hommes de s'engager dans ces actions. En revanche, les hommes sont moins susceptibles que les femmes de s'engager dans des actions de réseautage quand elles visent à renforcer et approfondir les liens avec des collègues du sexe opposé. Les hommes semblent en effet associer à ce type d'actions un risque pour leur image. Finalement, dans une seconde expérience, je montre que les craintes que les femmes associent à ces actions de réseautage ne sont pas nécessairement justifiées : Les tiers observant ce type d'actions ne semblent en effet pas juger les femmes plus durement que les hommes.

Dans le chapitre 3, je tente d'expliquer les variations observées en termes d'engagement dans les comportements de réseautage en examinant les antécédents motivationnels et les conséquences structurelles de ces variations. Plus précisément, je propose un modèle théorique dans lequel différents types de motivations ou besoins (besoin de pouvoir, d'affiliation, et de réalisation) pourraient être associés à différents comportements de réseautage (activité de recherche, de maintien, et d'exploitation des liens), qui pourraient en retour être associés à

différentes propriétés du réseau (taille, diversité, et densité du réseau). A partir de données collectées sur une promotion d'étudiants en programme EMBA, je montre dans un premier temps que le besoin de pouvoir est positivement associé à la recherche de nouvelles relations, que le besoin d'affiliation est positivement associé à la recherche et au maintien de relations, mais que le besoin de réalisation n'est associé à aucun comportement de réseautage. Par ailleurs, je montre dans un second temps que la recherche et le maintien de relations sont positivement associés à la taille du réseau, que le maintien de relations est négativement associé à la densité du réseau, mais qu'aucun comportement de réseautage ne semble être associé à la diversité du réseau.

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GENERAL INTRODUCTION

To understand the contribution of this dissertation to the literature on networking behaviors, one must first consider and understand the broader concept of agency, and how it has been treated in the context of social network research. Agency refers to the possibility that individuals display purpose, creativity, and choice in their social interactions (Bensaou, Galunic, & Jonczyk-Sédès, 2014). It includes the motivation and ability of individuals as well as the actions they take to form relationships, to create beneficial ties or dissolve unprofitable ones, and to shape advantageous network structures (Ahuja, Soda, & Zaheer, 2012).

In the structural approach that has historically dominated social network research, the role of agency in the formation and evolution of social networks has been relegated to the background. From this structural perspective, the position of individuals within networks determines the actions they take (Stevenson & Greenberg, 2000): If this position offers them opportunities, then they are assumed to have the motivation and ability to act upon those opportunities, making agency a mere coincidence with opportunity (Burt, 2012). Opportunity, motivation and actions are thus considered as equivalent constructs (Burt, 1992), which makes the question of "agency" a non-issue: The network structure determines the individual action, and not the other way around. In this stream of research, the emphasis has therefore been placed on the composition, functioning, and consequences of patterns of interactions, with little to no consideration for individuals' attributes, motives, or dispositions (Kilduff & Tsai, 2003).

In parallel to this dominant view however, scholars have repeatedly called for a better understanding of the role of human agency on network dynamics (Ahuja et al., 2012; Bensaou et al., 2014; Borgatti, Mehra, Brass, & Labianca, 2009; Emirbayer, 1997; Emirbayer & Goodwin, 1994; Gulati & Srivastava, 2014; Ibarra, Kilduff, & Tsai, 2005; Shipilov, Labianca, Kalnysh, & Kalnysh, 2014; Vissa, 2012). In particular, a recent and growing interest for the

micro-foundations of networks (i.e., for the principles at the origin of the formation and modification of networks) has not only put the individual back into focus, but has also challenged the absence of agency in social network research (Tasselli, Kilduff, & Menges, 2015). According to this micro-foundational perspective, nodes within the network must be understood as individuals with specific motives, cognition, and personality. Considering those individual attributes may then help explain the actions people take in order to shape their network, and how networks are subsequently shaped by those actions (Tasselli & Kilduff, 2020).While this stream of research acknowledges that network positions can constrain or facilitate individuals' actions (Stevenson & Greenberg, 2000), it also reminds that only individuals (and not networks) have the potential to act (Burt, 2012). A growing body of research has thus investigated the impact of people's attributes such as demographic factors (Ingram & Morris, 2007; Jehn & Mannix, 2001), personality (Fang et al., 2015; Klein, Lim, Saltz, & Mayer, 2004), cognition (Brands & Kilduff, 2014), and organizational roles (Tasselli, 2015) on network positions.

In contrast, the role of networking behaviors as an antecedent of network structure has received less attention (Tasselli & Kilduff, 2020). Networking behaviors refer to proactive and purposeful efforts made by individuals to create, maintain, and leverage relationships that can provide them with valuable resources for their work and career (Bensaou et al., 2014; Forret & Dougherty, 2004; Higgins & Kram, 2001; Higgins & Thomas, 2001; Kram, 1988; Kuwabara, Hildebrand, & Zou, 2018; Wolff & Moser, 2009). Networking behaviors require people to analyze their existing social network in terms of available resources, and to commit their emotional, mental, or physical resources and energy to make those resources accessible through purposeful social interactions (Kuwabara et al., 2018; Van Buren & Hood, 2011). As such, networking excludes (Kuwabara et al., 2018) spontaneous interactions that naturally or effortlessly emerge from social situations with no premeditated purpose or specific intention

(Bourdieu, 1985; Wellman & Berkowitz, 1988), passive interactions that are initiated by others, forced interactions required for the accomplishment of a task, or purely affective interactions, such as friendship, that have no strategic function (Ingram & Zou, 2008).

In spite of early research foray in the area of networking behaviors (Forret & Dougherty, 2001, 2004; Gould & Penley, 1984; Luthans, Hodgetts, & Rosenkrantz, 1988; Michael & Yukl, 1993; Wanberg, Kanfer, & Banas, 2000), the volume and quality of research published on this topic has been limited (the few notable papers are: Bensaou, et al., 2014; Engel, Kaandorp, & Elfring, 2017; Gulati & Srivastava, 2014; Kaandorp, Van Burg, & Karlsson, 2020; Khattab, van Knippenberg, Pieterse, & Hernandez, 2020; Kuwabara et al., 2018; Porter & Woo, 2015; Shipilov et al., 2014; Soda, Tortoriello, & Iorio, 2018; Vissa, 2012; Wolff & Moser, 2009), and networking behaviors can still be described as "the great black box of social network research" (Shipilov, Labianca, Kalnysh, & Kalnysh, 2007, p. 1).

This is perhaps surprising given the importance of networking behaviors for people's careers (Bensaou et al., 2014; Eddleston, Baldridge, & Veiga, 2004; Forret & Dougherty, 2001, 2004; Gould & Penley, 1984; Hwang, Kessler, & Francesco, 2004; Leeman & Whymark, 2001; Luthans, 1988; Luthans et al., 1988; Michael & Yukl, 1993; Shipilov et al., 2007; Sonnenberg, 1990; Vissa, 2012; Wanberg et al., 2000; Wolff & Moser, 2009). While academic research on this topic has been limited, professors have been developing course material to teach students the benefits of networking and how to do so (e.g., de Janasz & Forret, 2008; Friar & Eddleston, 2007; McGinn & Tempest, 2000; Van Buren & Hood, 2011), and writing numerous articles in business outlets to practitioners (a search for "networking" on Harvard Business Review gives more than 5000 results).

The goal of the present dissertation is to continue the exploration of this "black box," and to enrich our theoretical and empirical understanding of networking behaviors. In particular, I am seeking to explain the variance that people display in their engagement in

networking behaviors. Understanding networking implies investigating the impetus that pushes people to network as well as the hurdles that prevent them from doing so. The implicit driver behind people's networking actions is that they anticipate beneficial outcomes which in turn causes actions (Coleman, 1986). The potential advantages people attach to networking may therefore provide incentives to relate to others for personal gain rather than based on liking (Tasselli & Kilduff, 2020). However, the "lure of gain" may not be sufficient to motivate people to network and people may then display variance in their engagement in networking behaviors: People may question the morality of networking (Essay 1), people may fear for their reputation while networking (Essay 2), people may be motivated to engage in some networking behaviors but not others with various downstream consequences on the structure of their network (Essay 3). Across three essays, I examine the emotional, motivational, and cognitive factors that moderate people's engagement in networking behaviors, and investigate the downstream consequences of people's (un)willingness to engage in different networking actions on the structure of their networks.

In the first essay, I test whether people experience discomfort, document the cognitive and emotional experience driving this discomfort, and explore whether this discomfort can be mitigated. I motivate this investigation by re-examining the only paper that has provided causal evidence of a link between networking and moral discomfort (Casciaro, Gino, & Kouchaki, 2014). After reviewing the theoretical and methodological issues that cast doubt on the original conclusions of the paper, I propose and test an alternative model of networking discomfort. This model explains why people experience discomfort when networking (i.e., because they perceive networking as the objectification of others), documents the type of emotions underpinning this discomfort (i.e., guilt, a specific self-conscious moral emotion), and suggests a boundary condition for this discomfort (i.e., whether networking with a prosocial motive alleviates the feeling of guilt by making networking morally acceptable). In a pre-registered experiment, I

confirm that networking triggers guilt through objectification, but do not find evidence that having a prosocial motive when networking mitigates the feelings of guilt. This essay suggests that understanding the way people frame their networking activity and the subsequent moral emotions they experience may help us understand people's reluctance to network.

In the second essay, I examine why women benefit less from their networking actions than men by investigating two sides of the same coin (Fernandez-Mateo & Kaplan, 2018). On the one hand, I examine the supply-side factors, that is how women may steer away from some networking activities for fear of being misjudged. On the other hand, I examine the demand-sides factors, that is the stereotypical expectations and evaluations that people cast on women engaged in some networking activities. Specifically, I suggest that the discrepancy in the benefits men and women receive from their networking activities could stem from women's reluctance to deepen relationships with their (often male) supervisors. Since a specific stereotype (the stereotype of the "temptress" or "seductress") paints women as willing and able to use their charm to manipulate men, I argue that women may fear for their image and renounce potentially beneficial networking actions. In a first pre-registered experiment, I show that while women indeed associate more image risk than men with network-deepening actions directed towards supervisors of the opposite (rather than same) gender, this perceived reputational risk does not translate into a change in their behaviors: Women are as likely as men to engage in those actions. However, and unexpectedly, I find that men are less likely than women to engage in those actions when they are directed towards colleagues of the opposite (rather than same) gender because they perceive those actions as risky for their image. In a second pre-registered experiment, I find no evidence that individuals evaluate women differently than men when they are both engaged in network-deepening actions with a supervisor of the opposite (rather than same) gender.

In the third essay, I examine the extent to which people are willing to search, maintain, and/or leverage relationships in order to satisfy their needs, and the subsequent impact of those various networking behaviors on network structure (Kilduff & Lee, 2020; Tasselli & Kilduff, 2020). More precisely, I first investigate how different motivations (i.e., for power, affiliation, and achievement) may account for the variance in the engagement in those different type of networking behaviors (i.e., search, maintenance, and leverage), and then investigate whether those various networking behaviors are associated to specific properties of the network (i.e., size, diversity, and density). Based on data collected from a cohort of Executive MBA students, I find a positive association between motivation for power and search activities, as well as a positive association between motivation for affiliation and both search and maintenance activities, but no association between motivation for achievement and any of the three networking behaviors. I then find a positive association between both search and maintenance activities and network size, as well as a negative association between maintenance activities and network density, but no association between network diversity and any of the three networking behaviors.

CHAPTER I: Does Networking Make People Feel "Dirty"? Explaining People's Reluctance to Network through the Cognitive Frame and Moral Emotions they Associate with Networking Actions

Abstract. Casciaro, Gino, and Kouchaki (2014, hereafter CGK) have proposed that people view networking actions as morally impure and therefore feel dirty when doing so, which in turn triggers a need for cleansing. In the present paper, I challenge the theoretical premise and empirical evidence presented in CGK. I first argue that the core concept of the paper (i.e., moral purity) lacks theoretical grounds and construct validity, and highlight several methodological issues that threaten the original conclusions. I then offer a different perspective on the discomfort people experience when networking. Referring to the literature on moral emotions and networking, I argue that people experience guilt when networking partly because they construe networking as the objectification of others and find support for this account in a pre-registered experiment. I finally investigate the moderating role of prosocial motives, which are predicted to alleviate feelings of guilt, but do not find evidence that such motives mitigate the guilt people experience when networking.

Keywords: networking, morality, guilt, objectification, self-serving justification, prosocial motivation

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The materials, raw data and code can be found on the OSF: https://osf.io/2hjp9/

INTRODUCTION

Network scholars have called for more research on the antecedents of networks (Brass, Galaskiewicz, Greve, & Tsai, 2004). In particular, they have highlighted the need to better understand the role played by human agency in the shape and evolution of network structure (Ahuja et al., 2012), and to study how people network, that is instrumentally build, maintain and leverage relationships with others (Bensaou et al., 2014; Shipilov et al., 2014; Vissa, 2012).

The literature on networking behaviors has first highlighted the numerous benefits of networking. Networking fosters career success (Eddleston et al., 2004; Forret & Dougherty, 2001; Hwang et al., 2004), either directly through promotion, and salary progression (Forret & Dougherty, 2004; Gould & Penley, 1984; Luthans, 1988; Luthans et al., 1988; Michael & Yukl, 1993; Wolff & Moser, 2009), or indirectly by helping people reach better positions in their network (Bensaou et al., 2014; Shipilov et al., 2014). It improves learning and knowledge acquisition (Leeman & Whymark, 2001; Sonnenberg, 1990), helps entrepreneurs strike deals (Vissa, 2012), and helps people get jobs (Wanberg et al., 2000).

However, this literature has also documented a paradox: Even when people acknowledge the benefits of networking, they appear reluctant to engage in those behaviors (Kuwabara et al., 2018). An oft-mentioned explanation to this paradox is that people intrinsically dislike networking. For instance, descriptive studies have suggested that people have negative attitudes toward networking, particularly toward the morality of networking, which subsequently prevent them from undertaking such activity (Bensaou et al., 2014; Kuwabara et al., 2018). Those studies also suggest that people find the idea of networking uncomfortable or intimidating (de Janasz & Forret, 2008; Ferrazzi, 2005; Wanberg et al., 2000); see networking as selfish (Trefalt, 2014), or unfair (de Janasz & Forret, 2008); and associate

networking with being “fake”, “artificial”, or “manipulative” (Bensaou et al., 2014; Kuwabara et al., 2018), which may in turn reduce their engagement in networking activity.

So far, a single paper has provided causal evidence that networking triggers a change in people’s psychological state. Indeed, Casciaro, Gino and Kouchaki (hereafter CGK, 2014) have presented two studies claiming causal evidence that networking triggers “moral impurity,” which manifests itself through feelings of “dirtiness” and the heightened accessibility of cleansing-related concepts. To help people overcome their reluctance to network, a first solution would therefore be to extent the theoretical model proposed in CGK. However, a closer look at the paper casts doubts on the possibility to extend the model, and on its ability to explain people’s reluctance to network. In the following sections, I challenge CGK’s conclusion on both theoretical and methodological grounds. I first discuss the origin of “moral purity” as a concept and show that it lacks a formal definition, and therefore construct and measurement validity. I then highlight key issues in the operationalization of networking actions in CGK’s experiments.

Considering those issues, I then offer a model of networking discomfort grounded in the literature on moral emotions. More precisely, I explore the cognitive frame people use to make sense of their networking actions (Snow, Rochford, Worden, & Benford, 1986) and its downstream consequence in term of moral emotion. I argue that since people frame networking as an activity in which others are seen as means to an end, they consider networking as a form of objectification of others (Orehek & Weaverling, 2017). Insofar as this objectification violates the moral imperative according to which people should not be considered as objects that can be used to satisfy personal ends, I argue that people who network experience guilt, a specific self-conscious moral emotion experienced when people engage in a behavior that violates moral rules and affects others’ well-being (Haidt, 2003; Tangney, Stuewig, & Mashek, 2007).

With a better understanding of the negative emotions that networking triggers, and of the mechanism leading to those emotions, I finally propose a boundary condition to this relationship. Since guilt is an other-oriented emotion that facilitates perspective-taking and empathic processes (Tangney et al., 2007), to mitigate the level of guilt experienced when networking, individuals could need a self-serving justification (Shalvi, Gino, Barkan, & Ayal, 2015) in which the welfare of others is considered. I then argue that networking for prosocial motives (Bolino & Grant, 2016) could provide individuals with such self-serving justification, and make networking morally acceptable by justifying the objectification of others, thereby reducing the guilt that people experience.

In sum, the goal of the present paper is to answer three research questions: Do people experience discomfort when networking and why? What is the exact emotion associated with this discomfort? And can this discomfort be mitigated?

THEORY

Past research has tried to explain why people are reluctant to engage in networking despite the numerous benefits of doing so, mainly by describing what people feel or think about networking. A general conclusion is that people hold negative views of networking activities: People often describe networking as "uncomfortable," "awkward," "humiliating," "threatening," "intimidating," "unfair," "inappropriate," "illegitimate," "presumptuous," "unnatural," "insincere," "dishonest," "fake," "artificial," "manipulative," or "selfish" (Bensaou et al., 2014; de Janasz & Forret, 2008; Ferrazzi, 2005; Ibarra, 2016; Ibarra, Carter, & Silva, 2010; Trefalt, 2014; Wanberg et al., 2000).

While those labels suggest that people dislike networking, they do not tell us about the specific emotions that people could experience when networking and why they would experience them. Beyond the theoretical interest of investigating the discomfort that arise when

people network, understanding the nature of this discomfort is a necessary condition to implement mitigation strategies, and offer remedies to help people overcome their aversion to network. However, scant empirical evidence has been offered to show the causal effect of networking behaviors on discomfort. To the best of my knowledge, a single paper (CGK) made this theoretical and empirical effort.

Evidence linking Networking to Moral Impurity

In CGK, the authors argue that people engaged in networking actions will experience "moral impurity," which translates into feeling "dirty" and experiencing a desire for "cleansing." More precisely, they argue that, because networking is motivated by the satisfaction of personal interests with little to no concern for others, people engaged in such activity will experience a moral contamination and therefore feel morally impure.

Given that this paper offers the only causal evidence linking networking actions to specific changes in people's psychological states, it is first important to evaluate the soundness of the theoretical framework and empirical evidence it provides.

What is Moral Purity?

CGK proposes that the psychological mechanism that underlies networking discomfort is "moral impurity." They define moral purity as "a psychological state that results from viewing the self as clean from a moral standpoint" (p. 705), and "moral impurity" as the state of feeling "psychologically dirty" which then elicits a need for physical cleansing. From this perspective, networking actions, because of their perceived immorality, are morally threatening for the initiator of such actions, which subsequently triggers feelings of dirtiness, and in turn increases people's need for cleansing.

The concept of moral purity, and its downstream consequences on people's need for physical cleansing, hinge upon a small number of papers (Lee & Schwarz, 2010; Schnall,

Benton, & Harvey, 2008; Zhong & Liljenquist, 2006) that have claimed a psychological connection between moral integrity and physical cleansing. This psychological connection is called the Macbeth effect, and situates itself in a stream of the literature in psychology that has claimed metaphorical links between bodily sensations and cognitions/emotions.[2] In a seminal paper, Zhong and Liljenquist (2006) provided evidence that recalling or witnessing immoral actions (e.g., sabotaging a co-worker) activates a need for physical cleansing. Other follow-up papers (Lee & Schwarz, 2010; Schnall et al., 2008) have claimed a similar association. For example, Lee and Schwarz (2010) have shown that participants who lied with malevolent intentions (i.e., to hurt someone else's career) were willing to pay more for a mouthwash or a hand sanitizer. Similarly, Schnall, Benton, and Harvey (2008) have shown that physical cleansing reduces the severity of moral judgment: Participants judge moral transgressions (e.g., eating one's dead dog, switching the tracks of a trolley to kill one workman instead of five, keeping money inside a found wallet, killing a plane crash survivor to avoid starvation, putting false information on a résumé, and using a kitten for sexual arousal) as less serious when they have been primed with concepts related to cleanliness first.

However, a recent re-analysis of the effects examined in those papers suggests that the results were driven by selective reporting (Ropovik, Sparacio, & Ijzerman, 2020). Further, direct replications of the effects have since repeatedly failed to replicate. For example, several large-scale replications of the relationship between moral threat and desire for cleansing (Earp, Everett, Madva, & Hamlin, 2014; Fayard, Bassi, Bernstein, & Robert!s, 2009; Gámez, Díaz, & Marrero, 2011; Johnson, Cheung, & Donnellan, 2014) have failed to replicate the original effect (Zhong & Liljenquist, 2006) as well as its downstream consequences (Schnall et al., 2008), and

[2] It is worth noting that many of the foundational effects claiming metaphorical connections between bodily sensations and cognitive or emotional states have failed to replicate (Chabris, Heck, Mandart, Benjamin, & Simons, 2018; Doyen, Klein, Pichon, & Cleeremans, 2012; Goldhill, 2019; Michigan State University, 2017; Skibba, 2016).

a meta-analysis of eleven studies that did not involve the original authors of those effects has found no effect (Siev, Zuckerman, & Siev, 2018).

Taken together, those findings suggest that there is no discernable association between moral integrity and physical cleanliness and therefore no evidence for the Macbeth effect. As such, the concept of "moral purity", that is assumed to capture the psychological connection between physical cleanliness and moral integrity, appears to lack psychological underpinnings.[3]

Measuring Moral Impurity

In addition to the theoretical issues highlighted above, the measures of "moral impurity" offered in CGK appear problematic for multiple reasons. In study 1 first, the authors rely on the original word-completion task that Zhong and Liljenquist (2006) have used to claim a link between moral integrity and physical cleanliness. Based on this previous finding, they propose to measure the feelings of "moral impurity" induced by networking actions through the mental accessibility of cleansing-related words (Zhong & Liljenquist, 2006).

This indirect measure is problematic for at least three reasons. First, measures of association are, by definition, less sensitive to changes in the level of the construct than direct measures. To identify if a person is a man or a woman, for example, it is better to directly ask them (a direct measure) than to infer their gender from their height or weight (an indirect measure). The same logic applies to the accessibility of cleansing-related words as a measure of "moral impurity."

Second, as mentioned in the previous section, the original link between moral threats and accessibility of cleansing-related words has been documented for strong moral threats. From this perspective, it is unclear whether a much milder violation (i.e., engaging in

[3] Additional reflections on CGK's theory can be found in the Appendix.

networking) would have a comparable impact, thereby reducing the likelihood of finding a significant effect.

Finally, and as mentioned earlier, all pre-registered investigations of the Macbeth effect (i.e., the psychological connection between moral integrity and physical cleansing) have failed to replicate the original effect (Earp et al., 2014; Fayard et al., 2009; Gámez et al., 2011; Johnson et al., 2014). In particular, in a replication study using the specific measure of association of CGK, the authors found no evidence that recalling unethical deeds triggered an increased mental accessibility of cleansing-related concepts (Gámez et al., 2011).

For all those reasons, the magnitude of the changes in the accessibility of cleansing-related words observed in CGK ($d = .71$, $p < .001$) is surprising, and suggests that other mechanisms than moral threats are driving this difference (Simmons, 2020; Simmons, Nelson, & Simonsohn, 2011).

In studies 2 and 3, CGK captures "moral impurity" directly: They ask participants to report dirtiness-related feelings using a Likert scale. To measure this concept, they use a three-item scale in Study 2 ("dirty", "inauthentic", "uncomfortable"), and a four-item scale in study 3 (with the addition of "ashamed"). However, this direct measure of moral impurity raises several questions.

First, it is unclear how the feelings those items refer to map onto the idea of "moral impurity" as defined by the authors. As mentioned earlier, the concept has little precedent in the psychological literature, and seems uniquely defined by the existence of a link between moral integrity and physical cleanliness. From this perspective, it is difficult to see how the items are measuring this association.

Second, the scale is composed of items, such as "ashamed" and "inauthentic", that are known to map onto distinct constructs, and for which established scales exist (state authenticity:

Fleeson & Wilt, 2010; Kernis & Goldman, 2005; and state shame: Izard, 1977; Mosher & White, 1981; Tangney, 1996). On the one hand, authenticity refers to "the degree to which individuals connect with and enact their true selves in various situations" (Deci & Ryan, 1985; Kifer, Heller, Perunovic, & Galinsky, 2013, p. 281). People typically feel authentic in a situation when their enduring propensities (e.g., their attitudes, beliefs, values, or personality) are aligned with their cognition and actions in this situation (Lenton, Bruder, Slabu, & Sedikides, 2013). On the other hand, shame is a self-conscious moral emotion "elicited by the appraisal that there is something wrong or defective with one's core self, generally due to a failure to measure up to standards of morality, aesthetics, or competence" (Haidt, 2003, p. 860). "Shame involves a negative evaluation of the global self" (Tangney et al., 2007, p. 349) which makes this emotion particularly painful for the one experiencing it. Finally, the two constructs are also distinct at face value: A person who feels ashamed would not necessarily feel inauthentic, and vice versa.

The other two items on the scale are equally problematic. Indeed, while "dirty" might be a face-valid measure of moral impurity (although it is unclear if it refers to physical or moral cleanliness), it is again distinct from feelings of shame and inauthenticity. Finally, that networking makes people feel "uncomfortable" is non-specific, as the psychological drivers of "discomfort" are ill-defined.

Finally, the fact that the construct is measured with different items in various studies cast doubts on the psychometric properties of the scale and inflate the likelihood of a Type 1 error (Simmons et al., 2011). For example, Gino, Kouchaki, and Casciaro (2018) report three different scales to measure moral impurity in four different studies (study 1 and 4: "dirty", "tainted", "inauthentic", "ashamed"; study 2: "dirty", "inauthentic", "impure"; study 3: "dirty",

"inauthentic", "ashamed"). Similarly, Gino, Kouchaki, and Galinsky (2015)[4] report another scale to measure the same concept (study 1 and 3: "impure", "dirty", "tainted").

Manipulating Networking

CGK presents two studies providing causal evidence for the impact of networking on moral impurity. However, the way networking is manipulated in those two studies is problematic.

In the first study, CGK primed participants by activating a mental representation of a situation in which they were spontaneously (vs. instrumentally) approaching others for personal (vs. professional) reasons. While such recall tasks can be high in external validity (as long as participants recall real experiences), they are typically lacking in internal validity (since there is no control over the circumstances that participants recall). Here, the differences between conditions that are attributed to networking (vs. spontaneously interacting with people) might reflect other factors. For instance, if people only network when they have a pressing need to, asking them to recall a situation in which they networked would lead them to recall more stressful circumstances, irrespective of the emotions generated by the action of networking itself.

Beyond this issue, the validity of such priming manipulations (in which recalling specific circumstances is expected to lead to downstream consequences on an ostensibly unrelated task) have been heavily debated (Bargh, 2006; Kahneman, 2012). As mentioned above, it is unclear which concepts are being activated by the prime, and how reliable the effects on subsequent behaviors are. In particular, multiple failures to replicate social priming effects suggest that the effects of those manipulations are too small to be reliably detected (Doyen, Klein, Pichon, & Cleeremans, 2012; Harris, Coburn, Rohrer, & Pashler, 2013; Johnson et al.,

[4] In this paper, the authors show that inauthenticity leads to moral impurity, which is confusing: Inauthenticity cannot be both part of the "moral impurity" construct and be an antecedent of it.

2014; Pashler, Coburn, & Harris, 2012; Rivers & Sherman, n.d.; Shanks et al., 2013; Steele, 2014), and that they should not be used as a first-order manipulation, or at least that researchers using such priming manipulations should provide direct pre-registered replications of their own effects (Cesario, 2014).

In the second study, CGK overcomes this issue by using vignettes in which they directly manipulate the type of approach (instrumental vs. spontaneous) as well as the context and content of the interactions (professional vs. personal). However, they do not manipulate those constructs orthogonally: Only two vignettes are used, and participants are assigned either to the Spontaneous-Personal condition or to the Instrumental-Professional condition. Since this design does not uniquely manipulate networking by comparing the spontaneous to the instrumental approach, this comparison is not a discriminant test of networking: The authors cannot tease apart the effect of instrumental (vs. spontaneous) interactions from the impact of the content and setting of the interactions (professional vs. personal).

Given the formal definition of networking behaviors, only the type of approach separates networking actions from non-networking actions. Networking behaviors have been defined as proactive and purposeful efforts made by individuals to create, maintain, and leverage relationships that can provide them with valuable resources for their work and career (Bensaou et al., 2014; Forret & Dougherty, 2004; Higgins & Kram, 2001; Higgins & Thomas, 2001; Kram, 1988; Kuwabara et al., 2018; Wolff & Moser, 2009). Networking behaviors require people to analyze their existing social network in terms of available resources, and to make those resources accessible through purposeful social interactions (Van Buren & Hood, 2011). As such, networking excludes (Kuwabara et al., 2018) spontaneous interactions that naturally emerge from social situations with no premeditated purpose or specific intention (Bourdieu, 1985; Wellman & Berkowitz, 1988), passive interactions that are initiated by others,

forced interactions required for the accomplishment of a task, or purely affective interactions, such as friendship, that have no strategic function (Ingram & Zou, 2008).

On the contrary, the content of the interaction does not allow to distinguish networking from non-networking actions since networking behaviors are likely to bring both personal and professional resources (e.g., when people network to find mentors).

This definition confirms that a valid manipulation of networking should compare strategic social interactions to non-strategic social interactions (e.g., a spontaneous, passive, or forced social interaction), while keeping constant the content of the interactions and the context in which they occur. In study 2, one cannot rule out that the effect is driven by the content and context (professional vs. personal) rather than the type of approach (instrumental vs. spontaneous).

A New Framework on Networking Discomfort

Having documented theoretical and methodological issues in CGK, both in the dependent variable (the concept of "moral impurity") and in the independent variable (the manipulations of "networking"), I return to the original questions that spurred CGK's investigation: Do people feel uncomfortable when networking, and if so why?

To answer these questions, I attempt to build a parsimonious model grounded in established constructs in the domain of moral emotions, and design an experiment testing the causal mechanism as well as the moderating factor proposed in the model.

The Moral Issue in Networking

Past research on networking has brought descriptive evidence that people attach a moral component to networking actions. For instance, Wanberg, Kanfer, and Banas (2000) have shown that people who use their network to find a job may experience embarrassment (a type of moral emotion), which in turn is associated with reduced networking intensity. Similarly,

Bensaou, Galunic, and Jonczyk-Sédès (2014) have shown that the more people question the morality of networking actions, the less they network. Finally, Kuwabara, Hildebrand, and Zou (2018) argue that people may have negative attitude toward the morality of networking that ultimately prevent them from networking.

CGK have also framed networking in moral terms. They argue that networking is mainly motivated by the satisfaction of one's self-interest: People who network are using their relationships to gain personal benefits, with little consideration for the person with whom they are interacting, above and beyond the resources at their disposal. They further argue that since those selfish intentions are clear to the initiator, but not necessarily to the target, a form of deception is attached to networking. As such, they argue that networking actions are inherently selfish and deceptive, and therefore difficult to justify from a moral standpoint (Blum, 1980; Rogers, 1997; Singer, 1995; Williams, 1973).

Those various pieces of evidence describe why people could view networking as immoral. However, they do not make explicit predictions about what exactly in networking actions makes people experience moral discomfort, and which specific emotions underpin this discomfort.

Cognitive Frame of Networking Activities

To understand what exactly individuals judge morally problematic in networking, I explore the way people frame networking behaviors. A cognitive frame is a lens through which individuals view a situation and make sense of it (Goffman, 1974; Snow et al., 1986). It reflects individuals' impression of what is happening (Perry-Smith, 2014). I argue that the cognitive frame people use to make sense of networking actions could explain the emotional discomfort they experience when networking, and in turn their reluctance to do so.

In their qualitative work, Bensaou, Galunic, and Jonczyk-Sédès (2014) reported that people who were the least likely to network typically refused to do so because they saw networking as a means–end relationship. Those people were only willing to network when they had a genuine interest for the person. What seems off-putting in networking is therefore the perception that it involves instrumentality towards people, regardless of their other human qualities (Gruenfeld, Inesi, Magee, & Galinsky, 2008).

From this piece of evidence, I argue that individuals frame networking as an activity in which interactions with others are not primarily driven by a genuine interest for the person, but by the possibility of extracting value from this person and thus satisfy personal interests. As such, networking could be perceived as a form of objectification through which individuals are considered as means that can be used to get personal gains (Bartky, 1990; Calogero, 2013; Fredrickson & Roberts, 1997; Gervais, DiLillo, & McChargue, 2014; Goldenberg, 2013; Gruenfeld et al., 2008; Nussbaum, 1999; Orehek & Weaverling, 2017).

Objectification is a process through which people are treated as objects rather than individuals. More precisely, the individual is considered to be objectified "when a person's body parts or functions are separated from the person, reduced to the status of instruments, or regarded as capable of representing the entire person" (Gervais, Bernard, Klein, & Allen, 2013, p. 2; Bartky, 1990; Fredrickson & Roberts, 1997; Gruenfeld et al., 2008; MacKinnon, 1987; Nussbaum, 1995, 1999). For example, employers may objectify employees by reducing them to their work qualities and to their capacity to do the job (Marx, 1844), and physicians may objectify patients by reducing them to their symptoms and pathologies (Barnard, 2001; Foucault, 1989).

Besides, past research has shown that when others are perceived as facilitating the accomplishment of personal goals, they are considered as "instrumental means" towards goal

pursuit (Orehek, 2017; Orehek & Forest, 2016), and are used as such to accomplish those goals (Feeney, 2004; Fitzsimons & Finkel, 2010, 2011; Fitzsimons, Finkel, & Vandellen, 2015).

Instrumentality is an essential feature of objectification (Gruenfeld et al., 2008; Nussbaum, 1999; Orehek & Weaverling, 2017). When a person is instrumental to someone's else goals, this person becomes a useful and attractive tool used to satisfy one's own purpose (Ferguson & Bargh, 2004; Fitzsimons & Shah, 2008). The targeted person is then perceived, defined, and evaluated based on his or her usefulness to the observer's goals (Orehek & Weaverling, 2017). From this framework, I predict the following relationship:

Hypothesis 1: *People who network (i.e., strategically approach someone) will be more likely to frame their behavior as the objectification of the interaction partner, compared to people who do not network (i.e., spontaneously approach someone).*

Networking is Guilt-Inducing

A direct implication of objectification is that a person may be used, manipulated, or exploited (Orehek & Weaverling, 2017), which is perceived as morally problematic (Nussbaum, 1999). More precisely, the objectification of others violates the moral imperative according to which individuals should not be used (Kant, 1785). Objectifying others is judged immoral because it violates people's dignity by depriving them from their intrinsic value: When individuals are objectified, their value lies in their usefulness, which in turn makes them comparable and substitutable to one another (Orehek & Weaverling, 2017).

More precisely, this objectification implies valuing others from the resources that they can bring, with little to no consideration for their intrinsic value as individuals. This type of calculus is transgressing the idea of incommensurability, or the fact that a value cannot be put on individuals (Fiske & Tetlock, 1997). Unlike objects, which have a subjective value and a price, and can therefore be easily compared and substituted to one another, people have an intrinsic value that makes them irreplaceable and with no equivalent (Kant, 1785; Orehek &

Weaverling, 2017). Entering relationships in a cost-benefit calculus is perceived as morally offensive: "In brief, to compare is to destroy. Merely making explicit the possibility of certain trade-offs weakens, corrupts, and degrades one's moral standing." (Fiske & Tetlock, 1997, p. 256).

I therefore argue that the perceived objectification of the interaction partner makes networking a morally suspect behavior, likely to trigger negative moral emotions, and more particularly guilt.

Guilt is a moral emotion, associated with the interest or welfare of others, and a self-conscious emotion that help individuals navigate the complexities of social situations (Haidt, 2003). This moral emotion operates as "an emotional moral barometer" that provides immediate and salient feedback on individuals' social and moral acceptability (Tangney et al., 2007, p. 347). It is caused by the violation of moral rules and imperatives (Deutsch & Gerard, 1955), particularly when this violation is likely to cause harm or suffering to others (Haidt, 2003).

More precisely, I argue that several characteristics of networking make networking particularly likely to trigger guilt, compared to other self-conscious moral emotions such as shame[5], for the three following reasons:

First, the fact that networking is seen as instrumental, selfish and deceptive suggests that networking will trigger a negative evaluation of the behavior itself rather than of the self. Contrary to shame, guilt involves a negative evaluation of the specific behavior, and not of the

[5] The literature on moral emotions distinguishes two families of moral emotions: the other-condemning moral emotions and the self-conscious moral emotions. The self-conscious moral emotions (guilt, shame, and embarrassment) typically help individuals navigate social situations without triggering the moral condemnation of others (Haidt, 2003). Since I argue that networking is likely to be perceived as a morally problematic behavior, the question is then to know which one of those self-conscious moral emotions those who network experience. More precisely, I focused on the differences between shame and guilt because embarrassment has been shown to be less centrally relevant to the domain of morality than shame and guilt (Tangney, Miller, et al., 1996; Tangney et al., 2007).

entire self (H. Lewis, 1971; M. Lewis, 1995), which also makes guilt a less painful emotion than shame (Tangney et al., 2007).

In addition, networking involves a social interaction between an initiator and a target. I therefore argue that networking will trigger others – rather than self – oriented emotions, and that any moral emotion triggered by networking should reflect concern for others' perspective. Guilt is typically an other-oriented emotion that correlates with perspective-taking and empathy for others, while shame is a self-oriented emotion that correlates with a focus on one's own distress (Leith & Baumeister, 1998; Marschall, 1997; Tangney, Marschall, Rosenberg, Barlow, & Wagner, 1994).

Finally, the observation that people stop networking after experiencing discomfort (Bensaou et al., 2014; Kuwabara et al., 2018; Wanberg et al., 2000) suggests that networking elicits an emotion that motivates corrective actions. Guilt possess an inhibitory function that leads to constructive responses, but not shame (Dearing, Stuewig, & Tangney, 2005; Stuewig & McCloskey, 2005; Tangney, Wagner, Hill-Barlow, Marschall, & Gramzow, 1996): Because guilt facilitates empathic processes, it subsequently motivates people to choose the right action by considering the welfare of others.

I therefore expect that networking will trigger heightened levels of guilt, and that people who network (i.e., approach someone strategically rather than spontaneously) frame their behavior as the objectification of their interaction pattern, which in turn increases their feelings of guilt.

Hypothesis 2a: *People who network (i.e., strategically approach someone) will be more likely to experience guilt compared to people who do not network (i.e., spontaneously approach someone).*

Hypothesis 2b: *The increase in experienced guilt for people who network will be mediated by an increase in the perceived objectification of the interaction partner.*

Self-serving Justification to Network

The model I have proposed so far suggests that networking behaviors are viewed as morally inappropriate. The instrumentality attached to networking could lead people to perceive their networking actions as the objectification of others, which may subsequently elicit guilt among those who undertake those actions.

According to the hypothesized model, people could feel less discomfort when networking when they can morally justify their action. Such self-serving justifications would weaken the misalignment between moral standards and their action, and therefore lead to lower levels of guilt. Indeed, when people perceive they have "good reasons" not to act in accordance with their values, their sense of moral integrity is not affected (Becker, 1998). As such, people are likely to behave in a self-interested, or even immoral, way when they can construct seemingly reasonable explanations allowing them to justify their behavior (Babcock & Loewenstein, 1997; Dawson, Gilovich, & Regan, 2002; Gilovich, 1983; Hastorf & Cantril, 1954; Kunda, 1990; Schweitzer & Hsee, 2002; Shalvi, Dana, Handgraaf, & De Dreu, 2011; Shalvi et al., 2015; Snyder, Kleck, Strenta, & Mentzer, 1979; Zuckerman, 1979).

Self-serving justifications have been defined as a process through which people find reasons to justify their questionable behaviors (Shalvi et al., 2015). These justifications attenuate the moral threat these behaviors raise by making them excusable. This need for justification comes from two psychological premises. First, people strive to maintain a positive self-concept (Allport, 1955; Rosenberg, 1979), that can be threatened when they behave immorally. Second, when people experience or anticipate an ethical dissonance between the way they want to see themselves (i.e., as moral persons) and the way they act (i.e., immorally), they use justifications to reduce this internal conflict (cognitive dissonance theory: Festinger, 1957). Self-serving justifications, by providing people reasons to excuse their misbehaviors, attenuate or even eliminate the threat to their moral self-concept, and therefore enable people

to reconcile two competing motivations: seeing themselves as moral and obtaining valuable resources from questionable behaviors (Aronson, 1969; Harris, Mussen, & Rutherford, 1976; Mazar, Amir, & Ariely, 2008).

Prosocial Motivation as a Self-serving Justification

Since guilt is an other-oriented emotion that facilitates perspective-taking and empathic processes, it subsequently motivates people to take actions through which the welfare of others is considered (Tangney et al., 2007). As such, a self-serving justification considering the needs and interest of others, beyond and above the only interest of the one who networks, could help people networking reduce their guilt feelings.

One of the self-serving justifications people use to justify their misbehaviors is the altruistic motivation (Shalvi et al., 2015): Misbehaviors become morally justifiable when they can benefit others. For instance, people perceive lies as more justified when lies benefit both the self and another person (Erat & Gneezy, 2012). Altruistic justifications can turn unethical deeds into a legitimate course of action if those deeds are perceived as serving a greater good (Shalvi et al., 2015). For example, past research (Conrads, Irlenbusch, Rilke, & Walkowitz, 2013) has shown that, when people privately roll a die and that this roll determines the payoff for the group (vs. for themselves only), people are more likely to lie about the outcome of the roll to inflate the benefit of the group, partly because it allows them to dilute their responsibility. A prosocial motivation can be a moral justification that increases the moral acceptability of the behavior in question, and therefore frees individuals from the guilt triggered by this behavior (Bandura, 1986, 1999; Detert, Treviño, & Sweitzer, 2008).

These findings echo observations made on networking (Casciaro, Gino, & Kouchaki, 2016): When people focus on a higher purpose while networking (e.g., on the collective benefits associated with networking actions) rather than on their personal benefits, they report

experiencing less discomfort, and be more likely to network again. In other words, having a prosocial motivation when networking might moderate the emotional discomfort people experience when doing so by providing them with a self-serving justification.

Prosocial motivation refers to "the desire to expend effort to benefit other people" (Batson, 1987, p. 49; Grant, 2008). It can be a trait or a state. As a temporary psychological state, prosocial motivation involves individuals to be momentarily focused on the goal of promoting and protecting the welfare of others (Batson, 1987; Grant, 2007, 2008). Contrary to a purely altruistic or selfless motivation, a prosocial motivation may involve concern for both others and oneself (Bolino & Grant, 2016).

In this framework, I argue that people who network for prosocial reasons will experience less guilt than people who do so for proself (i.e., purely selfish) reasons. Indeed, a person networking for reasons going above and beyond his or her self-interest, should experience less guilt than a person networking only for his or her own self-interest.

Hypothesis 3a: *The extent to which people experience guilt when networking will be moderated by the extent to which they are prosocially-motivated when networking: The more prosocial their motivation to network, the less guilt they will experience.*

Besides, I do not expect that networking with a prosocial motive will change how people view networking actions: People will still perceive networking as a form of objectification of others. However, objectifying someone to increase the welfare of others might be easier to justify from a moral standpoint than objectifying someone to satisfy one's self-interest. I therefore expect that the objectification of the interaction partner for prosocial motives will be perceived as excusable, reducing subsequent feelings of guilt. The full model is summarized in Figure 1.

Hypothesis 3b: *The pathway between objectification and guilt will be moderated by people's motivation when networking: When people network with a pro-social motive, the link between objectification and feelings of guilt will be weaker than when they network with a proself motive.*

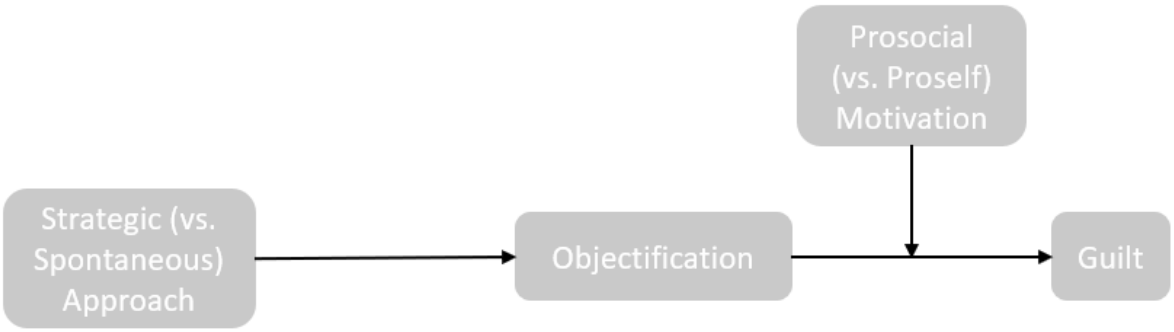

Figure 1. Theoretical Model
Note. Networking (i.e., a strategic approach) will increase guilt through objectification, and this relationship will be mitigated when the person has a prosocial motivation to network.

METHOD

Design and Participants

To investigate the hypotheses formulated above, I conducted a pre-registered[6] experiment. The study used a 2 x 2 between-subject design, manipulating the type of approach (strategic vs. spontaneous) as well as the motivation to network (prosocial vs. proself). The participants were randomly assigned to one of the four-cell between-subject design. All participants read a vignette and were asked to imagine themselves in the situation described. Immediately after reading the vignette, they answered a questionnaire measuring how they would think and feel in the situation described. Finally, comprehension checks, manipulation checks, and demographic questions were included at the end of the questionnaire.

[6] http://aspredicted.org/blind.php?x=76nh6m

I collected responses from 450 participants from an online platform called Prolific in exchange of payment. To improve the validity of the sample, selection criteria previously used in studies investigating networking behaviors (Forret & Dougherty, 2001) were applied, such that all participants were full-time employees (not part-time, not self-employed) in any type of organizations to the exclusion of family business (54% from the UK, 25% from North America, and 21% from continental Europe; 52% female; mean age = 36, *SD* = 9.28; mean work experience = 15 years, *SD* = 9.77).

Experimental Manipulations

Two factors, the type of approach (strategic vs. spontaneous) and the motivation to network (prosocial vs. proself), were manipulated between-subjects in vignettes. Participants had to imagine themselves as an employee working in a company providing with marketing solutions. A friend invited this employee to join a running club. While participating to his/her first run with the club, the employee approached the sales director of a company that could be a future client and started a conversation with him. The vignettes used to manipulate both conditions are reported in the Appendix.

The choice of the social setting (i.e., a running club) matched typical networking settings described in past research. For example, Shipilov and colleagues (2014) talk about "structured foci networking" or networking occurring in "ongoing formal entities that actively and regularly bring individuals together to engage in organized joint activities" (p. 73). Similarly, Forret and Dougherty (2001) describe networking activities such as participating in sport clubs, in community projects, in civic or social groups.

Manipulation of Approach. In the spontaneous approach condition, the employee decides to join the running club because he/she likes running and wants to exercise more. After his/her first run with the club, he/she serendipitously meets the sales director while getting to know the other members of the club better. In the strategic approach condition, the employee

decides to join the running club because he/she realizes that many members of the club are potential clients for the company in which he/she is working. After his/her first run with the club, he/she purposefully and proactively strikes a conversation with the sales director and steers the conversation toward his work.

Manipulation of Motivation. In addition, I manipulated the motivation of the employee as follows: In the prosocial condition, the employee was described as eager to contribute to the success of the department to which he/she belongs by helping it get resources and gain visibility, while in the proself condition, the employee was described as eager to make a career in the company and get visibility to be promoted.

Measures

Comprehension checks. I included three comprehension checks to verify whether participants paid enough attention to the story told in the vignette to which they had been exposed. The pre-registration planned that participants making at least one error would be excluded from the sample prior to analysis. However, preliminary analyses on those three comprehension checks indicated that 38% of participants failed the second question. Given the large number of participants that would then be excluded (193 participants), I decided to relax this criterion and not to consider the responses to this second question. I therefore excluded participants who failed at least one of the two remaining comprehension checks, leading to the exclusion of 52 participants. All analyses and statistics reported are based on the final sample of 398 participants. This final sample had between 95 and 104 participants per condition. The three comprehension checks as well as robustness checks on other possible exclusion criteria are reported in the Appendix. The measures of Objectification and Guilt can also be found in the Appendix.

Manipulation checks. To assess the effectiveness of the manipulations, participants evaluated the main reason for which they joined the running club on a 7-point scale from (1)

To run more regularly to (7) To approach executives from other companies, or (4) For both reasons equally. They then assessed the extent to which they were strategic in the way they approached the sales director with five items graded on a 7-point scale from (1) Strongly disagree to (7) Strongly agree. Finally, I adapted a scale from Rioux and Penner (2001) measuring the importance of proself motives and a scale from Grant (2008) measuring the importance of prosocial motives, and asked participants to assess the importance of those different motives with eight items on a 6-point scale from (1) Not at all important to (6) Extremely important.

Objectification[7]**.** The extent to which participants perceived they objectified the interaction partner was measured with ten items on a 7-point scale from (1) Strongly disagree to (7) Strongly agree by adapting an ad-hoc measure from Gruenfeld, Inesi, Magee, and Galinsky (2008). Examples of items are: "I am treating Peter Myers as a mean to an end", "I think of Peter Myers in terms of how he can be useful to me", "If Peter Myers cannot give me what I want, I will probably not invest in this relationship" (Min = 1.5, *M* = 4.55, Max = 7, *SD* = 1.09, $\alpha = 0.9$).

Guilt. A measure of state guilt was used to capture the "transitory affective state reflecting the immediate psychological consequences of violating moral standards" (Kugler & Jones, 1992, p. 319). State guilt was measured with ten items on a 7-point scale from (1) Strongly disagree to (7) Strongly agree by adapting[8] the scale developed by Jones, Schratter, and Kugler (2000). Examples of items are: "I would regret what I have done in this situation", "I would have felt better if I hadn't done what I did in this situation", "Coming out of this situation, I would feel worried" (Min = 1, *M* = 3.14, Max = 7, *SD* = 1.21, $\alpha = 0.92$).

[7] While some scales have been developed to measure sexual objectification, there is no scale that captures objectification in general. As such, previous papers measuring this construct have created ad-hoc measures (e.g., Andrighetto, Baldissarri, & Volpato, 2017; Belmi & Schroeder, 2020; Gruenfeld et al., 2008).
[8] The ten items were slightly adapted to fit the situation described in the vignette.

Willingness to network. This second depend variable was added as a proxy to capture the likelihood of participants to network as described in the vignette to which they had been exposed. It consisted of a single question asking participants to determine to what extent they would be willing to behave this way, and was rated on a 7-point scale from (1) I would NEVER behave in this way to (7) I would DEFINITELY behave in this way. Since no specific hypothesis was pre-registered about this variable, it was used only in exploratory analyses.

RESULTS

Manipulation Checks

When asked about the main reason for which they joined the running club, participants in the strategic approach condition mostly answered that they joined the running club to approach executives from other companies (M = 6.10, SD = 1.11), while participants in the spontaneous approach condition mostly answered that they joined the running club to run more regularly (M = 1.50, SD = 1.05; $t(396) = 5.48$, $p < .001$). In addition, participants in the strategic approach condition perceived their approach as more strategic (M = 5.15, SD = 0.93) than participants in the spontaneous approach condition (M = 2.73, SD = 1.04; $t(396) = 24.42$, $p < .001$). Similarly, participants in the prosocial condition perceived that they were more prosocially motivated (M = 3.81, SD = 0.74) than participants in the proself condition (M = 3.07, SD = 0.79; $t(396) = 9.68$, $p < .001$). Taken together, those results show that the manipulations were successful. I then proceeded to the main analysis. Descriptive statistics are reported in Table 1.

TABLE 1
Descriptive Statistics:
Mean (SD) and Sample Size per Condition and Dependent Variable

	Spontaneous Approach		Strategic Approach	
	Proself Motivation	Prosocial Motivation	Proself Motivation	Prosocial Motivation
Guilt	2.78 (1.05)	2.77 (1.03)	3.46 (1.29)	3.59 (1.26)
Objectification	4.06 (1)	3.99 (0.91)	5.08 (0.98)	5.14 (0.89)
N	102	104	95	97

Note. Correlation coefficient between Guilt and Objectification = 0.31, p < .001

Test of the Main Effect and the Mediation Effect

Hypothesis 1 predicted that people who network (i.e., strategically vs. spontaneously approach others) would perceive that they objectify their interaction partners more (vs. less). To test this hypothesis, I regressed participants' perceived objectification on the type of approach. This analysis revealed a positive and significant effect of the type of approach on objectification (β = 1.08, t(396) = 11.39, p < .001): Those who networked were indeed more likely to frame their behavior as the objectification of the interaction partner (M = 5.11, SD = 0.93) than those who did not (M = 4.03, SD = 0.96). Hypothesis 1 is therefore supported.

Hypothesis 2a predicted that people who network would experience more guilt than people who do not. To test this hypothesis, I regressed participants' level of guilt on the type of approach. This analysis revealed a positive and significant effect of the type of approach on guilt (β = 0.75, t(396) = 6.45, p < .001): Those who networked were indeed more likely to feel guilt (M = 3.52, SD = 1.27) than those who did not (M = 2.78, SD = 1.03). Hypothesis 2a is therefore supported.

Hypothesis 2b predicted that the previous relationship would be mediated by objectification. More precisely, I predicted that networking (i.e., a strategic approach) would increase the perceived objectification of the interaction partner, leading to increased level of guilt. Hypothesis 1 indicated that the first path of the mediation was significant: Participants in

the strategic approach condition reported greater perception of objectification that participants in the spontaneous approach condition (β = 1.08, $t(396) = 11.39$, $p < .001$). I then regressed guilt on objectification while controlling for the type of approach, and as expected found that a greater level of objectification was indeed associated with stronger feelings of guilt (β = 0.23, $t(395) = 3.76$, $p < .001$).

To test the mediation model, I ran model 4 in PyProcessMacro[9] (André, 2017) and used bootstrap mediation with 5000 random samples and percentile confidence intervals (Caron, 2019; Hayes, 2017; Preacher, Rucker, & Hayes, 2007; Rucker, Preacher, Tormala, & Petty, 2011; Williams & MacKinnon, 2008; Zhao, Lynch, & Chen, 2010). I defined the type of approach as the independent variable, objectification as the mediator, and guilt as the dependent variable. As expected, I found a positive and significant indirect effect of approach on guilt (β = 0.25, Confidence Interval (CI) at 95% = [0.08, 0.43]): The positive impact of approach (strategic vs. spontaneous) on guilt was significantly mediated by the perceived objectification of the interaction partner. Hypothesis 2b is therefore supported. Interestingly, I also found a residual direct effect of approach on guilt (β = 0.5, CI at 95% = [0.24, 0.76]), indicating that objectification does not fully explain the relationship between approach and guilt. This could signal either measurement error in the objectification scale, or that other processes are contributing to feelings of guilt. Results of the linear regressions are reported in Table 2, and those of the mediation analysis are reported in Table 3.

Moderating Role of Prosocial Motivation

Hypothesis 3 predicted a moderation effect of prosocial motivation not only on the main effect (H3a) of approach on guilt, but also on the second path of the mediation effect (H3b) between objectification and guilt. More precisely, because a prosocial motivation would allow

[9] The Python version (https://pypi.org/project/PyProcessMacro/) of PROCESS from Andrew F. Hayes (https://www.processmacro.org/index.html).

those who network to morally justify their behavior, I predicted that such motivation would mitigate the main effect of networking on guilt, as well as the effect of objectification on guilt in the mediation.

To test the first of these hypotheses, I regressed guilt on approach and motivation and on the two-way interaction between those variables. I found no effect of motivation on the relationship between approach and guilt ($\beta_{\text{App}\times\text{Motiv}} = 0.13$, $t(394) = 0.56$, $p = .57$). Hypothesis 3a is therefore not supported. The results of this linear regression are reported in Table 2.

TABLE 2
Linear Regressions

	Dependent variable:			
	Guilt			
	(1)	(2)	(3)	(4)
Approach (strategic = 1)	0.749***	0.503***	0.683***	0.574**
	(0.116)	(0.132)	(0.165)	(0.182)
Objectification		0.227***		0.107
		(0.060)		(0.082)
Motivation (prosocial = 1)			-0.002	-1.039*
			(0.161)	(0.512)
Approach x Motivation			0.131	-0.181
			(0.232)	(0.263)
Objectification x Motivation				0.261*
				(0.121)
Constant	2.776***	1.862***	2.777***	2.343***
	(0.081)	(0.256)	(0.115)	(0.350)
Observations	398	398	398	398
R^2	0.095	0.126	0.097	0.138
Adjusted R^2	0.093	0.122	0.090	0.127
Residual Std. Error	1.157 (df = 396)	1.138 (df = 395)	1.159 (df = 394)	1.135 (df = 392)
F Statistic	41.651*** (df = 1; 396)	28.589*** (df = 2; 395)	14.032*** (df = 3; 394)	12.534*** (df = 5; 392)

Note: +p<0.1; *p<0.05; **p<0.01; ***p<0.001

To test the moderated mediation model, I ran model 15 in PyProcessMacro (André, 2017) and used bootstrap mediation with 5000 random samples and percentile confidence intervals. I defined the type of approach as the independent variable, objectification as the mediator, motivation as the moderator, and guilt as the dependent variable.

The moderated mediation model revealed a significant conditional indirect effect of approach on guilt via objectification when motivation is prosocial (β = 0.40, CI at 95% = [0.22, 0.61]), and a non-significant conditional indirect effect of approach on guilt via objectification when motivation is proself (β = 0.12, CI at 95% = [-0.13, 0.38]). However, those two indirect

effects were not significantly different from each other ($\Delta\beta$ = 0.28, CI at 95% = [-0.01, 0.59]). Hypothesis 3b is therefore not supported. The moderated mediation effects are reported in Table 3.

TABLE 3
Summary of Indirect Effect and Conditional Indirect Effects

Mediated Path		**Indirect Effect**	**Direct Effect**	**Total Effect**
Approach to Guilt via Objectification	Effect	0.25	0.50	0.75
	95% CI	[0.08, 0.43]	[0.24, 0.76]	[0.52, 0.98]
Conditionally Mediated Paths		**Indirect Effect**	**Direct Effect**	**Total Effect**
Approach to Guilt via Objectification (Prosocial Motivation)	Effect	0.40	0.39	0.81
	95% CI	[0.22, 0.61]	[0.02, 0.76]	[0.49, 1.13]
Approach to Guilt via Objectification (Proself Motivation)	Effect	0.12	0.57	0.68
	95% CI	[-0.13, 0.38]	[0.22, 0.93]	[0.36, 1.01]

Note. Index of moderated mediation: 0.2829, 95% CI = [-0.0128, 0.5939]

Exploratory Analyses

In an exploratory analysis, I verified whether the negative moral emotion participants experienced after networking affected their willingness to network. To do so, I tested four different models: the main effect of approach on willingness to network; a mediation model in which approach is the dependent variable, guilt the mediator, and willingness to network the dependent variable; a serial mediation model in which objectification and then guilt mediate the relationship between approach and willingness to network; and finally, I tested the moderating effect of a prosocial motivation on the three previous relationships.

I first regressed willingness to network on approach and found that the more strategic the approach, the less willing to network people were (β = -0.98, $t(396)$ = -6.17, $p < .001$). Besides, this relationship was significantly and negatively mediated by an increase in guilt (β = -0.63, CI at 95% = [-0.85, -0.43]).

I then tested a serial mediation model in which objectification and then guilt mediated the relationship between approach and people's willingness to network. As expected, I found a

significant and negative indirect effect of approach on willingness to network via objectification then guilt (β = -0.20, CI at 95% = [-0.35, -0.07]), suggesting that a strategic approach increases the perceived objectification of the interaction partner, which in turn increases feelings of guilt, which subsequently reduces the willingness to network. In addition, I found a marginally significant residual direct effect (β = -0.25, $t(394)$ = -1.72, p = .086), indicating that the two mediators capture most of the relationship between approach and willingness to network.

Finally, I tested the moderating effect of a prosocial motivation on the three previous models (i.e., the main effect, the simple mediation and the serial mediation) and found no effect of motivation.

DISCUSSION

Summary

Casciaro, Gino, and Kouchaki (2014) have provided the first causal evidence of the relationship between networking and emotional discomfort. However, the paper suffers from both theoretical and methodological issues that prevent us from drawing conclusion from their work, and therefore leaves their original questions (i.e., do people feel uncomfortable when networking, and if so why?) unanswered. On the one hand, there is no empirical evidence for the theoretical premises of the paper (i.e., the Macbeth effect), and the core concept of the paper (i.e., moral purity) lacks both construct and measurement validity. On the other hand, the manipulation of the independent variable in both experiments is either weak (i.e., based on priming) or does not provide a discriminant test of networking (i.e., confounded treatment).

Based on the lessons learned from their work, I proposed a theoretical framework, grounded in the literature on moral emotions, investigated both a mediator and a moderator, and tested the hypothesized model in a pre-registered experiment.

I first examined the way people cognitively frame networking activities. I argued that the instrumentality of networking leads people to frame networking as a process of objectification through which alters are considered for what they can bring to the person who networks, with little to no interest for the persons they are. Alters therefore become means that can be used to satisfy personal ends. I then argued that this objectification makes networking a morally suspect behavior that triggers guilt. Finally, to help people overcome their discomfort, I tried to understand under which conditions this guilt might be mitigated. I argued that networking with a prosocial motive, that is a motive going above and beyond the satisfaction of one's self-interest, could provide people with a self-serving justification allowing them to make excusable or morally acceptable their networking actions.

In a pre-registered online experiment, I found support for the main effect and the mediation effect, but not for the moderation effect. Besides, the mediation effect indicated that objectification does not fully explain the relationship between networking and guilt, and therefore that other factors might play a role. In addition, the lack of significant results for the moderator might be explained by the size of the sample. Indeed, two-way interactions that predict an attenuation effect are difficult to capture because they require large samples (Simonsohn, 2014a), and a sample size of 398 participants might not be sufficient (Simmons, 2014; Simonsohn, 2014b). It is also worth noting that if networking had a positive and significant effect on the perceived objectification of the interaction partner, this perceived objectification was also quite high in the non-networking situation (i.e., the spontaneous approach condition): On average, participants in this condition rated the level of objectification at 4.03 on a 7-point scale. A post-hoc explanation might be that people felt that the interaction described in the "spontaneous" vignette was inappropriate given the context, since the person brought up professional matters in a non-professional context.

Exploratory analyses showed a similar effect of approach on people's stated likelihood to network: People's willingness to network decreased after a strategic interaction and this relationship was mediated by an increase in their feelings of guilt. I also found support for a serial mediation model in which objectification and then guilt captured a large fraction of people's unwillingness to network.

Theoretical Implications

A critical look at CGK casts doubt on the validity of both the theoretical argument and the evidence presented in the paper. The construct of moral purity on which the paper relies is based on a spurious finding that has since failed to replicate. Consequently, it should not be used as a foundation to explain people's discomfort when networking.

The model offered in this essay focuses on the cognitive frame people use to make sense of their networking actions, and the subsequent moral emotions they experience, as a theoretical basis for people's unwillingness to network. Indeed, while the literature on networking behaviors had described some ways people might think or feel about networking, it had not formulated specific hypotheses connecting networking behaviors to specific cognitions and emotions. By offering empirical evidence of a causal link between networking and moral emotions, and proposing a psychological mechanism, the present essay suggests that the literature on networking can be enriched by considering the moral emotions people experience when networking, and by understanding the features of networking that people find morally questionable.

The present research extents the psychological literature on objectification. While much of this literature uses the concept of objectification to understand the sexual objectification of women (Fredrickson & Roberts, 1997), this concept might be useful to understand a broader set of issues (Belmi & Schroeder, 2020), and in particular networking interactions. In addition,

while the present research emphasizes a core feature of objectification (i.e., instrumentality, or using a person to satisfy one's own goals and needs), other features of objectification might be relevant in a networking situation (Nussbaum, 1995, 1999). For example, treating a person as "fungible" (i.e., interchangeable with another person having similar attributes) might also play a role in the feelings of guilt people experience when networking. The fungibility of interaction partners might make the lack of genuine interest for others and the focus on the resources at their disposal more salient, ultimately making networking more difficult.

It is also worth noting that the hypothesis that a prosocial motivation would alleviate guilt and help people network, by offering a self-serving justification for networking, was not supported. While this null effect might be attributed to other factors (e.g., a lack of statistical power or a subtle manipulation), it contradicts the proposition that having a high purpose in mind would help people overcome their aversion to network (Casciaro et al., 2016). The relationship between self-serving justification and willingness to network might thus be more nuanced than originally offered: A prosocial motive might not be sufficient to shield people against the negative affect triggered by networking, but other stronger justifications, such as moral licensing (when people's recent prosocial actions lead them to feel entitled to act immorally in a subsequent situation: Monin & Miller, 2001; Sachdeva, Iliev, & Medin, 2009) or distancing (when people justify their immoral acts by pointing out other's immoral deeds: Shalvi et al., 2015) might help people justify their networking actions from a moral standpoint.

Practical Implications

Given how beneficial networking can be, not only in terms of network structure (Bensaou et al., 2014; Shipilov et al., 2014), but also in terms of career outcomes (Forret & Dougherty, 2001, 2004; Shipilov et al., 2014; Vissa, 2012; Wanberg et al., 2000; Wolff & Moser, 2009), understanding the precise type of negative emotions networking triggers, the mechanism leading to them, and the conditions that can mitigate them is critical to help people

network more comfortably and so more efficiently, and finally help them fully benefit from their network. The present findings confirm that acknowledging the benefits of networking might not be sufficient to bring people to network: Even if people are aware of its usefulness, people will be reluctant to network as long as they perceive and interpret this activity as a self-interested activity in which the interaction partner is objectified.

Knowing that networking triggers guilt, partly because it is associated with a process of objectification of the interaction partner, might already help people mitigate their discomfort. They might reflect on the reasons why networking does not necessarily mean objectifying others, and hopefully mitigate the feelings of guilt that they experience when networking with others. For example, since guilt is typically triggered by the fear of hurting others, people who network might try to focus on what the interaction partner might get out of the exchange: For instance, the target might be flattered, or might even be happy to have the opportunity to help.

In addition, the observation that networking could be guilt-inducing suggests multiple strategies to help people engage in networking. A first strategy would consist of changing how people evaluate networking. Since guilt results from a negative evaluation of the behavior itself (Tangney et al., 2007), people who manage to evaluate their networking actions less negatively could subsequently reduce their guilt feelings. For example, if they manage to see networking as a routine task making part of their job, they might no longer attach a moral component to networking. Similarly, managers could also help their subordinates by reminding them the importance of networking or by explicitly making networking an official part of their job.

A second strategy would consist of considering the needs of the target while networking. Since guilt is an other-oriented emotion that correlates with perspective taking (Leith & Baumeister, 1998; Tangney et al., 2007), if people manage to adopt the perspective of their interaction partner, for example by considering their needs and priorities while networking, and to turn the instrumental interaction into a win-win exchange, people could reduce their guilt.

Finally, a third strategy would consist of implementing compensatory actions after networking. Since guilt motivates corrective actions, leads to constructive responses, and facilitates empathic processes (Baumeister, Stillwell, & Heartherton, 1994, 1995; Tangney, 1991, 1995a, 1995b), if after networking people think about how they can either give back to their interaction partner or give to others to make them benefit from what they have received, it could help them reduce their guilt feelings.

Limitations

While the present research was meant to improve research on networking discomfort, it suffers from multiple limitations. First, the current study would benefit from a replication with a larger sample. It would confirm that the effects found hold, but also allow us to draw stronger conclusions about the presence (or the absence) of a moderating effect of prosocial motivation on guilt. Second, the findings might not generalize to other networking actions. I have only tested a single vignette, and this vignette mixes two types of networking behaviors, called search activities and leveraging activities. People search for new ties when they explore their social environment, when they identify opportunities and establish contact (Bensaou et al., 2014; Vissa, 2012). People leverage relationships when they exploit their social environment, when they access or mobilize resources from others and extract value from their contacts (Bensaou et al., 2014; Kuwabara et al., 2018). While I do not expect each networking behavior taken separately or other networking behaviors, such as maintenance, to be fundamentally different in terms of how they are perceived, or in terms of the emotions they generate, I would nonetheless see value in replicating the current findings on each type of networking actions. Finally, it is noteworthy that there is no established scale for measuring objectification (except for sexual objectification). Future research would therefore benefit from scale development efforts aimed at defining the boundaries of the construct and establishing its validity in the context of networking activities.

Directions for Future Research

The present research opens interesting venues for future research. First, while this paper documents the role of a specific frame (i.e., objectification) and a specific moral emotion (i.e., guilt) in the discomfort that people experience when networking, it is possible that other cognitive frames and other moral emotions would be present in specific networking settings. For instance, future research could investigate the circumstances in which feelings of "shame" might emerge following networking actions, and the type of cognitive frame likely to trigger this emotion. Networking actions that imply a negative evaluation of the self could be likely to trigger shame (Tangney et al., 2007). For example, using one's connections to gain an unfair advantage (e.g., knowing someone in the C-suite, and using this relationship to increase one's chance of getting a promotion) could be perceived as unfair, or disguising one's true selves to approach someone (e.g., pretending to like golf to play with one's boss) could be perceived as inauthentic, and both could subsequently trigger shame.

Then, I adopt an egocentric perspective in which I try to understand the cognitive and emotional hurdles that prevent people from networking. However, networking should probably be studied not only from the initiator's point of view but also from both the recipient's and the observer's perspective. Indeed, any networking action requires a sender and a receiver, and most of the time, since those actions are public, they may also imply an observer. Some research has suggested that people may perceive networking as unfair or manipulative (Beer, 2002; Bensaou et al., 2014; Ibarra, 2016; Ibarra et al., 2010), in particular because it might imply asking and using special favors from others to gain unfair advantage (de Janasz & Forret, 2008; Ibarra, 2016). From an observer's perspective, seeing other people network might then trigger "other-condemning moral emotions" such as contempt, anger, or disgust (Haidt, 2003; Tangney et al., 2007). It has also been suggested that self-interest, if perceived, is counterproductive in relationship building (Brass, 2011). From the receiver' perspective, overt networking attempts

might therefore be judged harshly, which might in turn prevents the initiator of such interactions to gain valuable resources. Ultimately, if people anticipate that their networking actions might be misjudged, both by the recipient and the observer of the interaction, they might then be particularly reluctant to undertake those actions.

Another interesting venue would be to investigate whether people can reframe networking behaviors themselves in such a way that the selfishness, deception, and instrumentality attached to those behaviors disappear. In the present paper, I have investigated whether prosocial motives could help people justify their networking attempts. In other words, I did not expect that networking with a prosocial motivation would change the way people perceive networking actions, especially in term of objectification, but only expected that such motivation would justify and excuse the immorality attached to networking and objectification. However, other moderators could be more effective if they can change the way people frame networking actions in the first place. For instance, if people learn to view networking behaviors as an opportunity to give to others, to build mutually beneficial connections, or to reciprocate favors they have received in the past (Casciaro et al., 2016; Ibarra, 2016; Kanter, 2020; Uzzi & Dunlap, 2005), they might no longer object to the morality of networking. In particular, giving to others has been shown to be one of the factors that help employees flourish within their organization, by enhancing their perception that their work is meaningful (Colbert, Bono, & Purvanova, 2016). By changing the lenses through which they make sense of networking actions, people could construe networking behaviors as building a community of resources accessible to all contacts and in which others are genuinely considered rather than just seen as instruments through which personal interests can be satisfied.

Finally, recent research has shown that people engage more in objectification at work than in a non-work context: Because people make decisions based on cost-benefits considerations at work, they engage more in calculative and strategic thinking (Belmi &

Schroeder, 2020). This finding is noteworthy for two reasons. First, if people tend to objectify others more in a work context, it might then be easier for them to network within the organization: They might be less likely to experience the moral burden attached to objectification and so to networking in a context in which instrumentality toward others is accepted or even desirable. Second, past research has shown that networking outside of any formal organizations may be more efficient than networking within formal organizations by increasing the diversity of the network built and so the access to resources (Shipilov et al., 2014). Those two pieces of evidence might suggest a paradox: While people would be better of networking outside of their work organization, they might feel more comfortable networking at work, therefore reducing their capacity to build efficient networks and accessing valuable resources. Testing whether the context (work vs. non-work) in which networking is occurring impacts the extent to which people experience negative moral emotions, as well as examining what makes objectification in a non-work context aversive and what makes it acceptable in a work context might help us understand the circumstances under which networking discomfort is the most likely to emerge.

APPENDIX

Comments on CGK's Theory

CGK cites the work of Tetlock and co-authors on taboo trade-offs (2000). In this paper, the authors empirically test the sacred-value-protection model (Tetlock, 2000) that explains how people cope with threats to sacred values: To distance themselves from moral transgressions, people express moral outrage and engage in moral cleansing. Through moral cleansing people reaffirm their core values and loyalties to the moral order that has been transgressed. As such, the model predicts that people who merely contemplate moral transgressions will engage in symbolic acts of moral cleansing to reaffirm their attachment to the moral order. For example, they show that people exposed to taboo trade-offs or secular-sacred trade-offs (e.g., allocating a massive amount a money to save the life of a single child who needs an organ transplantation or sacrificing the child but allocating this money to make the hospital better) were more likely to engage in moral cleansing such as volunteering for an organ-donation campaign than people exposed to secular trade-offs.

As such, for Tetlock and colleagues (2000), moral cleansing is a way for people to distance themselves from morally forbidden trade-offs. The term "moral cleansing" here refers to symbolic, and not literal, cleansing: It refers to a set of actions that people engage in to reestablish moral order. On the contrary, Zhong and Liljenquist (2006) claim that "cleansing" is more than symbolic. Based on the observations that, in many religions, physical cleansing ceremonies serve to purify the soul and clean the conscience of the faithful, they expect a psychological association between moral purity and physical purity. They predict that people who feel morally threatened, will feel physically contaminated and will experience a need for cleansing. However, not only this idea has failed to be replicated (Earp et al., 2014; Fayard et al., 2009; Gámez et al., 2011; Johnson et al., 2014; Siev et al., 2018), but has also no theoretical foundation beyond the religious metaphor.

Finally, some predictions of CGK raise questions. CGK distinguishes two dimensions of social interactions: the approach (spontaneous vs. instrumental) and the content (personal vs. professional). They define instrumental approach as proactive and carried out with the specific intention of benefiting the initiator of the interaction. On the contrary, they define an approach as spontaneous when this intention is missing, and that the interaction naturally emerges from the social situation. They then predict that an instrumental approach will be more likely to increase moral discomfort compared with a spontaneous approach and that this difference will be stronger for professional interactions than for personal interactions. They argue that, since personal ties are other-oriented, and that an action is moral if it is concerned by the welfare of others, and motivated by altruism (Blum, 1980; Rogers, 1997; Singer, 1995; Williams, 1973), personal ties will be easier to morally justify that purely self-interested professional ties.

If the present paper confirms the first part of their prediction (i.e., an instrumental approach is more guilt-inducing than a spontaneous approach), the second part of their prediction (i.e., the moderating effect) is at odds with the theory cited in the paper. Indeed, the literature on taboo

trade-offs (Tetlock et al., 2000) and relational schemata (Fiske, 1992) argue the opposite: Instrumentally approaching someone to build personal ties would be more objectionable than instrumentally approaching someone to build professional ties (Fiske & Tetlock, 1997; McGraw & Tetlock, 2005).

Since personal ties are communal-affective relationships (i.e., characterized by a general obligation to care for the welfare of others, and free of calculus and costs-benefits considerations), they are not supposed to be built with ulterior motives. Strategically building personal ties by placing a value on one's friendships is morally questionable. This kind of trade-off calculus not only undermines the relationship but also degrades one's moral standing. As such, the more personal the content of the interaction is, the more offensive an instrumental approach should be perceived. This inconsistency further limits the generalizability of CGK's argument.

Vignettes

Approach:

- Spontaneous
- Strategic

Motivation:

- Proself
- Prosocial

You are working for HBM, a company providing marketing solutions.

[*Proself Motivation:* You have always wanted to work here, and you are eager to make a career in this company.][*Prosocial Motivation:* You love the department in which you are working, and you are eager to contribute to the success of your colleagues.]

[*Proself Motivation:* You think securing new clients might be a fantastic springboard for your career: It would reflect positively on you, and you might be considered for a promotion.] [*Prosocial Motivation:* You think securing new clients would be great for the department: It would bring more resources, and help your colleagues gain visibility within the company.]

A couple of days ago, Alice, a friend of you, told you about a running club she just joined, and invited you to join it. [*Spontaneous Approach:* You like running and have been looking for running partners for a while. You think that running in a group would help you run more regularly.] [*Strategic Approach:* You ask her questions about the other members of the club. Alice tells you about who they are and what they do for a living. You quickly understand that several members are marketing executives in other companies, and that they could be interested in HBM's solutions. You then realize that this running club might be an opportunity to approach them.]

You decide to join and ask Alice when the next running event is.

A week later, you go to your first run with the club. You get a good workout, and after the run the group stops at a local juice bar. [*Spontaneous Approach:* You use this time to get to know the other members better and strike a conversation with someone who introduces himself as Peter Myers. He starts talking about his work and tells you that he is the sales director of AirCo. You then realize that AirCo could be interested in HBM's marketing solutions.] [*Strategic Approach:* You use this time to strike a conversation with one of the other members, Peter Meyers. You know he is the sales director of AirCo, which is one of the companies you believe could be interested in HBM's marketing solutions. You introduce yourself, and quickly steer the conversation towards his work.] As the conversation develops, you tell him more about what [*Proself Motivation:* you are] [*Prosocial Motivation:* your department is] doing at HBM, and that [*Proself Motivation:* you] [*Prosocial Motivation:* your department] might have marketing solutions to offer if he is interested. You agree on a meeting in the near future to discuss this further.

Measures

Objectification

Adapted from an ad-hoc measure from Gruenfeld, Inesi, Magee, Galinski (2008)

Please tell us the extent to which you agree with each of the following statements.
Measured on a 7-point scale: (1) Strongly disagree – (4) Neither agree nor disagree – (7) Strongly agree

1. I think more about what Peter Myers can do for me than what I can do for him.
2. I am treating Peter Myers as a mean to an end.
3. I am interested in Peter Myers as a person. ®
4. The relationship with Peter Myers is important to me because it might help me accomplish my goals.
5. I think of Peter Myers in terms of how he can be useful to me.
6. I interact with Peter Myers out of genuine interest for him, rather than because of what he could bring me. ®
7. If Peter Myers cannot give me what I want, I will probably not invest in this relationship.
8. Someone else with a position equivalent to Peter Myers' could become equally important to me.
9. How useful Peter Myers is to me does not matter for our relationship. ®
10. I care about Peter Myers beyond what he could bring me. ®

State Guilt

Adapted from the scale developed by Jones, Schratter, and Kugler (2000)

For each of the following statements, please indicate how you would feel in this situation.
Measured on a 7-point scale: (1) Strongly disagree – (4) Neither agree nor disagree – (7) Strongly agree

1. I would feel good about myself and what I have done. ®
2. I would regret what I have done in this situation.
3. In this situation, I would feel that it isn't easy being me.
4. I would feel calm and worry-free. ®
5. Coming out of this situation, I would feel that there is absolutely nothing I have done that I would change. ®
6. I would not feel particularly guilty about anything I have done in this situation. ®
7. Coming out of this situation, I would wish to be able to go back and rectify what I have done wrong.
8. Looking back to this situation, I would feel that there is at least one thing I would like to change.
9. I would have felt better if I hadn't done what I did in this situation.
10. Coming out of this situation, I would feel worried.

Comprehension checks

1. HBM is a company providing:
   - Pharmaceutical products
   - Food products
   - Marketing solutions
   - IT solutions
2. Alice is:
   - Your boss
   - A colleague
   - The personal assistant of Peter Myers
   - One of your friends
3. You discussed with Peter Myers in:
   - A gymnasium
   - The subway
   - A local juice bar
   - The street

Robustness Checks to Different Exclusion Rules

The second comprehension check asked participants who Alice was in the story. The distribution of responses showed that 34% of participants responded that Alice was a "colleague" instead of a "friend", suggesting that the participants got confused either by the vignette or by the question on this specific piece of information.

While I decided to exclude this comprehension check from analysis, other options would have been possible:

- Exclusion Rule 1: Tolerating one false answer among the three comprehension checks (exclusion of 29 participants, N = 421).
- Exclusion Rule 2: Accepting "colleague" as a true answer for question 2 and excluding participants who failed at least one of the three comprehension checks (exclusion of 60 participants, N = 390)
- Exclusion Rule 3: Not tolerating a single error as pre-registered (exclusion of 193 participants, N = 257)

Below are the results for the different exclusion rules. The results are the same for the three hypotheses regardless of the exclusion criteria considered.

Hypothesis 1: effect of approach on objectification

- ER 1: $\beta = 1.06$, SD = 0.09, $t(419) = 11.46$, $p < .001$
- ER 2: $\beta = 1.10$, SD = 0.10, $t(388) = 11.54$, $p < .001$
- ER 3: $\beta = 1.09$, SD = 0.11, $t(255) = 9.49$, $p < .001$

Hypothesis 2a: main effect of approach on guilt

- ER 1: β = 0.72, SD = 0.11, t(419) = 6.42, p < .001
- ER 2: β = 0.77, SD = 0.12, t(388) = 6.6, p < .001
- ER 3: β = 0.74, SD = 0.14, t(255) = 5.16, p < .001

Hypothesis 2b: mediation of objectification

- ER 1:
  - Indirect effect = 0.23, 95% CI = [0.07, 0.40]
  - Residual direct effect = 0.49, SD = 0.13, t(418) = 3.87, p < .001, 95% CI = [0.24, 0.74]
- ER 2:
  - Indirect effect = 0.24, 95% CI = [0.06, 0.43]
  - Residual direct effect = 0.53, SD = 0.13, t(387) = 4.00, p < .001, 95% CI = [0.27, 0.80]
- ER 3:
  - Indirect effect = 0.26, 95% CI = [0.08, 0.46]
  - Residual direct effect = 0.48, SD = 0.16, t(254) = 2.93, p = .004, 95% CI = [0.16, 0.80]

Hypothesis 3a: moderation of motivation on the main effect

- ER 1: $\beta_{app\ x\ motiv}$ = 0.12, SD = 0.23, t(417) = 0.55, p = .58
- ER 2: $\beta_{app\ x\ motiv}$ = 0.09, SD = 0.23, t(386) = 0.40, p = .69
- ER 3: $\beta_{app\ x\ motiv}$ = 0.10, SD = 0.29, t(253) = 0.36, p = .72

Hypothesis 3b: moderated mediation

- ER 1:
  - $\beta_{obj\ x\ motiv}$ = 0.25, SD = 0.12, t(415) = 2.09, p = .04
  - Indirect effect:
    - Proself = 0.11, 95% CI = [-0.12, 0.35]
    - Prosocial = 0.37, 95% CI = [0.19, 0.56]
    - Index of moderated mediation = 0.26, 95% CI = [-0.02, 0.55]
- ER 2:
  - $\beta_{obj\ x\ motiv}$ = 0.28, SD = 0.12, t(384) = 2.31, p = .02
  - Indirect effect:
    - Proself = 0.10, 95% CI = [-0.16, 0.37]
    - Prosocial = 0.41, 95% CI = [0.22, 0.61]
    - Index of moderated mediation = 0.31, 95% CI = [-0.003, 0.62]
- ER 3:
  - $\beta_{obj\ x\ motiv}$ = 0.08, SD = 0.15, t(251) = 0.53, p = .60
  - Indirect effect:
    - Proself = 0.22, 95% CI = [-0.02, 0.49]
    - Prosocial = 0.31, 95% CI = [0.05, 0.58]
    - Index of moderated mediation = 0.09, 95% CI = [-0.27, 0.44]

CHAPTER II: When Gender Stereotypes Prevent Women from Networking Efficiently

Abstract. While women network as much as men, they seem to benefit less from their networking activities. One possible mechanism to explain this paradox is that women network less efficiently than men because they renounce some networking actions for fear of being misjudged. Since women are sometimes stereotyped as able and willing to use their power of attraction to manipulate men, certain networking strategies could appear risky to them. In particular, women may expect that actions aimed at deepening and strengthening relationships with their male supervisors will reflect negatively on their image. For this reason, they could be less likely to engage in those actions, at the cost of valuable relationships and potential career rewards. I test the two parts of this model (i.e., how women think they would be perceived, and how people would actually perceive them) in two pre-registered online experiments using vignettes. In the first study, I find partial support for the hypothesized model as well as unpredicted results. Women are not less likely than men to engage in network-deepening actions with supervisors of the opposite (rather than same) gender, even if they associate more image risk than men with those actions. However, men are less likely than women to engage in network-deepening actions with a colleague of the opposite (rather than same) gender because of the image risk they associate with those actions. In the second study, I find that individuals do not evaluate women engaged in network-deepening actions with a supervisor of the opposite (rather than same) gender more negatively than men doing the same, which suggests that women's fear for their image is unwarranted.

Keywords: networking behaviors, network-deepening actions, maintenance activities, gender stereotypes, image risk

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The materials, raw data and code can be found on the OSF: https://osf.io/hauxp/

INTRODUCTION

Networking actions facilitate access to resources such as social support, strategic information, or career opportunities (Forret & Dougherty, 2001; Gould & Penley, 1984; Michael & Yukl, 1993; Wanberg et al., 2000). Networking is not only associated with promotion, salary progression, and job satisfaction (Eddleston et al., 2004; Forret & Dougherty, 2004; Hwang et al., 2004; Michael & Yukl, 1993; Wolff & Moser, 2009), but it also allows people to reach better positions in their network (Bensaou et al., 2014; Shipilov et al., 2014), which in turn positively affects their level of influence (Bowler, Halbesleben, Stodnick, Seevers, & Little, 2009; Sparrowe & Liden, 2005), their performance (Fang et al., 2015; Mehra, Kilduff, & Brass, 1998), and their chance to be promoted (Adler & Kwon, 2002; Brass, 1984;Burt, 1992; Feldman & Ng, 2007; Seibert, Kraimer, & Liden, 2001).

Networking refers to proactive and purposeful efforts made by individuals to create, maintain, or leverage relationships toward professional goals (Bensaou et al., 2014; Kuwabara et al., 2018; Wolff & Moser, 2009). Networking behaviors require people to analyze their existing social network in terms of available resources, and to develop relationships to access those resources (Van Buren & Hood, 2011). In other words, networking refers to conscious and deliberate actions people undertake to establish connections, as opposed to connections that would emerge from spontaneous, passive, forced or purely affective interactions (Bourdieu, 1985; Ingram & Zou, 2008; Kuwabara et al., 2018; Wellman & Berkowitz, 1988).

If networking may play a positive role in the professional success of any organizational member, it could be particularly important for women (Ibarra, 2017; Ibarra et al., 2010; Khattab et al., 2020; Wensil & Heath, 2018) for at least two reasons.

First, a robust pattern in the analysis of social networks is that individuals prefer interacting with similar others (Blau, 1977; Byrne, 1971; Carley, 1991; Davis, 1966;

Granovetter, 1973; Homans, 1950; Ibarra, 1993; Laumann, 1966; Lazarsfeld & Merton, 1954; McPherson & Smith-Lovin, 1987; McPherson, Smith-Lovin, & Cook, 2001). Because homophily facilitates communication and favors reciprocity and trust (Brass et al., 2004), people have a natural tendency to primarily interact with people who share common attributes with them. In particular, past research has found evidence for gender homophily within organizations (Brass, 1985; Ibarra, 1992): Men prefer interacting with other men, and women with other women.

This preference for gender homophily may have important negative consequences on women's professional success. Since women are underrepresented all along the corporate ladder, partly because they are less likely than men to be hired or promoted at the first step up to manager (in 2019, men held 62% of manager-level positions against 38% for women, and this gap increases with the hierarchical level: Joshi, 2018; Lean In, McKinsey & Company, 2019), women tend to have access to fewer influential peers than their male counterparts (Brass, 1985; Carmichael, 2019; Ibarra, 1992, 1993, 2017; Ibarra et al., 2010; Khattab et al., 2020; Konrad, Seidel, Lo, Bhardwaj, & Qureshi, 2017; Mehra et al., 1998; Tinsley & Ely, 2018; Wensil & Heath, 2018). For example, women are more likely than men to keep their personal and professional networks separated, and therefore to have weaker social ties than men (Joshi, 2018), which in turn hinders the development of trust and camaraderie within their relationships, and ultimately prevents them from reaping the benefits of their networks (Ibarra, 1992, 2017). Women also lack access to strategic people (Brass, 1985) who are able and willing to provide them with vital information and support (Tinsley & Ely, 2018), to help them plan for the future, sell their ideas, and obtain key resources (Ibarra, 2017), and to sponsor them at the upper level, reducing their chance of promotion (Carmichael, 2019; Ibarra et al., 2010).

A direct consequence of this situation is that if women want to overcome structural network constraints, build connections with key organizational members and gain access to

strategic resources, they must forgo their preference for homophily and practice networking (Brass & Burkhardt, 1993; Brass et al., 2004) by connecting to key organizational members of the opposite gender.

Past research has shown that women network as much as men (Bensaou et al., 2014; Forret & Dougherty, 2004), but that their career benefit less from their networking efforts (Forret & Dougherty, 2004). In the present paper, I examine this paradox and offer one possible explanation for this gap: I propose that women network differently, and in fact less efficiently than men, because they renounce certain networking strategies for fear of being misjudged.

For people motivated to make a career and climb the corporate ladder, an effective networking strategy is to maintain relationships with organizational members having power and influence in order to gain visibility and access valuable resources (Bensaou et al., 2014; Brass, 1985; Eddleston et al., 2004; Ibarra et al., 2010; Knight, 2016). However, this strategy could trigger a specific stereotype about women in people's mind.

The literature on gender stereotypes has shown that women are perceived as having a unique ability to use their femininity to further their own interests and deceive men (Sheppard & Johnson, 2019), and can be stereotyped as "seductress" (Kanter, 1977) or "temptress" (DeWall, Altermatt, & Thompson, 2005). Women who are stereotyped as such face negative reactions from others who tend to feel discomfort (Netchaeva, Kouchaki, & Sheppard, 2015), resentment, jealousy, hostility towards those women, and skepticism on the means through which they acquire resources (Baxter, 2012; Kanter, 1977). People then tend to perceive those women as immoral, dishonest, selfish, manipulative, devious and scheming (Ashmore, Solomon, & Longo, 1996; Brewer & Archer, 2007; Dermer & Thiel, 1975; DeWall et al., 2005; Heilman & Stopeck, 1985; Singh, 2004).

Given the existence of this stereotype, certain networking behaviors could appear risky to women. In particular, women could fear that being friendly with supervisors of the opposite

gender could increase the risk that others "form an undesirable impression of them because of their actions" (Ashford, Rothbard, Piderit, & Dutton, 1998, p. 27), and associate them with the stereotype of the "temptress" or "seductress".

In this paper, I therefore propose that women view network-deepening actions as risky to their image, and that they avoid deepening relationships with their male supervisors for fear that their behavior will be misinterpreted and that they will be penalized for it. This reluctance to engage in network-deepening action would then explain why women benefit less from their networking efforts.

Since, on average, those who have control over resources within organizations are men (Brass, 1985; Ibarra, 1993; Joshi, 2018; Lean In, McKinsey & Company, 2019), women face a dilemma. They can either choose to undertake network-deepening actions with their supervisors, which will facilitate their access to resources, at the risk of being misjudged and stereotyped; or on the contrary forego such networking actions to protect themselves from negative stereotypes, at the cost of valuable relationships and potential career rewards. Ultimately, I argue that the range of networking behaviors that women feel comfortable with is narrower than that of men, which may explain why they benefit less from their networking actions.

A related and important question is whether women are right to fear for their image when engaged in network-deepening actions with their male supervisors. Depending on the answer to this question, the remedies to bring are not the same. If women are right, then it means that people indeed negatively evaluate women engaged in such actions, and that the range of networking behaviors afforded to women is objectively narrower than that afforded to men. As a consequence, scholars and managers should try to act upon the demand-side factors (i.e., the gender stereotypical expectations of the organizational and social environment represented by colleagues, managers, employers) by educating people on this specific gender stereotype to

increase awareness and debias them. If, on the contrary, women are wrong and needlessly fear for their image, scholars and managers should try to act upon the supply-side factors (i.e., the individuals' choices and behaviors) by informing women that their subjective experience is unwarranted, and that they can engage in network-deepening actions with their male supervisors without suffering from negative reputation.

The model I propose therefore investigates two sides of the same coin (Fernandez-Mateo & Kaplan, 2018): On the one hand, I examine the choices and behaviors of women who may decide to reduce their engagement in network-deepening directed towards male supervisors because they fear for their image. On the other hand, I examine the gender-stereotypical expectations the social environment may have about women's behaviors engaged in networking actions.

I test the two parts of this model in two pre-registered online experiments using vignettes. In Study 1, I try to capture the subjective experience of women engaged in network-deepening actions with their male supervisors. More precisely, I investigate the relative likelihood of women (vs. men) to engage in those networking actions with a supervisor (vs. a colleague) of the opposite (vs. same) gender, and test whether image risk plays a role in this difference. In Study 2, I investigate people's perception of women engaged in network-deepening actions with a male supervisor to check whether any concern women may have about their image is warranted.

THEORY

Key Networking Strategy for Women

Given the structural barriers women face within organizational networks, a key networking strategy to overcome those constraints could be to establish a strong connection to a powerful and well-connected organizational member through whom women can gain

centrality and access to networks of power and influence (Brass et al., 2004). Maintaining relationships with powerful organizational members would allow women to establish personal connections with them, manage impression and gain visibility (Brass, 1985; Eddleston et al., 2004; Ibarra et al., 2010; Knight, 2016), which have been shown to be key components of career success (Kilduff & Day, 1994; Singh, Kumra, & Vinnicombe, 2002).

Maintenance activities, also called network-deepening actions, are a specific type of networking behaviors. They refer to efforts made to affirm, sustain, preserve, and strengthen ties (Kuwabara et al., 2018; Porter & Woo, 2015). The goal of those actions is to intensify selected relationships and strive for depth (Bensaou et al., 2014). They consist of deepening existing interpersonal ties by investing time and effort in the relationship, thereby overlaying friendships over purely professional relationships (Vissa, 2012). Calling and visiting people to keep in touch, attending lunches and parties, sending greeting cards or giving gifts, engaging in informal conversations about non-work-related topics such as sports, family, and recreational activity, or using forms of ingratiation such as praise and congratulations are examples of network-deepening actions (Forret & Dougherty, 2001; Michael & Yukl, 1993).

This networking strategy could be all the more important for women who, compared to men, have access to fewer individuals willing and able to help them in their career (Brass, 1985; Carmichael, 2019; Ibarra, 1992, 1993, 2017; Ibarra et al., 2010).

However, contrary to men, women are typically reluctant to play this "political game": They are less likely to instrumentally approach their supervisors, to ingratiate themselves with them, to self-promote and to establish personal connections with them, even when they acknowledge it could help them get ahead (Singh et al., 2002). For example, a recent poll on French employees revealed that only half of women (vs. 70% of men) use the familiar pronoun "*tu*", which is a way to get closer from someone, when addressing their boss (Coulmont, 2019). Another survey revealed that 50% of junior women hesitate to have one-on-one contacts with

senior male colleagues for fear of being suspected of an "illicit sexual liaison" (i.e., a relationship between a subordinate and his or her boss; Hewlett, 2010). This reluctance to deepen relationships with male supervisors could stem from a specific stereotype about women.

Gender Stereotype of the "Seductress"

Multiple works of art and literature have depicted women as having a unique ability to manipulate men and get them to do their bidding, often with disastrous or even fatal consequences (Sheppard & Johnson, 2019). Tactics of influence such as charm, personal appearance, ingratiation, and compliments are thus perceived as mostly feminine (DuBrin, 1991). This representation of women corresponds to a gender stereotype that paints women as able and willing to use their power of attraction to influence men (Glick, Diebold, Bailey-Werner, & Zhu, 1997). The archetypes of the "femme fatale", the "temptress" or the "seductress" embody this stereotype (DeWall et al., 2005; Kanter, 1977; Sheppard & Johnson, 2019). As a consequence, women who are compared to those archetypes are negatively perceived: They are typically viewed as promiscuous, flirtatious, seductive, manipulative, and scheming, and are judged as cold, immoral, and incompetent (DeWall et al., 2005).

This stereotype has been shown to have several negative consequences for women in organizations. First, this stereotype paints women as having an unfair advantage over men when it comes to interpersonal relationships: Women's femininity, attractiveness, and associated sexuality are perceived as currencies they can exchange with men against valuable resources (Watkins, Smith, & Aquino, 2013). Consequently, women's actions to obtain those resources are scrutinized and appear suspicious. People are then tempted to attribute women's achievement to the use of unfair means, as opposed to work ethic and competence (Baxter, 2012; Gee, Migueis, & Parsa, 2017; Kanter, 1977). Their success is thus tainted by suspicions of favoritism and manipulation, which in turn lead people to perceive those women as lacking interpersonal integrity, and being selfish, manipulative, and devious (Heilman & Stopeck,

1985). Observers also tend to infer that those women are power-hungry (Infanger, Rudman, & Sczesny, 2016), which in turn elicits discomfort and feelings of threat (Netchaeva et al., 2015).

Networking as a Risk for Women's Image

Given the existence of this stereotype, I argue that women will view network-deepening actions with male supervisors as a risk to their image: They expect that others will form an unfavorable impression of them because of their networking actions (Ashford et al., 1998; Dutton, Ashford, Lawrence, & Miner-Rubino, 2002), that they will be associated with the stereotype of the "temptress" or "seductress", and will therefore be perceived as promiscuous, flirtatious, seductive, manipulative, and scheming, as well as cold, immoral, and incompetent (DeWall et al., 2005)

A positive public image is an important asset that allows people to achieve desirable social outcomes (e.g., friendship, approval, or influence; Leary & Kowalski, 1990) and to access resources controlled by others (Ashford & Tsui, 1991). People therefore feel the need to protect it (Ashford et al., 1998). As such, when individuals expect that a behavior could damage others' impression of them, they are unlikely to initiate this behavior (Ashford & Northcraft, 1992). Besides, since women tend to be scrutinized in the workplace (Fernando, Cohen, & Duberley, 2019; Meister, Sinclair, & Jehn, 2017), a negative public image can be an important factor of failure in their career (Morrison, White, White, & Van Velsor, 1987). For this reason, women tend to be particularly mindful of the risks associated with their image and are more concerned about protecting it than enhancing it (Ibarra & Harrington, 1997; Ibarra & Petriglieri, 2016).

Image risk typically results from labeling, inappropriate attribution, and stereotyping (Dutton et al., 2002). For example, a woman engaged in network-deepening actions with a male supervisor could be worried that her colleagues label her as interested in personal gain or motivated by power (Mead, 1934). Such labeling tendencies would be consistent with the

fundamental attribution error, whereby people attribute others' actions to stable dispositions (e.g., "she is Machiavellian" or "she is a vamp") rather than to the situation (e.g., "this is good for her career"), particularly if very few women engage in those actions (Jones & Nisbett, 1972). She might also be worried that her colleagues stereotype her as warm rather than competent (Rudman & Phelan, 2008), or worse, neither warm nor competent but manipulative and immoral because willing to use her femininity to manipulate influential organizational members (DeWall et al., 2005; Sheppard & Johnson, 2019).

Finally, since men tend to overestimate women's sexual interest (Abbey, 1982; Abbey & Melby, 1986; Perilloux, Easton, & Buss, 2012; Shotland & Craig, 1988), women could be worried that their male supervisors interpret their network-deepening actions as sexually interested behaviors. Ultimately, this image risk could discourage women from undertaking network-deepening actions with their male supervisors.

Theoretical Models

Self-Perception of Women Engaged in Network-Deepening Actions

In a first step, I examine why women may be reluctant to engage in network-deepening actions with their male supervisors despite the benefits of such networking strategy. I posit that, because of the stereotype of women as potential "seductress" or "temptress", women are less likely than men to undertake network-deepening actions with a supervisor of the opposite gender. However, this effect should dissipate when the target of such networking actions is a colleague rather than a supervisor. I indeed expect that the stereotype of women using their femininity to manipulate men will be particularly salient when the target is a male supervisor, that is someone with formal authority and clear resources at his disposal, but absent when the target is a male colleague. Finally, I expect that women renounce undertaking network-deepening actions with their male supervisors because they see this behavior as posing a risk to their image. Those hypotheses are detailed below, and the model is described in Figure 2.

In a first hypothesis, I posit that the preference for gender homophily holds and that both men and women indeed prefer networking with someone of the same rather than opposite gender.

Hypothesis 1: *People will be more likely to undertake network-deepening actions with someone of the same rather than opposite gender.*

In a second hypothesis, I posit that this preference for gender homophily is stronger for women than for men when network-deepening actions are directed toward a supervisor. This difference between men and women would reflect women's aversion to undertake network-deepening actions with a supervisor of the opposite gender, above and beyond their preference for gender homophily.

Hypothesis 2: *Women (compared to men) will be less likely to undertake network-deepening actions with a supervisor of the opposite (rather than same) gender.*

In a third hypothesis, I posit that this difference between men and women will be attenuated when the target of networking attempts is a colleague rather than a supervisor.

Hypothesis 3: *This difference between men and women will be attenuated when networking attempts are directed toward a colleague: Women will be as likely as men to undertake network-deepening actions with a colleague of the opposite (rather than same) gender.*

In a fourth hypothesis, I posit that the previous relationship will be mediated by an increase in image risk: I expect that women disengage from network-deepening actions with a male supervisor because of the perceived risk to be seen as a "seductress" they associate with those actions.

Hypothesis 4: *An increase in image risk will explain women's reduced willingness to engage in network-deepening actions with a male supervisor.*

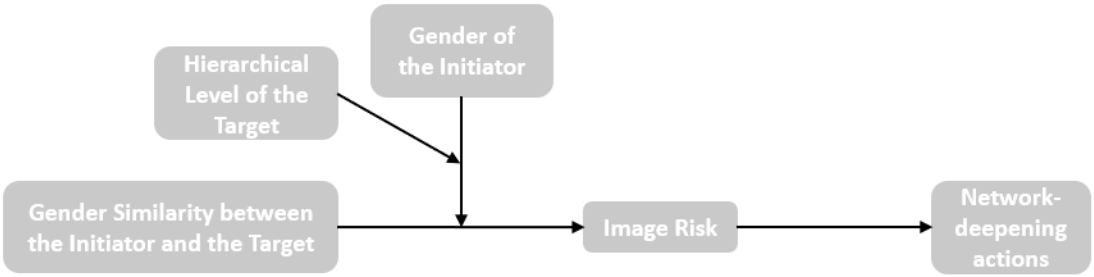

Figure 2. Theoretical Model: Self-Perception of Women Engaged in Network-Deepening Actions

Audience-Perception of Women Engaged in Network-Deepening Actions

In a second step, I examine whether women are right to fear for their image when they are engaged in network-deepening actions with their male supervisors. I investigate whether people indeed perceive those women according to the stereotype of the "seductress" and negatively judge them. In their typology of gender stereotypes, DeWall and colleagues (2005) have shown that women perceived as "temptress" are described as "seductive," "flirtatious," and "promiscuous," but also as "manipulative" and "scheming," and elicit negative reaction in terms of perceived competence, warmth, and morality.

I therefore expect that individuals will evaluate women engaged in network-deepening actions with supervisors of the opposite gender more negatively than men engaged in the same type of actions. More precisely, I expect this evaluation to capture the extent to which people perceive those women as competent, warm, moral and view them as "seductress". I then expect that this discrepancy in the perception of men and women engaged in network-deepening actions will disappear when the target is a colleague. I test the two following hypotheses and represent the hypothesized model in Figure 3.

Hypothesis 5: *People will evaluate women engaged in network-deepening actions with a supervisor of the opposite (rather than same) gender more negatively than men engaged in the same type of activity.*

Hypothesis 6: *This difference of evaluation between men and women will be attenuated when networking attempts are directed toward a colleague: People will evaluate women engaged in network-deepening actions with a colleague of the opposite (rather than same) gender similarly as men engaged in the same type of activity.*

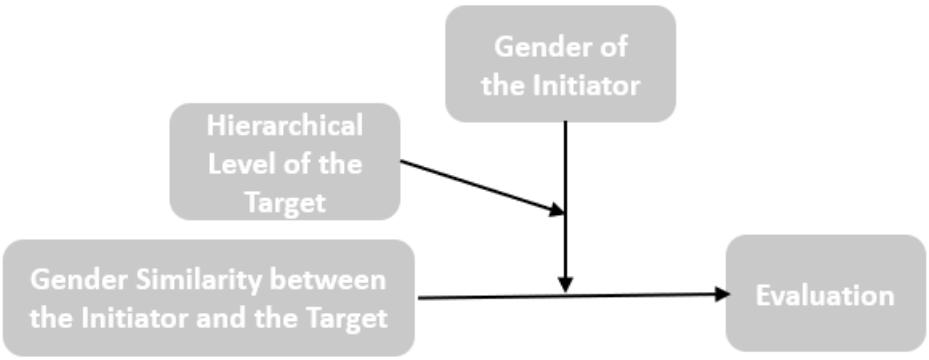

Figure 3. Theoretical Model: Audience-Perception of Women Engaged in Network-Deepening Actions

Note. Observers evaluate the extent to which they perceive the initiator of the network-deepening actions as competent, warm, moral, and seductive.

STUDY 1

Method

Design and Procedure

To investigate Hypotheses 1 to 4, I conducted a pre-registered[10] experiment based on vignettes: Participants put themselves in the situation of someone who had just joined the department of a large company, and played the role of the initiator of interactions with a supervisor (or a colleague) of a different (or same) gender. Participants were first randomly assigned to one of four-cells of a 2 (gender of the target: male vs. female) by 2 (hierarchical level of the target: colleague vs. supervisor) between-subject design. They then read the vignette corresponding to their conditions, and finally answered a questionnaire containing the

[10] http://aspredicted.org/blind.php?x=6fw3zx

dependent measures (i.e., the likelihood they would engage in network-deepening actions, and the image risk they associate with those actions). The questionnaire also included two attention checks, two manipulation checks, and five demographic questions about the gender of the participant, their age, the country where they had spent the most of their time, their level of education, and the number of years of work experience. Only the gender of participants (hereafter initiator's gender) was relevant to the analysis.

Participants

To ensure the ecological validity of the sample, I applied selection criteria previously used in studies investigating networking behaviors (Forret & Dougherty, 2001), such that all participants were full-time employees (not part-time, not self-employed) in any type of organizations to the exclusion of family business. I collected responses from 1000 participants from an online platform called Prolific in exchange of payment, and got responses for 999 of them (53% from the UK, 28% from North America, and 17% from continental Europe; 48% female; mean age = 36, *SD* = 9.41; mean work experience = 16 years, *SD* = 9.84).

Experimental Manipulations

I manipulated two factors between-subjects: the gender of the target (male vs. female) and the hierarchical level of the target (same level vs. upper level). I manipulated the gender of the target by using the name "Paul" in the male condition and the name "Alice" in the female condition. I then manipulated the hierarchical level of this target by describing Paul or Alice either as a "colleague" or as the "head of the department".

Measures

Attention checks. I included an attention check in each of the scales measuring the dependent measures to be sure that participants carefully read each item of those scales.

Participants who failed at least one of the two attention checks were systematically removed from the sample.

Manipulation checks. To assess whether participants correctly detected the conditions to which they were assigned, I asked participants whether the target was (1) a male or a female, (2) a colleague or a supervisor. Participants who failed at least one of the two manipulation checks were systematically removed from the sample.

In total, 85 participants were excluded from the sample. No analysis was conducted before removing the participants. All analyses and statistics reported are based on the final sample of 914 participants. This final sample had between 89 and 132 participants per condition. Descriptive statistics are reported in Table 4.

TABLE 4
Descriptive Statistics

Mean (SD) per condition	The target is a supervisor		The target is a colleague	
	The initiator is a woman	The initiator is a man	The initiator is a woman	The initiator is a man
Network-deepening actions				
Target and initiator have different gender	2.84 (1.24)	3.15 (1.18)	4.03 (1.18)	3.81 (1.1)
Target and initiator have same gender	3.14 (1.1)	3.55 (1.34)	4.3 (1.41)	4.26 (1.15)
Image risk				
Target and initiator have different gender	4.15 (1.38)	3.87 (1.39)	2.94 (1.33)	3.65 (1.13)
Target and initiator have same gender	3.03 (1.35)	3.18 (1.35)	2.08 (1.14)	2.33 (1.2)
Sample size				
Target and initiator have different gender	111	132	122	111
Target and initiator have same gender	89	126	115	108

Note. Correlation coefficient between Network-deepening actions and Image risk: -0.34, $p < .001$

Willingness to engage in network-deepening actions[11]**.** This variable was measured with seven items combined and adapted from scales developed to capture maintenance activities (Forret & Dougherty, 2001; Shipilov et al., 2014; Vissa, 2012). Examples of items are: "inviting [the target] for a drink after work", "trying to be friends with [the target]", or "discussing personal topics with [the target]". Participants were asked the extent to which they would consider undertaking each of the seven network-deepening actions on a 7-point scale from (1) I would hardly see myself undertaking this action, to (7) I would easily see myself undertaking this action (Min = 1, *M* = 3.64, Max = 7, *SD* = 1.32, α = 0.89).

Image risk[12]**.** This variable was measured with nine items asking participants the extent to which they associated an image risk with network-deepening actions in the situation described in the vignette. The measure was adapted from an ad-hoc measure (Ashford, 1986), initially created to measure the risk associated with feedback seeking and adapted in following papers as a measure of image risk for women (Ashford et al., 1998; Dutton et al., 2002), and combined with some adjectives people use to describe women seen as "temptress" (e.g., those women are typically described as incompetent, immoral, manipulative, and promiscuous: DeWall et al., 2005). Examples of items are: "If I become close to [the target], I might be viewed as less trustworthy", "If I am too friendly with [the target], I might be perceived as seductive", "If I am spending time outside of work with [the target], I might be viewed as manipulative". All items were measured on a 7-point scale from (1) Strongly disagree to (7) Strongly agree (Min = 1, *M* = 3.17, Max = 7, *SD* = 1.45, α = 0.94).

[11] The items were selected based on how well they fitted the social situation described.

[12] Since no validated scale to measure image risk exists, previous papers have created and adapted ad-hoc measures (e.g., Ashford, 1986; Ashford et al., 1998; Dutton et al., 2002).

Results

To test my hypotheses, I first created a gender similarity variable coding whether the gender of the target was similar or different to that of the initiator. This variable captures the tolerance for networking with someone of a different (vs. same) gender. I can then examine whether this tolerance is different between men and women (i.e., the interaction between gender similarity and the initiator's gender), or different when interacting with a supervisor (vs. a colleague). The full model therefore includes one independent variable (gender similarity between the initiator and the target), two moderators (the gender of the initiator and the hierarchical level of the target), one mediator (image risk) and one dependent variable (the likelihood to engage in network-deepening actions).

I then regressed the willingness to engage in network-deepening actions on the gender similarity of the target to that of the initiator (GS), the initiator's gender (IG), the target's hierarchical level (HL), and on all two and three-way interactions between those variables.

Hypothesis 1 predicted that both men and women would display a preference for gender homophily. The analysis indicates a significant main effect of gender similarity (β_{GS} = -0.35, t(906) = -4.35, p < .001) and therefore confirms people's preference for gender homophily: Both men and women were less likely to engage in network-deepening actions with someone of the opposite (vs. same) gender.

Hypothesis 2 predicted that women would be less likely than men to undertake network-deepening actions with a supervisor of the opposite (rather than same) gender. In other words, above and beyond gender homophily, I expect women to be particularly reluctant to engage in network-deepening actions with a male supervisor. Contrary to expectations, women were not significantly less likely than men to engage in network-deepening actions with a supervisor of the opposite gender (β_{GSxIG} = -0.10, t(906) = -0.46, p = .65). More precisely, women were

marginally less likely to engage in network-deepening actions with a male supervisor (M = 2.84, SD = 1.24) rather than a female supervisor (M = 3.14, SD = 1.10; β_{GS} = -0.30, t(906) = -1.71, p = .087); while men were significantly less likely to engage in network-deepening actions with a female supervisor (M = 3.15, SD = 1.18) rather than a male supervisor (M = 3.55, SD = 1.34; β_{GS} = -0.40, t(906) = -2.65, p = .008). Hypothesis 2 is therefore not supported. Those results are described in Figure 4.

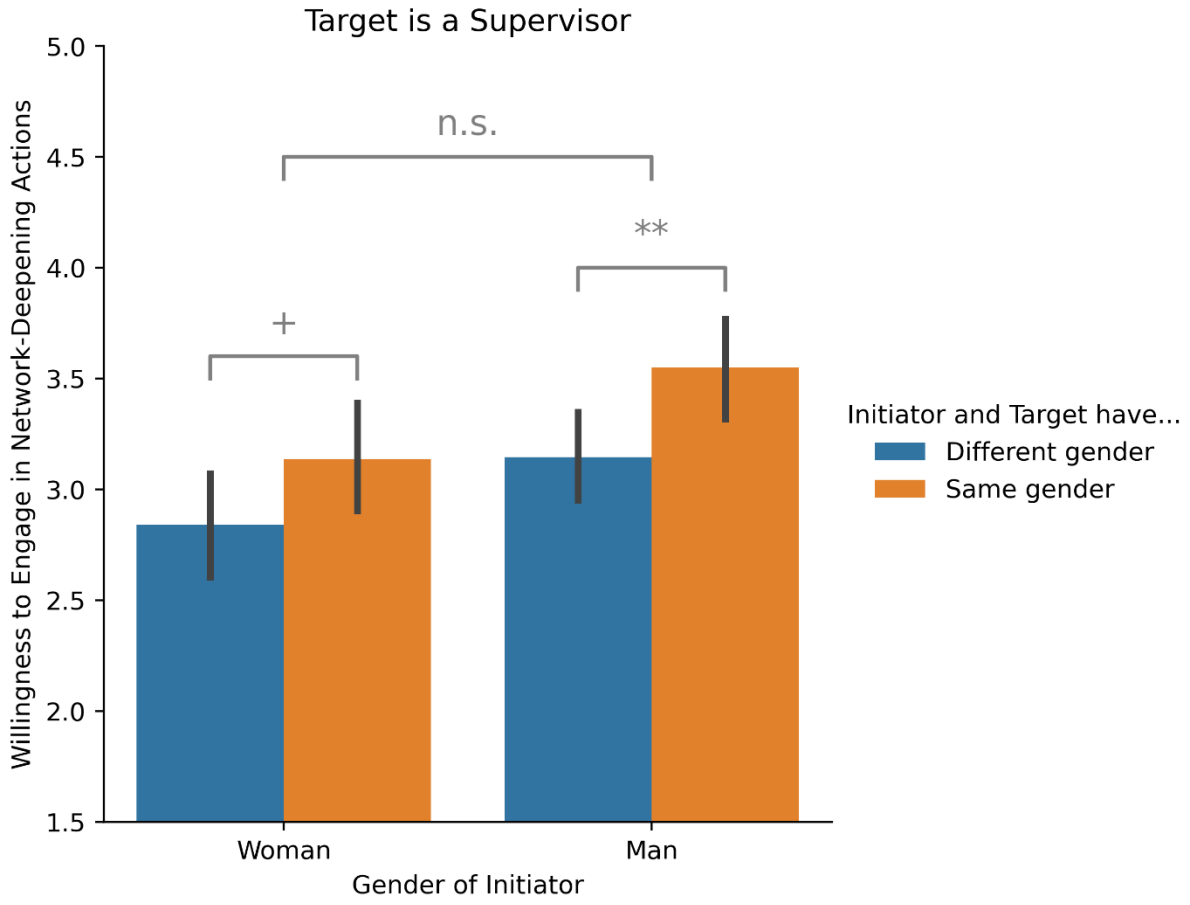

Figure 4. Interaction Plot of Gender Similarity and Initiator's Gender on Willingness to Engage in Network-Deepening Actions when the Target is a Supervisor

Note. + p < .1, ** p < .01

Error bars represent 95% confidence intervals.

Despite the null finding for Hypothesis 2, I still analyze Hypothesis 3 to better understand men's behavior. Hypothesis 3 predicted an attenuation of the previous effect such that women would be as likely as men to undertake network-deepening actions with a colleague of the opposite (rather than same) gender. The three-way interaction was non-significant ($\beta_{GSxIGxHL}$ = -0.07, t(906) = -0.23, p = .82). Hypothesis 3 is therefore not supported. As previously, both men (β_{GS} = -0.45, t(906) = -2.71, p = .007) and women (β_{GS} = -0.27, t(906) = -1.68, p = .093) were less likely to engage in network-deepening actions with a colleague of the opposite gender (β_{GSxIG} = -0.18, t(906) = -0.79, p = .43). Results are reported in Table 5 and depicted in Figure 5.

TABLE 5
Linear Regressions

	Dependent variable:	
	Network-deepening actions	Image risk
	(1)	(2)
Gender similarity (1 = different)	-0.45**	1.32***
	(0.17)	(0.17)
Initiator gender (1 = woman)	0.04	-0.25
	(0.16)	(0.17)
Hierarchical level (1 = upper level)	-0.71***	0.85***
	(0.16)	(0.17)
Gender similarity x Initiator gender	0.18	-0.46+
	(0.23)	(0.24)
Gender similarity x Hierarchical level	0.04	-0.63**
	(0.22)	(0.24)
Initiator gender x Hierarchical level	-0.45+	0.10
	(0.24)	(0.25)
Gender sim. x Init. gender x Hier. level	-0.08	0.89**
	(0.33)	(0.34)
Constant	4.26***	2.33***
	(0.12)	(0.12)
Observations	914	914
R^2	0.15	0.22
Adjusted R^2	0.14	0.21
Residual Std. Error (df = 906)	1.22	1.29
F Statistic (df = 7; 906)	23.04***	35.87***
Note:	+p < 0.1 ; *p < 0.05 ; **p < 0.01 ; ***p<0.001	

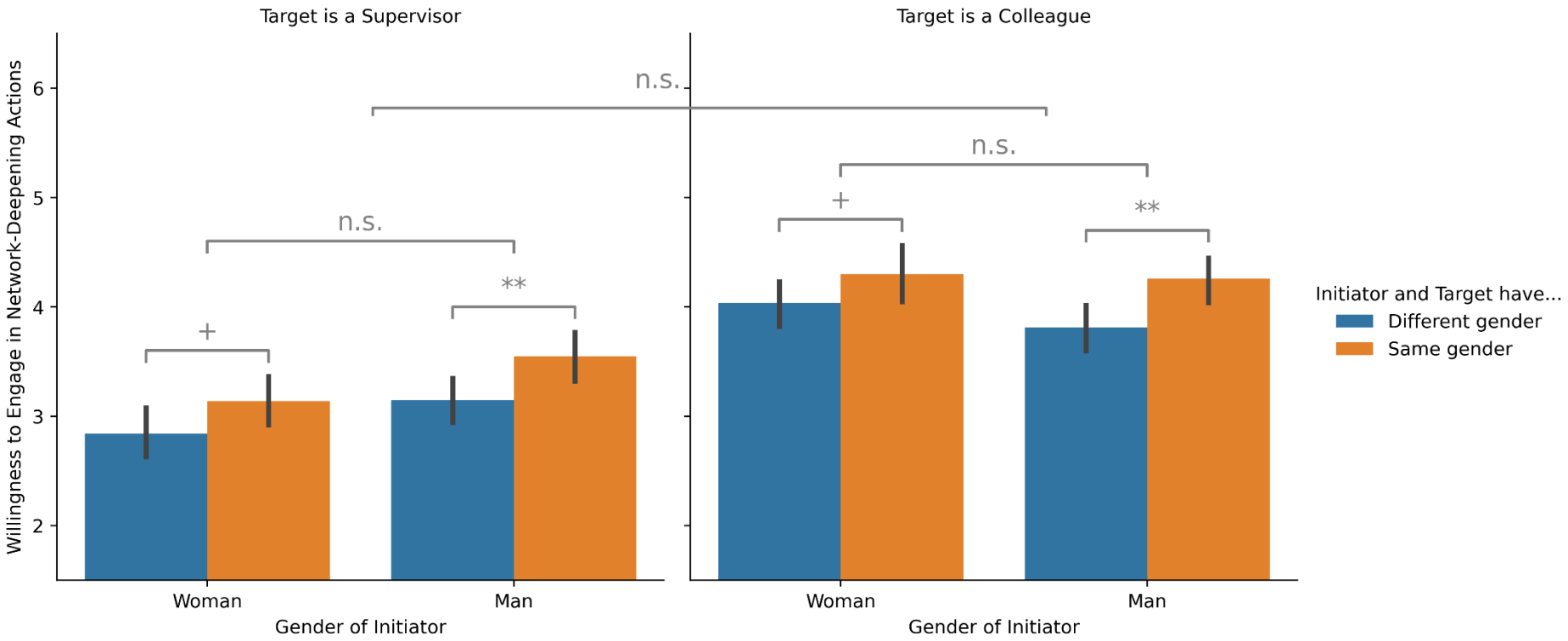

Figure 5. Interaction Plot of Gender Similarity, Initiator's Gender and Target's Hierarchical Level on Willingness to Engage in Network-Deepening Actions

Note. + p < .1, ** p < .01

Error bars represent 95% confidence intervals.

Hypothesis 4 predicted that image risk would play a mediating role in women's aversion to deepen relationships with male supervisors. Since there is no significant three-way interaction, the significance of the moderated mediation model should be taken with caution though. Besides, the previous findings indicate that men, and not women, could be particularly reluctant to engage in network-deepening actions with organizational members of the opposite gender. The moderated mediation analysis could then help confirm those findings, but also verify whether women associate an image risk with their network-deepening actions with male supervisors, even if this perceived risk does not translate into different behaviors.

To test this moderated mediation, I first explored the impact of the independent variables on image risk. I regressed image risk on the gender similarity of the target to that of the initiator, the initiator's gender, the target's hierarchical level and on all two and three-way interactions between those variables. The three-way interaction was significant ($\beta_{GSxIGxHL}$ = 0.89, t(906) = 2.58, p = .01). To better understand this effect, I decomposed this interaction into two conditional two-way interactions (depending on the hierarchical level of the target), and then each two-way interaction into two conditional main effects (depending on the gender of the initiator).

When the target was a supervisor, the hypothesized predictions were confirmed: Women were marginally more likely than men to associate an image risk with their network-deepening actions with a supervisor of the opposite (rather than same) gender. More precisely, women were more likely to associate an image risk with their network-deepening actions with a male supervisor (M = 4.15, SD = 1.38) rather than with a female supervisor (M = 3.03, SD = 1.35; β_{GS} = 1.12, t(906) = 6.10, p < .001). This effect was also true for men (female supervisor: M = 3.87, SD = 1.39; male supervisor: M = 3.18, SD = 1.35; β_{GS} = 0.69, t(906) = 4.31, p < .001), but was marginally more pronounced for women (β_{GSxPG} = -0.43, t(906) = -1.75, p = .08).

When the target was a colleague, I found unexpected results: Men were marginally more likely than women to associate an image risk with their network-deepening actions with a colleague of the opposite (rather than same) gender. More precisely, men were significantly more likely to associate an image risk with their network-deepening actions with a female colleague (M = 3.65, SD = 1.13) rather than with a male colleague (M = 2.33, SD = 1.2; β_{GS} = 1.32, $t(906) = 7.57$, $p < .001$). This effect was also true for women (male colleague: M = 2.94, SD = 1.33; female colleague: M = 2.08, SD = 1.14; β_{GS} = 0.86, $t(906) = 5.12$, $p < .001$), but was marginally more pronounced for men (β_{GSxPG} = 0.46, $t(906) = 1.90$, $p = .06$).

In other words, both men and women associated an image risk with their network-deepening actions when the target was of the opposite gender: They were worried that they would be perceived as seductive in their networking attempts, but this effect was stronger for women when the target was a supervisor, while it was stronger for men when the target was a colleague. Results are reported in Table 5 and depicted in Figure 6.

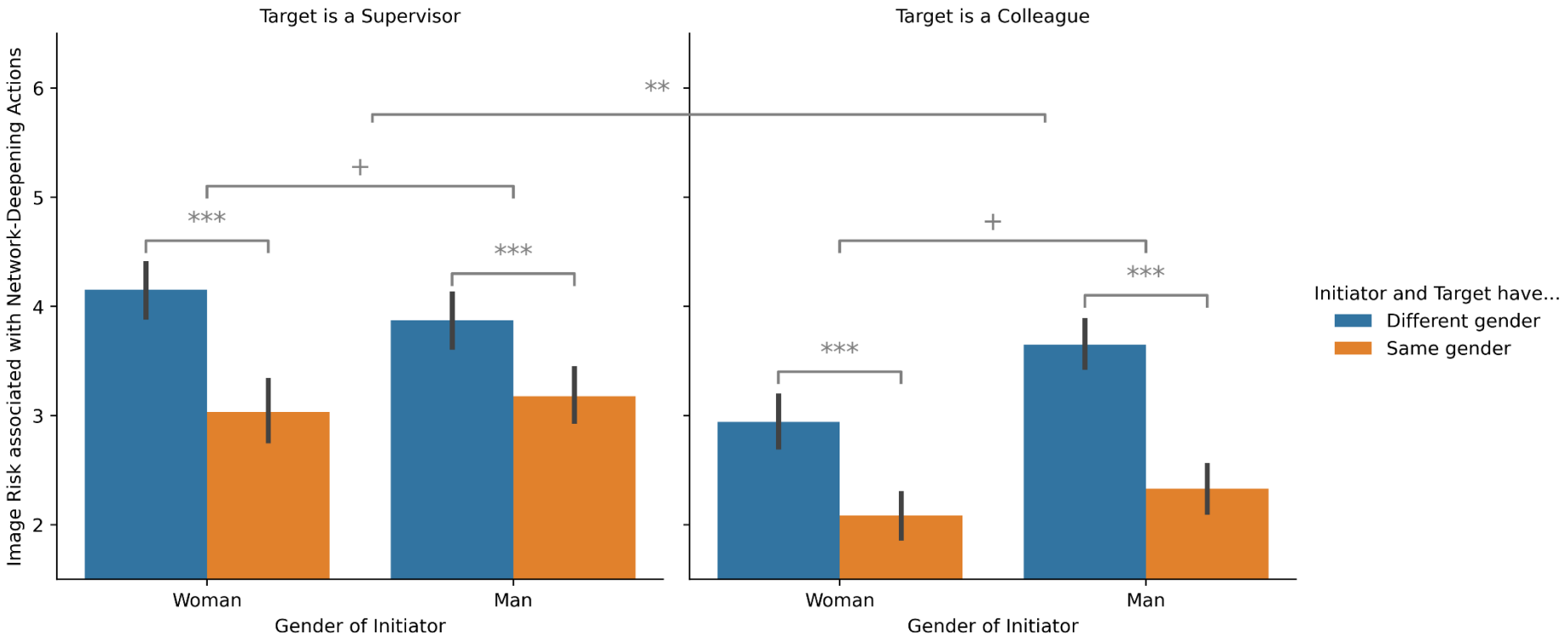

Figure 6. Interaction Plot of Gender Similarity, Initiator's Gender and Target's Hierarchical Level on Image Risk

*Note. + p < .1, ** p < .01, *** p < .001*

Error bars represent 95% confidence intervals.

To test the moderated mediation model, I ran model 12 in PyProcessMacro[13] (André, 2017) and used bootstrap mediation with 5000 random samples and percentile confidence intervals (Caron, 2019; Hayes, 2017; Preacher et al., 2007; Rucker et al., 2011; Williams & MacKinnon, 2008; Zhao et al., 2010). I defined gender similarity between the initiator and the target as the independent variable, initiator's gender as the first moderator, target's hierarchical level as the second moderator, image risk as the mediator, and willingness to engage in network-deepening actions as the dependent variable.

As expected, I found a negative, and significant, conditional indirect effect of gender similarity on the willingness to engage in network-deepening actions when women direct their efforts towards supervisors (β = -0.25, Confidence Interval (CI) at 95% = [-0.38, -0.15]): Women were less likely to engage in network-deepening actions with a male rather than female supervisor because of an increased in the image risk they associate with those actions.

However, this effect was not specific to women. I indeed observed the same effect when the initiator was a man ($\Delta\beta$ = -0.09, CI at 95% = [-0.22, 0.01]): Men were also less likely to engage in network-deepening actions with a female rather than male supervisor (β = -0.15, CI at 95% = [-0.26, -0.07]) because of an increase in their image risk. Women were therefore not significantly less likely than men to engage in network-deepening actions with a supervisor of the opposite gender because of an increase in their image risk.

This effect was also not specific to supervisors. I indeed observed the same effect when the target was a colleague ($\Delta\beta$ = -0.06, CI at 95% = [-0.18, 0.05]): Women were significantly less likely to engage in network-deepening actions with a male rather than female colleague (β = -0.19, CI at 95% = [-0.30, -0.11]) because of an increase in their image risk. Women were therefore not significantly less likely to engage in network-deepening actions with a supervisor

[13] The Python version (https://pypi.org/project/PyProcessMacro/) of PROCESS from Andrew F. Hayes (https://www.processmacro.org/index.html).

than with a colleague of the opposite gender because of an increase in their image risk. Hypothesis 4 is therefore not supported.

However, this analysis revealed unexpected, but interesting results about the way men experience network-deepening actions directed towards female organizational members. As previously mentioned, gender dissimilarity between the initiator and the target had a significant effect on the willingness to engage in network-deepening actions when men direct their efforts towards supervisors (β = -0.15, CI at 95% = [-0.26, -0.07]). Both men and women were thus less likely to engage in network-deepening actions with supervisors of the opposite (rather than same) gender because of an increase in the image risk they associate with those actions ($\Delta\beta$ = -0.09, CI at 95% = [-0.22, 0.01]). However, this effect was strengthened for men when the target was a colleague (β = -0.29, CI at 95% = [-0.43, -0.19]). Due to an increased image risk, men were indeed significantly less likely to engage in network-deepening actions with a colleague than with a supervisor of the opposite gender ($\Delta\beta$ = 0.14, CI at 95% = [0.04, 0.26]); and men were significantly less likely than women to engage in network-deepening actions with a colleague of the opposite gender ($\Delta\beta$ = 0.10, CI at 95% = [0.01, 0.22]). In other words, if I did not find a specific mediating effect of image risk on women's willingness to engage in network-deepening actions with male supervisors, I did find this effect for men engaged in network-deepening actions with female colleagues. Results of the moderated mediation are reported in Table 6.

TABLE 6

Summary of Conditional Indirect and Direct Effects

Conditionally Mediated Paths		**Indirect Effect**	**Direct Effect**
[1] Gender Similarity to Network-Deepening Actions via Image Risk when the Initiator is a *Woman* and the Target is a *Supervisor*	Effect	-0.25	-0.05
	95% CI	[-0.38, -0.15]	[-0.39, 0.29]
[2] Gender Similarity to Network-Deepening Actions via Image Risk when the Initiator is a *Man* and the Target is a *Supervisor*	Effect	-0.15	-0.25
	95% CI	[-0.26, -0.07]	[-0.54, 0.04]
[3] Gender Similarity to Network-Deepening Actions via Image Risk when the Initiator is a *Woman* and the Target is a *Colleague*	Effect	-0.19	-0.07
	95% CI	[-0.30, -0.11]	[-0.38, 0.23]
[4] Gender Similarity to Network-Deepening Actions via Image Risk when the Initiator is a *Man* and the Target is a *Colleague*	Effect	-0.29	-0.15
	95% CI	[-0.43, -0.19]	[-0.48, 0.17]
Index of Conditional Moderated Mediation			
Difference between paths [1] and [2] when the Target is a *Supervisor*	Delta	-0.09	
	95% CI	[-0.22, 0.01]	
Difference between paths [1] and [3] when the Initiator is a *Woman*	Delta	-0.06	
	95% CI	[-0.18, 0.05]	
Difference between paths [3] and [4] when the Target is a *Colleague*	Delta	0.10	
	95% CI	[0.01, 0.22]	
Difference between paths [2] and [4] when the Initiator is a *Man*	Delta	0.14	
	95% CI	[0.04, 0.26]	

Exploratory Analyses

As specified in the pre-registration, I run the previous moderated mediation model on three specific items of image risk that explicitly refer to sexual intentions (i.e., "promiscuous", "flirtatious", "seductive"). This exploratory analysis revealed results supporting hypothesis 4, but also confirming previous observations about men. However, once again, since there is no significant three-way interaction on the total effect (i.e., willingness to engage in network-deepening actions), the significance of the moderated mediation model should be taken with caution.

I first regressed this reduced image risk on the gender similarity of the target to that of the initiator, the initiator's gender, the target's hierarchical level and on all two and three-way interactions between those variables. The three-way interaction was significant ($\beta_{GSxIGxHL}$ = 1.53, t(906) = 3.99, p < .001). I decomposed this interaction into two conditional two-way interactions (depending on the hierarchical level of the target), and then each two-way interaction into two conditional main effects (depending on the gender of the initiator).

When the target was a supervisor, women were more likely than men to associate a sexual image risk with their network-deepening actions with a supervisor of the opposite gender. More precisely, women were more likely to associate an image risk with their network-deepening actions with a male (M = 4.30, SD = 1.60) rather than with a female (M = 2.23, SD = 1.41) supervisor (β_{GS} = 2.07, t(906) = 10.08, p < .001). This effect was also true for men (female supervisor: M = 3.86, SD = 1.54; male supervisor: M = 2.58, SD = 1.52; β_{GS} = 1.28, t(906) = 7.12, p < .001), but was significantly more pronounced for women (β_{GSxIG} = -0.79, t(906) = -2.90, p = .004).

When the target was a colleague, the reverse situation emerged: Men were more likely than women to associate a sexual image risk with their network-deepening actions with a

colleague of the opposite gender. More precisely, men were more likely to associate an image risk with their network-deepening actions with a female (M = 4.31, SD = 1.26) rather than with a male (M = 2.13, SD = 1.23) colleague (β_{GS} = 2.18, $t(906) = 11.17$, $p < .001$). This effect was also true for women (male colleague: M = 3.38, SD = 1.65; female colleague: M = 1.94, SD = 1.18; β_{GS} = 1.43, $t(906) = 7.64$, $p < .001$), but was significantly more pronounced for men (β_{GSxPG} = 0.74, $t(906) = 2.75$, $p = .006$). Those results are represented in Figure 7.

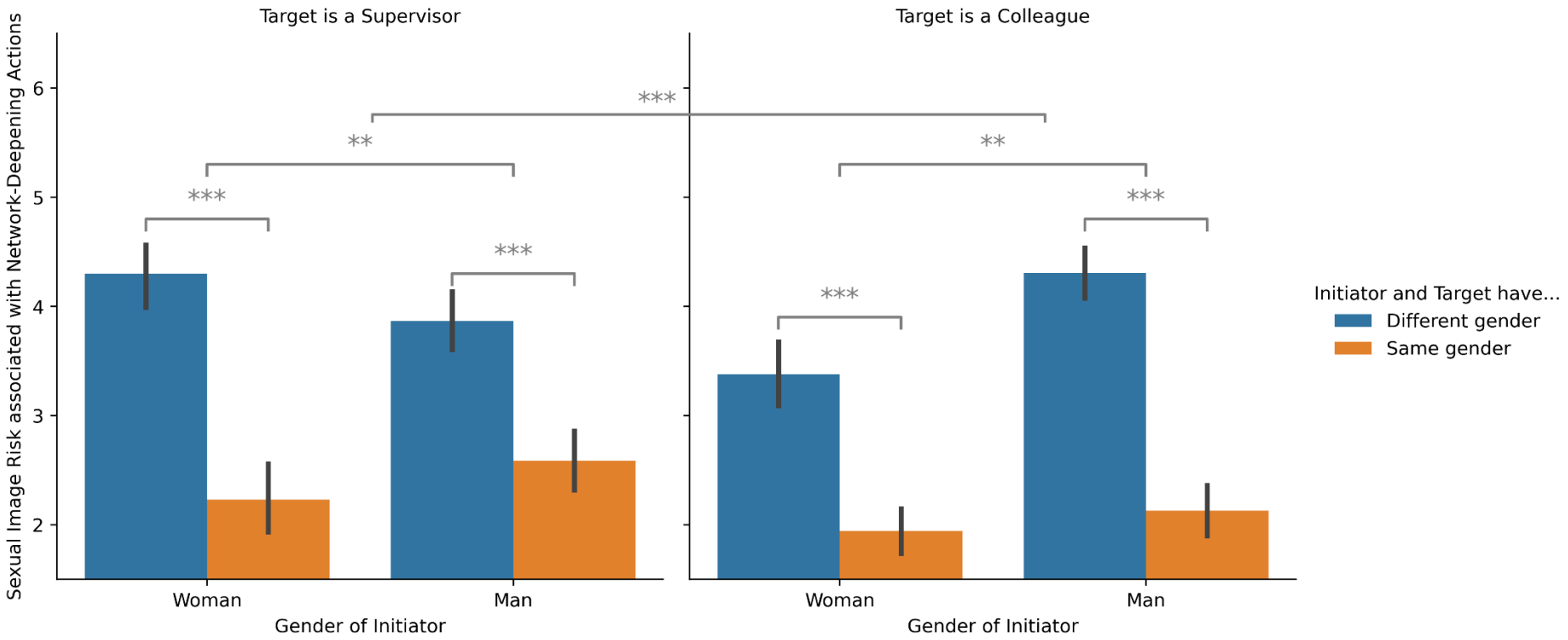

Figure 7. Interaction Plot of Gender Similarity, Initiator's Gender and Target's Hierarchical Level on Sexual Image Risk

Note. ** p < .01, *** p < .001

Error bars represent 95% confidence intervals.

I finally ran model 12 in PyProcessMacro (André, 2017) and used bootstrap mediation with 5000 random samples and percentile confidence intervals. I defined gender similarity between the initiator and the target as the independent variable, initiator's gender as the first moderator, target's hierarchical level as the second moderator, reduced image risk as the mediator, and willingness to engage in network-deepening actions as the dependent variable.

When the target was a supervisor, I found a negative indirect path both for men (β = -0.17, CI at 95% = [-0.28, -0.09]) and women (β = -0.28, CI at 95% = [-0.42, -0.16]) with a larger effect for women ($\Delta\beta$ = -0.11, CI at 95% = [-0.21, -0.04]). This suggests that both men and women are less likely to engage in network-deepening actions with a supervisor of the opposite (rather than same) gender because of the image risk it poses, but that the effect is more severe for women.

I then found that this relationship was attenuated for women when the target was a colleague (β = -0.19, CI at 95% = [-0.30, -0.11]) rather than a supervisor ($\Delta\beta$ = -0.09, CI at 95% = [-0.19, -0.02]). On the contrary, this relationship was strengthened for men when the target was a colleague (β = -0.30, CI 95% = [-0.45, -0.17]) rather than a supervisor ($\Delta\beta$ = 0.12, CI at 95% = [0.05, 0.23]). Ultimately, the image risk associated with network-deepening actions with a colleague of the opposite gender was more severe for men than for women ($\Delta\beta$ = 0.10, CI at 95% = [0.04, 0.21]). The results of this moderated mediation analysis are reported in Table 7.

TABLE 7
Summary of Conditional Indirect and Direct Effects

Conditionally Mediated Paths		**Indirect Effect**	**Direct Effect**
[1] Gender Similarity to Network-Deepening Actions via Sexual Image Risk when the Initiator is a *Woman* and the Target is a *Supervisor*	Effect	-0.28	-0.01
	95% CI	[-0.42, -0.16]	[-0.37, 0.34]
[2] Gender Similarity to Network-Deepening Actions via Sexual Image Risk when the Initiator is a *Man* and the Target is a *Supervisor*	Effect	-0.17	-0.23
	95% CI	[-0.28, -0.09]	[-0.53, 0.07]
[3] Gender Similarity to Network-Deepening Actions via Sexual Image Risk when the Initiator is a *Woman* and the Target is a *Colleague*	Effect	-0.19	-0.07
	95% CI	[-0.30, -0.11]	[-0.39, 0.25]
[4] Gender Similarity to Network-Deepening Actions via Sexual Image Risk when the Initiator is a *Man* and the Target is a *Colleague*	Effect	-0.30	-0.15
	95% CI	[-0.45, -0.17]	[-0.49, 0.19]
Index of Conditional Moderated Mediation			
Difference between paths [1] and [2] when the Target is a *Supervisor*	Delta	-0.11	
	95% CI	[-0.21, -0.04]	
Difference between paths [1] and [3] when the Initiator is a *Woman*	Delta	-0.09	
	95% CI	[-0.19, -0.02]	
Difference between paths [3] and [4] when the Target is a *Colleague*	Delta	0.10	
	95% CI	[0.04, 0.21]	
Difference between paths [2] and [4] when the Initiator is a *Man*	Delta	0.12	
	95% CI	[0.05, 0.23]	

Finally, I noted two other interesting results. First, in addition to gender homophily, participants also had a preference to network with people from the same hierarchical level (β_{HL} = 0.93, t(906) = 11.48, p < .001). As such, both men and women preferred to network with a colleague rather than with a supervisor, and by extension with a colleague of the same gender rather than with a supervisor of the opposite gender (t(464) = -10.99, p < .001). Second, I found a significant interaction between the gender of the initiator and the hierarchical level of the target on the willingness to deepen relationships (β_{IGxHL} = -0.49, t(906) = -3.01, p = .003): Women (M = 4.17, SD = 1.30) were as likely as men (M = 4.03, SD = 1.14) to engage in network-deepening actions with a colleague (β_{IG} = 0.13, t(906) = 1.14, p = .25), but they (M = 2.97, SD = 1.18) were less likely than men (M = 3.34, SD = 1.27) to engage in network-deepening actions with a supervisor (β_{IG} = -0.36, t(906) = -3.11, p = .002). Those exploratory results indicate that both men and women were reluctant to network up, and that this reluctance could be higher for women.

Discussion of the Results

This first study does not fully support the hypothesized theoretical model. The main analysis indicates that women are not less likely than men to engage in network-deepening actions with supervisors of the opposite rather than same gender. However, as expected, women associate more image risk than men with those actions, and this image risk is attenuated when the supervisor is of the same gender, or when the target is a colleague. I then confirmed that the more image risk people associate with their network-deepening actions, the less willing to engage in those actions they are.

This study also revealed unexpected results about men's experience of network-deepening actions with women. Both the main and the exploratory analyses indicate that men associate an image risk with their network-deepening actions with women, particularly when they are directed toward a colleague.

An ad hoc explanation might be that men have started to internalize that some of their behaviors towards women might be misinterpreted and trigger negative reactions from the audience. In October 2017, the #MeToo movement and Harvey Weinstein case gave women the opportunity to publicly denounce men's behaviors towards women in the workplace, and to report misconducts ranging from inappropriate remarks to sexual assaults. A survey conducted in February 2019 in the US on the consequences of the #MeToo movement on work relationships found that 60% of male managers feel uncomfortable mentoring a woman, working alone with her, or socializing together (an increase of 32% in a year). Senior-level men also reported to be far more hesitant to spend time with junior women (compared to junior men) across a range of work activities such as having one-to-one meetings, traveling together for work, or having work dinners. Finally, when interrogated on the reasons of their reluctance, 36% of men reported to avoid mentoring or socializing with women because they felt nervous about how others would perceive such behaviors (Lean In, 2018). Similarly, in a very recent paper, Atwater and colleagues (forthcoming) interrogated men and women on the consequences of the #MeToo movement. In the first survey, collected soon after the peak of the #MeToo movement, 24% of men and 44% of women predicted that men would tend to exclude women more from social interactions, such as afterwork drinks; nearly a third of men declared they would feel reluctant to have a one-on-one meeting with a woman; and 58% of men declared they would fear more of being unfairly accused. In a follow-up survey conducted more than a year after the beginning of the #MeToo movement (early 2019), this backlash effect was still present: 19% of men declared to be reluctant to hire attractive women, 21% declared to be reluctant to hire women for jobs involving close relationships with men, such as jobs involving travel; and 27% of them declared to avoid one-on-one meetings with female colleagues. Above and beyond the consequences of the #MeToo movement, older surveys already revealed that 64% of men occupying high positions in the corporate ladder refrained from having one-one-

one contacts with junior women for fear of being suspected of having a liaison (Hewlett, 2010). The results found among men in Study 1 might then be explained by the fear that others might view their network-deepening actions towards women as inappropriate.

The exploratory analysis also helped refine the kind of image risk both men and women associate with their network-deepening actions with organizational members of the opposite gender. This image risk seems sexual in nature for both genders, but probably covers two different situations for each gender. Indeed, when image risk specifically refers to those sexual intentions, the analysis shows different reactions for men and women. If both men and women associate an image risk with their network-deepening actions with people of the opposite gender, which subsequently prevent them from networking by fear of being misjudged, this risk is perceived as stronger by women when they direct their network-deepening actions towards male supervisors, while this risk is perceived as stronger by men when they direct their network-deepening actions towards female colleagues. In other words, while for women, this image risk might refer to the stereotype of the "seductress" willing and able to use her charm to manipulate men of power, for men, this image risk might refer to inappropriate and potentially predatory behaviors towards women.

In Study 1, I tried to understand what could prevent women from undertaking potentially rewarding networking actions and examined the impact of a specific gender stereotype on women's engagement in a specific networking action. More precisely, I tried to show that women could be reluctant to engage in network-deepening actions with their male supervisors for fear of being stereotyped as "temptress" or "seductress" and therefore misjudged. In Study 2, I examine whether people indeed negatively evaluate women engaged in those actions to determine whether women's fear for their image is warranted. More precisely, I test whether individuals seeing women engaged in network-deepening actions with male supervisors

evaluate them according to this stereotype, and therefore judge them as less competent, colder, less moral and more seductive.

STUDY 2

Method

Design and Procedure

To investigate Hypotheses 5 and 6, I conducted a pre-registered[14] experiment based on vignettes: Participants put themselves in the situation of someone working in the department of a large company and observing the behavior of one of his (or her) colleagues. Participants were first randomly assigned to one of eight cells of a 2 (gender of the person networking: male vs. female), by 2 (gender of the target: male vs. female), by 2 (hierarchical level of the target: colleague vs. supervisor) between-subject design. They then read the vignette corresponding to their conditions, and finally answered a questionnaire containing the dependent measures (i.e., perceived competence, perceived warmth, perceived morality, appropriateness of the "seductress" stereotype). The questionnaire also included three attention checks, three manipulation checks, and five demographic questions about the gender of the participants, their age, the country where they had spent the most of their time, their level of education, and the number of years of work experience. None of those demographic variables was included in the analysis, and only served to describe the sample.

Participants

To ensure the ecological validity of the sample, I applied selection criteria previously used in studies investigating networking behaviors (Forret & Dougherty, 2001), such that all participants were full-time employees (not part-time, not self-employed) in any type of organizations to the exclusion of family business. I collected responses from 1000 participants

[14] https://aspredicted.org/blind.php?x=324z8n

from an online platform called Prolific in exchange of payment (52% from the UK, 33% from North America, and 13% from continental Europe; 53% female; mean age = 37, *SD* = 9.98; mean work experience = 16 years, *SD* = 10.09).

Experimental Manipulations

I manipulated three factors between-subjects: The gender of the person networking (male vs. female), the gender of the target (male vs. female), and the hierarchical level of the target (colleague vs. supervisor). I manipulated the gender of the person networking by using the name "Paul" in the male condition and "Alice" in the female condition. I manipulated the gender of the target by using the name "Jack Myers" in the male condition and "Jennifer Myers" in the female condition. Finally, I manipulated the hierarchical level of the target by describing the so-called Myers either as a "colleague" or as the "head of the department".

Measures

Each dependent variable measured the extent to which people perceived individuals (men or women) engaged in network-deepening actions with a supervisor (vs. colleague) of the opposite (vs. same) gender as competent, warm, moral, and seductive.

Attention checks. I included three attention checks among the items measuring the four dependent measures to be sure that participants carefully read each item of the scale. Participants who failed at least one of the three attention checks were removed from the sample.

Manipulation checks. To assess whether participants rightfully detected the conditions in which they were assigned, I asked participants whether the person networking was a man or a woman, and whether the target of those networking attempts was a man or a woman, and a colleague or a supervisor. Participants who failed at least one of the three manipulation checks were removed from the sample.

In total, 78 participants were excluded from the sample. No analysis was conducted before removing those participants. All analyses and statistics reported are based on the final sample of 922 participants. This final sample had between 113 and 120 participants per condition. Descriptive statistics are reported in Table 8 and correlations between the dependent variables are reported in Table 9.

TABLE 8
Descriptive Statistics

Mean (SD) per condition	The target is a supervisor		The target is a colleague	
	The initiator is a woman	The initiator is a man	The initiator is a woman	The initiator is a man
Perceived competence				
Target and initiator have different gender	4.75 (0.93)	4.82 (0.61)	4.68 (0.79)	4.63 (0.66)
Target and initiator have same gender	4.88 (0.91)	4.83 (0.76)	4.65 (0.8)	4.63 (0.7)
Perceived warmth				
Target and initiator have different gender	4.71 (1.1)	4.78 (0.94)	5.23 (0.91)	5.25 (0.8)
Target and initiator have same gender	4.84 (1.17)	4.85 (1.06)	5.48 (0.91)	5.47 (0.87)
Perceived morality				
Target and initiator have different gender	3.93 (1.08)	4 (0.94)	4.55 (0.89)	4.51 (0.88)
Target and initiator have same gender	4.08 (1.14)	4.06 (1.12)	4.85 (0.93)	4.77 (0.86)
Appropriateness of the "seductress" stereotype				
Target and initiator have different gender	4.45 (1.26)	4.52 (1.04)	3.52 (1.24)	3.84 (1)
Target and initiator have same gender	3.56 (1.32)	3.62 (1.27)	2.81 (1.28)	2.87 (1.09)
Sample size				
Target and initiator have different gender	120	113	115	115
Target and initiator have same gender	116	114	116	113

Perceived competence. This variable was measured on a 7-point scale from (1) Not at all to (7) Extremely with seven items asking participants the extent to which they perceived the initiator of the networking actions as "competent," "confident," "capable," "independent," "intelligent," "skillful," and "competitive" (Brands & Kilduff, 2014; Fiske, Cuddy, & Glick, 2007; Fiske, Cuddy, Glick, & Xu, 2002; Leach, Ellemers, & Barreto, 2007) (Min = 1.43, *M* = 4.73, Max = 7, *SD* = 0.78, α = 0.81).

Perceived warmth. This variable was measured on a 7-point scale from (1) Not at all to (7) Extremely with four items asking participants the extent to which they perceived the initiator of the networking actions as "friendly," "warm," "good natured," and "likeable" (Brands & Kilduff, 2014; Fiske et al., 2007, 2002; Leach et al., 2007) (Min = 1, *M* = 5.07, Max = 7, *SD* = 1.02, α = 0.89).

Perceived morality. This variable was measured on a 7-point scale from (1) Not at all to (7) Extremely with four items asking participants the extent to which they perceived the initiator of the networking actions as "well intentioned," "trustworthy," "sincere," and "honest" (Leach et al., 2007; Wojciszke, 1994, 2005; Wojciszke, Bazinska, & Jaworski, 1998) (Min = 1, *M* = 4.34, Max = 7, *SD* = 1.04, α = 0.89).

Appropriateness of "seductress" stereotype. Finally, I measured the extent to which people viewed the initiator of the network-deepening actions according to the stereotype of the "seductress" using six items. Participants reported the extent to which they perceived the initiator as "flirtatious," "seductive," "promiscuous," "manipulative," "devious," and "scheming" (DeWall et al., 2005; Heilman & Stopeck, 1985) on 7-point scales anchored between (1) Not at all and (7) Extremely (Min = 1, *M* = 3.65, Max = 7, *SD* = 1.33, α = 0.88).

TABLE 9
Correlation Coefficients between Dependent Variables

	1	2	3
1. Perceived Competence	-		
2. Perceived Warmth	0.44 ***	-	
3. Perceived Morality	0.45 ***	0.8 ***	-
4. Appropriateness of the "Seductress" Stereotype	0.03	-0.44 ***	-0.51 ***

Note. *** p < .001

Results

For the same reasons as in Study 1, I first created a gender similarity variable coding whether the gender of the target was similar or different to that of the initiator. I then regressed perception of competence, warmth, morality, and appropriateness of the stereotype on the gender similarity of the target to that of the initiator, the initiator's gender, and the target's hierarchical level, and on all two and three-way interactions between those variables.

Hypothesis 5 predicted that women would be judged more harshly than men when they are engaged in network-deepening actions with a supervisor of the opposite (rather than same) gender. The results show that people did not evaluate women engaged in network-deepening actions with a supervisor of the opposite gender more negatively than men engaged in the same activity (all *p*s > .39 for perceived competence, perceived warmth, perceived morality, and appropriateness of stereotype[15]). Hypothesis 5 is therefore not supported. More precisely, women engaged in network-deepening actions with a male (vs. female) supervisor were perceived as equally competent (β_{GS} = -0.13, *t*(914) = -1.24, *p* = .22), warm (β_{GS} = -0.13, *t*(914) = -1.03, *p* = .30), and moral (β_{GS} = -0.14, *t*(914) = -1.11, *p* = .27), but more seductive (β_{GS} = 0.89, *t*(914) = 5.72, *p* < .001). The same pattern of results was observed for men engaged in network-deepening actions with a female (vs. male) supervisor: People perceived them as

[15] **H5:** perceived competence: β_{GSxIG} = 0.12, *t*(914) = 0.86, *p* = .39; perceived warmth: β_{GSxIG} = 0.06, *t*(914) = 0.30, *p* = .76; perceived morality: β_{GSxIG} = 0.08, *t*(914) = 0.44, *p* = .66; appropriateness of stereotype: β_{GSxIG} = 0.01, *t*(914) = 0.03, *p* = .98

equally competent (β_{GS} = -0.001, *t*(914) = -0.01, *p* = .99), warm (β_{GS} = -0.08, *t*(914) = -0.59, *p* = .56), and moral (β_{GS} = -0.06, *t*(914) = -0.47, *p* = .64), but more seductive (β_{GS} = 0.90, *t*(914) = 5.65, *p* < .001).

Hypothesis 6 predicted that the previous relationship would be attenuated when the target of these network-deepening actions was a colleague. The three-way interaction for each dependent variable was non-significant (all *p*s > .40 for perceived competence, perceived warmth, perceived morality, and appropriateness of stereotype[16]). Hypothesis 6 is therefore not supported. Results are reported in Table 10.

I also did not find evidence that men are judged more harshly than women when they are engaged in network-deepening actions with a colleague of the opposite (rather than same) gender (all *p*s > .23 for perceived competence, perceived warmth, perceived morality, and appropriateness of stereotype[17]). Indeed, while men were perceived as equally competent (β_{GS} = -0.003, *t*(914) = -0.03, *p* = .97), marginally less warm (β_{GS} = -0.23, *t*(914) = -1.74, *p* = .08), less moral (β_{GS} = -0.26, *t*(914) = -2.01, *p* = .04), and more seductive (β_{GS} = 0.97, *t*(914) = 6.16, *p* < .001) when they deepened relationship with a female (rather than male) colleague, a similar pattern of results was observed for women. Women were also perceived as equally competent (β_{GS} = 0.03, *t*(914) = 0.31, *p* = .76), marginally less warm (β_{GS} = -0.25, *t*(914) = -1.91, *p* = .06), less moral (β_{GS} = -0.30, *t*(914) = -2.34, *p* = .02), and more seductive (β_{GS} = 0.71, *t*(914) = 4.49, *p* < .001) when they deepened relationship with a male (rather than female) colleague.

[16] **H6:** perceived competence: $\beta_{GSxIGxHL}$ = -0.16, *t*(914) = -0.78, *p* = .44; perceived warmth: $\beta_{GSxIGxHL}$ = -0.03, *t*(914) = -0.14, *p* = .89; perceived morality: $\beta_{GSxIGxHL}$ = -0.04, *t*(914) = -0.16, *p* = .88; appropriateness of stereotype: $\beta_{GSxIGxHL}$ = 0.26, *t*(914) = 0.83, *p* = .40

[17] Conditional two-way interaction (the target is a colleague): Perceived competence: β_{GSxIG} = -0.03, *t*(914) = -0.24, *p* = .81; Perceived warmth: β_{GSxIG} = 0.02, *t*(914) = 0.11, *p* = .91; perceived morality: β_{GSxIG} = 0.04, *t*(914) = 0.22, *p* = .83; appropriateness of stereotype: β_{GSxIG} = 0.27, *t*(914) = 1.21, *p* = .23

TABLE 10
Linear Regressions

	Dependent variable:			
	Competence	Warmth	Morality	Stereotype
	(1)	(2)	(3)	(4)
Gender similarity (1 = different)	-0.004	-0.23^{+}	-0.26*	0.97***
	(0.10)	(0.13)	(0.13)	(0.16)
Initiator gender (1 = woman)	0.02	0.003	0.07	-0.05
	(0.10)	(0.13)	(0.13)	(0.16)
Hierarchical level (1 = upper level)	0.19^{+}	-0.62***	-0.72***	0.76***
	(0.10)	(0.13)	(0.13)	(0.16)
Gender similarity x Initiator gender	0.04	-0.02	-0.04	-0.27
	(0.15)	(0.18)	(0.18)	(0.22)
Gender similarity x Hierarchical level	0.002	0.15	0.20	-0.08
	(0.15)	(0.18)	(0.19)	(0.22)
Initiator gender x Hierarchical level	0.04	-0.02	-0.06	-0.01
	(0.15)	(0.18)	(0.18)	(0.22)
Gender sim. x Init. gender x Hier. level	-0.16	-0.04	-0.04	0.26
	(0.21)	(0.26)	(0.26)	(0.31)
Constant	4.63***	5.47***	4.77***	2.87***
	(0.07)	(0.09)	(0.09)	(0.11)
Observations	922	922	922	922
R^2	0.01	0.08	0.11	0.20
Adjusted R^2	0.01	0.08	0.10	0.19
Residual Std. Error (df = 914)	0.78	0.98	0.99	1.19
F Statistic (df = 7; 914)	1.89^{+}	12.05***	16.05***	32.07***
Note:	$^{+}$p < 0.1 ; *p < 0.05 ; **p < 0.01 ; ***p<0.001			

Exploratory Analyses

As specified in the pre-registration, I re-ran the previous analysis on three items of the "seductress" stereotype that explicitly refer to sexual intentions (i.e., "promiscuous", "flirtatious", "seductive"). When the target was a supervisor, the analysis indicates that people did not evaluate women differently than men (β_{GSxIG} = -0.01, t(914) = -0.02, p = .98): Both men and women engaged in network-deepening actions with a supervisor of the opposite (rather

than same) gender were perceived as sexually manipulative (men: β_{GS} = 1.55, t(914) = 9.02, p < .001; women: β_{GS} = 1.56, t(914) = 9.23, p < .001). When the target was a colleague, both men and women engaged in network-deepening actions with a colleague of the opposite (rather than same) gender were perceived as sexually manipulative as well (men: β_{GS} = 1.52, t(914) = 8.88, p < .001; women: β_{GS} = 1.10, t(914) = 6.48, p < .001), but this effect was marginally larger for men than for women (β_{GSxIG} = 0.42, t(914) = 1.73, p = .08).

In addition, exploratory analyses revealed a main effect of gender similarity between the initiator and the target on perceived warmth, perceived morality and the appropriateness of the seductress or seducer stereotype: When the network-deepening actions were directed toward a target of the opposite (rather than same) gender, people perceived the initiator of such actions as less warm (β_{GS} = -0.17, t(914) = -2.63, p = .009), less moral (β_{GS} = -0.19, t(914) = -2.96, p = .003) and more seductive (β_{GS} = 0.87, t(914) = 11.02, p < .001). Similarly, I found a main effect of the target's hierarchical level on each of the dependent variables: When the network-deepening actions were directed toward a supervisor (rather than a colleague), people perceived the initiator of such actions as more competent (β_{HL} = 0.17, t(914) = 3.39, p < .001), but less warm (β_{HL} = -0.56, t(914) = -8.71, p < .001), less moral (β_{HL} = -0.65, t(914) = -10.04, p < .001) and more seductive (β_{HL} = 0.78, t(914) = 9.90, p < .001).

Discussion of the Results

In this second study, I did not find evidence for a specific gender stereotype targeting women in situations of network-deepening actions with their male supervisors. Those women do not trigger negative evaluation from the audience, that do not seem to interpret those behaviors as attempts to manipulate men to get access to valuable resources. These preliminary results therefore suggest that the image risk women associate with network-deepening actions with male supervisors might not be warranted.

In fact, men and women were perceived as equally competent, and were both perceived as more competent when engaged in network-deepening actions with a supervisor rather than with a colleague. They were also perceived as equally warm and moral, and were both perceived to be warmer and more moral when engaged in network-deepening actions with a colleague rather than with a supervisor; or with someone of the same rather than opposite gender. Finally, they were perceived as equally manipulative and promiscuous, and were both perceived as more manipulative and promiscuous when engaged in network-deepening actions with a supervisor rather than a colleague; or with someone of the opposite rather than same gender.

On the other hand, I partially confirmed the results found in Study 1 for men: Men's behaviors are indeed more likely to be seen as sexually ambiguous when engaged in network-deepening actions with colleagues of the opposite rather than same gender compared to women engaged in the same type of behavior. However, other differences were not significant. In other words, even if men seem to have internalized that network-deepening actions with women within the organization, particularly when they are colleagues, might be misinterpreted, it is not clear that people attach a particular stereotype to those behaviors when they observe them.

DISCUSSION

Summary

In this paper, I proposed a theoretical explanation as to why women benefit less than men from equivalent investments in networking actions. I argued that the existence of a specific gender stereotype against women (that of the "temptress", "seductress") might prevent women from undertaking potentially rewarding networking actions, such as deepening relationships with their supervisors. Given that, in organizations, the typical supervisor is a man (Joshi, 2018; Lean In, McKinsey & Company, 2019), woman might be reluctant to deepen relationships with them because they fear for their image.

The first study provided partial support for the theoretical model. While I do find evidence that women are reluctant to engage in network-deepening actions with a supervisor of the opposite gender, and that this reduced willingness is mediated by an increase in their image risk, I do not find that this pattern is specific to women. Indeed, men are also reluctant to engage in this type of networking actions with a supervisor of the opposite gender. I also do not find that the effect is specific to supervisors, since women are reluctant to engage in these networking actions with male colleagues as well.

The moderated mediation analysis provided an unexpected but interesting result: It appears that men are as reluctant as women to engage in network-deepening actions with organizational members of the opposite gender, and are even more likely than women to disengage from network-deepening activities with a colleague of the opposite gender, because they perceive a greater risk for their image to engage in such actions.

In exploratory analyses, I observed a significant difference between gender when considering the items in image risk that are specific to sexual intentions: "promiscuous", "flirtatious", and "seductive". When image risk specifically refers to sexual intentions, both men and women are reluctant to engage in network-deepening actions with organizational members of the opposite gender because they fear for their image. However, I observe a diverging pattern between gender: Whereas women associate a greater image risk with network-deepening actions directed towards their male supervisors (rather than their male colleagues), men associate a greater image risk with network-deepening actions directed towards their female colleagues (rather than their female supervisors).

It therefore seems that both men and women view themselves at risk of negative reactions likely to damage their image when deepening relationship with organizational members of the opposite gender. For women on the one hand, the stereotype of the "temptress" or "seductress" may discourage them from establishing deeper relationships with their male

supervisors. For men on the other hand, the recent #MeToo movement and the subsequent downfall of many men of power (Almukhtar, Gold, & Buchanan, 2017) might have led men to worry that being close to their female colleagues might be viewed as inappropriate. In both cases, even if the nature of the stereotype internalized by each gender differs, the outcome is the same: Men and women alike are reluctant to engage in network-deepening actions with other organizational members of the opposite gender.

In Study 2, I tested how people evaluate women engaged in network-deepening actions with their male supervisors. Contrary to what the literature suggests, I did not find evidence that people judge women engaged in this type of activity more harshly than men engaged in the same type of activity with a female supervisor. This piece of evidence might then suggest that the image risk women associate with their network-deepening actions towards male supervisors is in fact not justified. However, based on this single study, it would be premature to conclude that the gender stereotype of the 'temptress" or "seductress" does not exist. This null finding might also reflect a countervailing force in the experiment: Past research has indeed suggested that being connected to a prominent organizational member has positive reputational effect for a person, regardless of one's gender (Brass, 1984, 1985; Kilduff & Krackhardt, 1994). Participants in the experiment might then have perceived women's networking attempts toward their male supervisors as positive. The main effect of the target's hierarchical level on the perceived competence of the initiator indeed suggests this idea: Both men and women engaged in networking-deepening actions with their supervisors were seen as more competent than when those networking attempts were directed toward a colleague.

Theoretical Implications

From a theoretical perspective, I confirm that homophily is a strong driver of social interactions (Brass et al., 2004): People are more likely to approach organizational members who share the same gender, or the same hierarchical level, which makes networking efforts

towards supervisors harder for women and risk to penalize them more since men are in average overrepresented at each level of the corporate ladder (Joshi, 2018; Lean In, McKinsey & Company, 2019).

In addition, this paper contributes to a better understanding of the kind of organizational network women build. Past research has shown that women are by default embedded in organizational network structures that are more constrained than that of men (Brass, 1985; Ibarra, 1992, 1993). Those network constraints make networking a particularly important strategy for women to overcome hurdles (Brass & Burkhardt, 1993; Khattab et al., 2020). The present research shows a complementary explanation that resonates with past research: Beyond structural factors, psychological factors can make it harder for women to deepen relationships with key organizational members.

By theorizing that women may renounce some networking activities because they anticipate being stereotyped and fear for their image, the present research complements past research showing that women may steer away from participating in certain activities. For example, because of gendered-family roles, biased self-assessment, and anticipation of discrimination, female candidates may decide not to interview for top management jobs (Fernandez-Mateo & Fernandez, 2016). Women are also less likely than men to consider a job with an employer who has rejected them in the past because they put a stronger weight on the rejection that they previously received (Brands & Fernandez-Mateo, 2017). Similarly, a recent theoretical work on the way minorities use their organizational networks suggests that minority actors engage less than majority actors in networking because they do not perceive their network useful for their career, question their legitimacy at engaging in networking, fear of confirming stereotypical expectations and expect rejection (Khattab et al., 2020).

By theorizing that the subjective experience and the evaluation by others of some networking actions may differ between men and women, the present paper echoes past research

showing that men and women occupying a same network position may not only experience this position differently but may also be perceived differently. For example, women occupying brokerage positions seem to experience stereotype threat, which subsequently undermine their performance (Brands & Mehra, 2019)[18], and people who perceive women as occupying such position judge them cold and unfriendly because they violate the gender stereotype according to which brokers are supposed to be men, and not women (Brands & Kilduff, 2014).

By theorizing that women, compared to men, may renounce some networking actions for fear of being misjudged, the present paper also mirrors recent research suggesting that women may engage in additional networking actions (that the authors call "scouting") aimed at gathering specific information from other women about how they are treated in a firm or an industry (Obukhova & Kleinbaum, 2020). In other words, while gender stereotypes might push women to renounce some networking actions directed towards men, gender inequality might simultaneously push women to undertake specific networking actions directed towards other women.

Finally, the present paper is situated within the framework according to which both supply-side and demand-side factors can play against women's careers (Fernandez-Mateo & Kaplan, 2018). On the one hand, the choices and behaviors of women (i.e., the supply-side factors), who for example renounce engaging in some networking activities, may play against their access to resources. On the other hand, the expectations people have of women's behaviors (i.e., the demand-side factors) may play against women's evaluation.

This paper also refines the kind of image risk women associate with network-deepening actions with male supervisors. I have shown that what might prevent women from undertaking

[18] This paper should be considered with caution since several large scale pre-registered replications failed to replicate stereotype threat, and questions have been raised about the existence of the concept (Finnigan & Corker, 2016; Flore, Mulder, & Wicherts, 2018; Lewis & Michalak, 2019; Stricker & Ward, 2006; Zigerell, 2017).

those actions is the fear that their behavior will be perceived as sexually ambiguous: Women are worried to be viewed as willing to exchange promiscuity for resources. I have also documented that men, contrary to expectations, are not exempt from negative gender stereotypes. They might be tempted to avoid maintaining relationships with female colleagues by fear their behaviors to be perceived as sexually ambiguous as well: Men seem worried that others interpret their behaviors as sexual intentions.

Lastly, a significant proportion of the literature on gender stereotypes relies on non-pre-registered studies testing two- or three-way interactions on relatively small samples, making it difficult to assess the strength of the evidence presented (Simmons, 2013; Simmons et al., 2011). In Study 2, I pre-registered the analysis and collected more than 100 data points per condition, and contrary to what the theory suggests, I found no evidence that in a specific situation of networking, women were more negatively judged than men and judged stereotypically. At this stage no definitive conclusion can be made, but more pre-registered studies with large samples should be run on the topic. The present work represents a step in this direction and contributes to an effort to build more reliable evidence in the domain of gender stereotypes.

Practical Implications

The present findings have shown that, although network-deepening actions might be particularly useful to help women overcome the network constraints they face and boost their career, women might be reluctant to undertake such actions with male supervisors. One of the solutions to help women overcome this aversion might be to hire and promote more women in positions of power at each hierarchical level of the organization. As such, women might find other women at every step to sponsor them at a higher level and might therefore be able to compete with men for top organizational positions. However, if gender diversity consists of bringing more women within organizations, without putting those women in position of

authority (Joshi, 2018; Lean In, McKinsey & Company, 2019), or only consists of increasing gender parity at the top (e.g., on the board of directors) to polish company's public image (Chang, Milkman, Chugh, & Akinola, 2018), women might continue having a harder time climbing the corporate ladder.

The findings also highlight a new phenomenon that might have positive consequences for the safety and well-being of women within organizations, but negative consequences for their professional success. On the one hand, it seems that men have internalized that their behaviors towards women are under greater scrutiny: They are maybe more aware that some behaviors will no longer be tolerated. On the other hand, the response of men to women's demands of respect might backfire on women: Rather than avoiding unwanted contacts, it seems that men would avoid contact with their female colleagues altogether. Given the network constraints women are already facing within organizations, such reaction to the #MeToo movement might hinder women's ability to succeed.

The reluctance of both men and women to deepen relationships with organizational members of the opposite gender might have more severe consequences for women than for men (Hewlett, 2010; Smith & Johnson, 2016). On one side, women's discomfort to deepen relationships with male supervisors might prevent them from gaining visibility, making favorable impressions, and getting access to resources. On the other side, men's discomfort at deepening relationships with female organizational members might prevent women from accessing valuable resources.

Indeed, if men are reluctant to deepen relationships with female supervisors, and even more so with female colleagues, it might be reasonable to expect that this reluctance would strengthen as the hierarchical level of the woman decreases. Given the formal power asymmetry in favor of the manager characterizing a manager – subordinate relationship, men might perceive even riskier for their image any attempts aiming at deepening relationships with their

female subordinates. Recent findings have for example shown that men report being reluctant to mentor or spend time with junior women since the #MeToo movement (Lean In, 2018). Given that women may have difficulty to find people able and willing to mentor (Noe, 1988) and sponsor (Anderson & Smith, 2019) them at the higher level, which subsequently reduces their chance of being promoted (Ibarra et al., 2010), the reluctance of men to build stronger relationships with women at a junior level might be particularly impactful for women's career.

Finally, the present research indicates that advising men and women to become friends with their supervisors or "get to know their boss" (Knight, 2016) to boost their career, without considering that this action may be experienced very differently by men and women, might not be very helpful to women. On the contrary, acknowledging the psychological hurdles women may face while trying to deepen relationships with their supervisors might help women overcome those hurdles. As such, increasing people's awareness within organizations that a same networking strategy might require more efforts from women because of structural factors standing in their path is important. For example, networking programs could focus on the unique constraints women experience when engaging in such action. In addition, male managers should acknowledge that their judgement of both male and female subordinates might be biased in opposite directions. On the one hand, their preference for gender homophily might push them towards their male subordinates, and lead them to favor men when distributing resources and promotions. On the other hand, the image risk they associate with getting close to women in an organizational context might pull them away from their female subordinates, and reduce the likelihood that women will be distributed valuable resources. Encouraging managers to engage in thoughtful consideration and evaluation of all their subordinates when distributing resources (e.g., pay raise, promotion, budget increase, assignment to developmental projects) might disrupt the automaticity of their judgement based on preference for homophily, and image risk associated with the proximity with women. Finally, the organization itself might

help women by avoiding promoting and rewarding behaviors that are more accessible to men than to women.

Limitations

Several limitations might have contributed to the null finding that I have reported. First, the specific vignettes that I have used could have failed to trigger the expected reactions, and other vignettes should be tested to replicate the lack of effect. Second, I predicted and tested a three-way interaction. However, three-way interactions are difficult to capture because they require large samples (Simonsohn, 2014a), and sample sizes of 914 and 922 participants might still be insufficient to detect an attenuation effect (Simmons, 2013, 2014; Simonsohn, 2014b). Third, it is noteworthy that there is no established scale for measuring image risk. Future research would benefit from scale development efforts, aimed at defining the boundaries of the construct and establishing its validity in the context of networking activities, and whether this image risk differs for men and women. Fourth, it is possible that the stereotype of the "seductress" is triggered in specific conditions, narrower that those tested. For example, only young, single women or women working in a male-dominated industry (Fernando, Cohen, & Duberley, 2018; Fernando et al., 2019; Kanter, 1977) might associate an image risk with their network-deepening actions with male supervisors. It is also possible that the stereotype of the "temptress" only comes to people's mind when the person observed is perceived as physically attractive (DeWall et al., 2005; Sheppard & Johnson, 2019), or in more vivid circumstances that in text-based stimuli. The stereotype of the "temptress" might also be more salient in people's mind when women's networking attempts are successful (for example, when those networking attempts are followed with a promotion), or when women circumvent the hierarchy and network with male senior managers that wield more power and influence, thereby triggering jealousy and hostility. Finally, past research (DeWall et al., 2005) has shown that people tend to categorize women in different stereotypical groups (e.g., "professional", "feminist",

"athlete", "homemaker", "beauty" or "temptress"). Some of those stereotypes might be more prevalent than others in some social circumstances (e.g., the "temptress" or "beauty" in male-dominated types of industry), over time (e.g., the "feminist" and "professional" stereotype might be more prevalent in Western culture today than fifty years ago), or in some cultural contexts (e.g., the "beauty", "temptress" or "homemaker" might be more prevalent in countries characterized by high power distance and masculinity).

Directions for Future Research

This research opens the path to future investigations on the link between gender and networking behaviors. To the best of my knowledge, this is the first study providing experimental evidence that men associate an image risk with their network-deepening actions with female organizational members, particularly when they are colleagues. Future research should first try to confirm those findings. Then, it should examine the nature of the stereotype men anticipate: If the image risk for women appears to be linked to the stereotype of the "temptress" or "seductress", it is not clear which stereotype would apply to men. Finally, it should investigate whether the previous relationship is stronger when the hierarchical level of the targeted woman decreases. Indeed, if men are reluctant to maintain relationships with female supervisors because of an increase in their image risk, and that this effect is more pronounced when the target is a colleague, it might then be even stronger when the target is a subordinate. If this is the case, network inequality between men and women in terms of access to resources might then be explained not only by the difficulty and reluctance of women to integrate the "dominant coalition" (Brass, 1985), but also by the reluctance of powerful and influential organizational members (i.e., men) to build strong relationships with women in an attempt to protect their image.

Second, the present findings show that both men and women are reluctant to deepen relationships with supervisors whatever their gender, which suggests that people might be

reluctant to network up, that is to build personal relationships with people higher up in the corporate ladder. Given the benefits attached to such relationships, it might be interesting to investigate the reasons of this aversion by examining the way people perceive and makes sense of such actions.

In addition, this reluctance to network up appears stronger for women. This pattern of behaviors fits the gender biases people have about typically masculine and feminine behaviors (Eagly, 1987). While men are expected to be agentic (i.e., ambitious, independent, masterful, assertive, instrumental, aggressive, forceful, and decisive), women are expected to be communal (i.e., kind, helpful, sympathetic, concerned about others, friendly, unselfish, and emotionally expressive) (Bakan, 1966; Eagly, 2009; Eagly, Makhijani, & Klonsky, 1992; Eagly & Steffen, 1984). A consequence of those gender stereotypes is that women are likely to experience social sanctions for behaving inconsistently with them (Burt, 1997, 1998; Heilman, 2001; Khattab et al., 2020; Parks-Stamm, Heilman, & Hearns, 2008; Rudman, 1998), which in turn prevent women from acting in a way that would help them rise in the social hierarchy. For example, women are not expected to show confidence and assertiveness (Costrich, Feinstein, Kidder, Marecek, & Pascale, 1975; Powers & Zuroff, 1988) particularly about themselves (e.g., their qualifications, experience, skills, or success; Rudman & Phelan, 2008). They are not expected to self-promote (Rudman, 1998), negotiate (Bowles, Babcock, & Lai, 2007; Bowles, Babcock, & McGinn, 2005; Bowles, Thomason, & Bear, 2019), and are not supposed to ask what they think they deserve such as higher pay, more responsibility, or greater recognition (Babcock & Laschever, 2003; Babcock, Laschever, Gelfand, & Small, 2003; Bowles et al., 2007). To get access to valuable resources without eliciting social sanctions, women generally need to associate agentic behaviors with communal behaviors (Heilman, 2012; Rudman & Phelan, 2008). For example, to increase their influence in organizations, women need not only to appear as self-confident but also to be perceived as prosocial, warm and caring (Guillén,

2018; Guillén, Mayo, & Karelaia, 2018). In this framework, it might be interesting to examine whether women downplay the agentic aspect of networking to avoid social sanctions. Women might indeed be tempted to socialize (rather than network) to avoid triggering negative evaluation from both the target and the observer. If this is the case, it might explain why women benefit less from their networking actions than men: Socializing might be more effective at mitigating negative evaluation, but might also reduce their access to valuable resources.

Finally, the lack of support for my general framework might indicate the need to take a step back, and to provide a more detailed understanding of the implicit networking theories people use when networking. Indeed, it is likely that people avoid networking in certain circumstances because of socially acquired beliefs, or implicit theories, that those behaviors would be risky. Such implicit theories, also called "naïve," "lay," or "commonsense" theories (Heider, 1958; Kelly, 1955), have be shown to drive various social behaviors (Chiu, Hong, & Dweck, 1997). For example, they allow individuals to choose responses adapted to social situations (Abelson, 1976; Ross, 1989) by helping them process social cues and make predictions about cause and effect (Anderson & Lindsay, 1998; Levy, Chiu, & Hong, 2006). They can therefore have a self-protective goal by linking an action to a risk (Detert & Edmondson, 2011). Studying implicit networking theories might not only help us understand according to which principles people decide to network, but also whether men and women use different theories to guide their networking actions.

APPENDIX

Vignettes Study 1

- Target's gender: Man or Woman
- Target's hierarchical level: Supervisor or Colleague

Male target x Supervisor:

You have just landed your dream job: You have been hired in a large department of a global company. *Paul* Ekman is *the head of your department*: *He* is *your supervisor*.

Male target x Colleague:

You have just landed your dream job: You have been hired in a large department of a global company. *Paul* Ekman is *one of your colleagues in the department*: *He* is *at the same hierarchical level as you*.

Female target x Supervisor:

You have just landed your dream job: You have been hired in a large department of a global company. *Alice* Ekman is *the head of your department*: *She* is *your supervisor*.

Female target x Colleague:

You have just landed your dream job: You have been hired in a large department of a global company. *Alice* Ekman is *one of your colleagues in the department*: *She* is *at the same hierarchical level as you*.

Measures Study 1

Willingness to undertake network-deepening actions

Adapted from Forret and Dougherty (2001), Vissa (2012), and Shipilov, Labianca, Kalnysh, and Kalnysh (2014).

Please consider each of the following actions in the context you have just read about. To which extent would you consider undertaking each of the following actions?

Measured on a 7-point scale from (1) I would hardly see myself undertaking this action, to (7) I would easily see myself undertaking this action.

1. Invite [Paul][Alice] Ekman for a drink after work.
2. Stop by [Paul][Alice] Ekman's office to small talk (e.g., about [his] [her] weekend, the latest Netflix show, …).
3. Try to be friends with [Paul][Alice] Ekman.
4. Invite [Paul][Alice] Ekman out for some recreational activity (e.g., tennis, yoga, walking, jogging, concert, barbecue, weekend in the countryside…).
5. Invite [Paul][Alice] Ekman for dinner.
6. Invite [Paul][Alice] Ekman for lunch.
7. Discuss personal topics with [Paul][Alice] Ekman (e.g., tastes in music or films, family anecdotes, life history,…).

Image risk associated with network-deepening actions

Adapted from Ashford (1986) and combined with DeWall, Altermatt, and Thompson (2005).

In the context of the work situation that you have just read, please indicate the extent to which you agree or disagree with each of the following statements.

Measured on a 7-point scale from (1) Strongly disagree to (7) Strongly agree.

1. If I am too friendly with [Paul] [Alice] Ekman, I might be seen as less competent.
2. My behavior might be misinterpreted if I try to become friend with [Paul] [Alice] Ekman.
3. If I become close to [Paul] [Alice] Ekman, I might be viewed as less trustworthy.
4. If I interact with [Paul] [Alice] Ekman outside of work, I might be seen as flirtatious.
5. If I am too friendly with [Paul] [Alice] Ekman, I might be perceived as seductive.
6. If I have a close relationship with [Paul] [Alice] Ekman, I might be seen as promiscuous.
7. If I am spending time outside of work with [Paul] [Alice] Ekman, I might be viewed as manipulative.
8. If I have a personal relationship with [Paul] [Alice] Ekman, I might be perceived as devious.
9. If I try to be friends with [Paul] [Alice] Ekman, I might be seen as scheming.

Vignettes Study 2

- Initiator: Paul or Alice
- Target: Jack or Jennifer Myers
- Target's hierarchical level: Supervisor or Colleague

You are working in a large department of an international company.

[*Initiator:* Paul][*Initiator:* Alice] is one of your colleagues. [He][She] is 30 years old, has a bachelor's degree from a local university, and has recently joined the department in which you are working.

Since [Paul][Alice] has joined the department, [he][she] has been interacting a lot with [*Target:* Jack][*Target:* Jennifer] Myers, [the Head of the department][another colleague from the department].

For example, you have noticed that [Paul][Alice] regularly stops by [Jack][Jennifer]'s office to make small talk or discuss personal topics. You often see [Paul][Alice] sharing anecdotes and laughing with [Jack][Jennifer]. [Paul][Alice] often invites [Jack][Jennifer] for lunch, or for a drink after work. When [Paul][Alice] is staying late at the office and orders dinner, [he][she] generally passes by [Jack][Jennifer]'s office and offers [him][her] to eat together. [Paul][Alice] has also started training with [Jack][Jennifer] for the marathon on Sundays, and from time to time, [he][she] invites [Jack][Jennifer] over the weekend for a social activity (a barbecue, a show, a dinner in a new restaurant that has just opened in town…).

CHAPTER III: Antecedents and Consequences of Various Networking Behaviors

Abstract. This paper proposes an integrative model connecting different motivations (i.e., for power, affiliation, and achievement) to various networking behaviors (i.e., search, maintenance, and leverage), and exploring how each of those networking behaviors relate to different network properties (i.e., size, diversity, and density). To test the hypothesized model, a cohort of EMBA students provided information about their motivations, the type of networking behaviors they undertake, and their network within the cohort. The results indicate that motivation for power is positively related to search activities, and motivation for affiliation is positively related to both search and maintenance activities. However, motivation for achievement does not appear to be significantly associated with networking behaviors. In turn, greater engagement in search activity is associated with larger networks, and greater engagement in maintenance activity is associated with sparser networks. However, none of the networking behaviors appear to be significantly associated with network diversity.

Keywords: networking behaviors, motivation, network structure

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The materials, raw data and code can be found on the OSF: https://osf.io/naf2h/

INTRODUCTION

The literature on social networks has shown that occupying certain network positions is associated with multiple positive outcomes (Brass et al., 2004; Burt, Kilduff, & Tasselli, 2013; Kilduff & Brass, 2010). For example, central network positions and network size are associated with power and influence (Brass, 1984, 1985; Brass & Burkhardt, 1992, 1993; Burkhardt & Brass, 1990; Krackhardt, 1990; Shaw, 1964), as well as with performance (Cross & Cummings, 2004; Mehra, Kilduff, & Brass, 2001). Proximity to the dominant coalition in an organization is related to power and promotion (Brass, 1985).Weak ties give access to a larger number, and to more diverse, job opportunities (Granovetter, 1973). Networks rich in structural holes enhance career mobility (Burt, 1992; Podolny & Baron, 1997) and are related to salary progression, promotions, and career satisfaction (Seibert et al., 2001).

Crafting one's network so as to reach more favorable network positions could then be essential to succeed within organizations. The extent to which people can shape their network refers to a long standing debate in social science on the relative impact of structure (versus agency) on social interactions (Gulati & Srivastava, 2014). So far, the extent literature has primarily emphasized structural factors, both conceptually and empirically (Emirbayer & Mische, 1998). In contrast, the role of human agency in the construction, perpetuation, and modification of network structure has received far less attention, and repeated calls have been made for a better understanding of the role of human agency on network dynamics (Ahuja et al., 2012; Bensaou et al., 2014; Borgatti et al., 2009; Emirbayer, 1997; Emirbayer & Goodwin, 1994; Gulati & Srivastava, 2014; Ibarra et al., 2005; Shipilov et al., 2014; Vissa, 2012).

Those calls have been paralleled by a heightened interest in the micro-foundations of networks. At its core, this stream of research is preoccupied by the following question (Tasselli & Kilduff, 2020): Can individual differences explain some amount of variance in the type of

networks people build, and in the type of network positions people reach? This micro-foundational approach to networks therefore focuses on the decisions people make, and on the actions they take to shape their networks and access resources (Tasselli et al., 2015).

From this micro-foundational view, agency refers to the motivation and ability of individuals to shape their network, and ultimately to influence the position they reach and the resources they get (Ahuja et al., 2012; Bensaou et al., 2014). To do so, people can engage in networking actions. Those actions are defined as proactive and purposeful efforts made by individuals to create, maintain, and leverage relationships toward professional goals (Bensaou et al., 2014; Kuwabara et al., 2018; Wolff & Moser, 2009). Networking actions facilitate access to resources such as social support, strategic information, or career opportunities (Forret & Dougherty, 2001; Gould & Penley, 1984; Michael & Yukl, 1993; Wanberg et al., 2000), and are beneficial to those who undertake them. For example, past research has shown that networking fosters career success through promotion, salary progression, and satisfaction (Eddleston et al., 2004; Forret & Dougherty, 2004; Hwang et al., 2004; Michael & Yukl, 1993; Wolff & Moser, 2009). It improves learning and knowledge acquisition (Leeman & Whymark, 2001; Sonnenberg, 1990), helps entrepreneurs strike deals (Vissa, 2012), and job-seekers find employment (Wanberg et al., 2000). The literature distinguishes several types of networking behaviors (Kuwabara et al., 2018; Wolff & Moser, 2009): *Searching* refers to activities of exploration and tie formation, *maintaining* refers to activities aimed at sustaining and strengthening ties, and *leveraging* refers to activities aimed at extracting valuable resources from relationships.

While past research has focused on the definition and identification of the different networking actions that people undertake, it is equally important to understand the possible antecedents in terms of individual attributes and the potential consequences in term of network structure of those various networking actions. From this perspective, the micro-foundational

view of networks considers that differences in people's motives, cognition, and personality may explain differences in networking behaviors, that may in turn explain differences in structural configurations (Kilduff & Lee, 2020; Tasselli & Kilduff, 2020).

On the one hand, studying the antecedents of networking actions would help us understand why people engage in some networking activities and not others, and thus move from a binary perception of networking (i.e., people network or do not) to a more granular view (i.e., people may engage in some networking activities but not others). Some research has so far related personality traits (e.g., Big 5, Machiavellianism, proactive personality, desire for control, or self-esteem) to people's engagement in networking behaviors (Ashford & Black, 1996; Shipilov et al., 2014; Thompson, 2005; Wolff & Kim, 2012), while other research has related people's attitude (e.g., attitude toward workplace politics, attitude toward the utility and morality of networking) to their engagement in networking behaviors (Bensaou et al., 2014; Forret & Dougherty, 2001; Kuwabara et al., 2018).

In the present research, I instead turn my attention to people's motivation. Motivation is a more proximal antecedent of behavior than personality (Landis, 2016), and an individual attribute that may explain differences in the type of network people build (Casciaro, 1998; Shea & Fitzsimons, 2016; Tasselli & Kilduff, 2020). More precisely, I argue that different types of motivations could explain variations in the engagement in networking behaviors.

On the other hand, connecting different type of networking behaviors to different properties of people's network would provide us with a better understanding of how people profit from their networking actions. Indeed, past research in this area has established a link between networking and tangible career benefits, but without investigating the mediating role of the network structure people shape through their networking actions (Forret & Dougherty, 2004; Wolff & Moser, 2009). However, if networking allows people to obtain valuable resources, we should also observe that networking actions are associated with specific network

configurations through which those resources flow. The relationship between networking behaviors and network structure has received limited attention so far (with a few notable exceptions, see Bensaou et al., 2014; Kuwabara et al., 2018; Shipilov et al., 2014) and to this date, it is still not clear whether and how each of the networking behaviors documented in the literature may play a role on specific properties of the network.

The aim of the present paper is therefore to complement past research efforts by proposing an integrative model of networking behaviors. It examines how different motivations (i.e., power, affiliation, achievement) may account for the variance in the engagement in various networking behaviors (i.e., search, maintenance, leverage), and in turn how those various networking behaviors may relate to specific network properties (i.e., size, diversity, density) likely to increase people's network advantage and the resources flowing to them.

THEORY

Networking Behaviors

Networking behaviors refer to attempts made by individuals to create, maintain, or leverage relationships that can help them in their work and career development (Forret & Dougherty, 2004; Higgins & Kram, 2001; Higgins & Thomas, 2001). Search, maintenance, and leverage are three related, but distinct, networking behaviors, imbued with different logics, goals, and forms of engagement (Kuwabara et al., 2018; Wolff & Moser, 2009), and associated with different outcomes. *Search* refers to tie formation and occurs prior the creation of a relationship, it includes identification of needs and opportunities for new ties, and initiation to approach and establish initial contact (Kuwabara et al., 2018; Vissa, 2012). Search is essentially an activity of exploration aiming "at maximizing the number of new relationships, seeking to broaden the network, and exploring possibilities" (Bensaou et al., 2014, p. 34). Search activities consist at looking for opportunities to establish contact in order to gain visibility (Bensaou et

al., 2014), for example, by participating in social events to meet new people, or making the first step to approach people above. *Maintenance* refers to efforts made to affirm, sustain, preserve, deepen or strengthen ties (Kuwabara et al., 2018; Porter & Woo, 2015). The goal of maintenance is to intensify selected relationships and strive for depth (Bensaou et al., 2014), typically by overlaying friendships over purely professional relationships (Vissa, 2012). Maintenance activities consist at getting closer from one's professional relationships (Forret & Dougherty, 2001; Michael & Yukl, 1993), for example, by keeping in touch, attending and organizing lunches and parties, sending greeting cards or giving gifts, engaging in informal conversations about non-work-related topics to get to know each other, or using forms of ingratiation such as praise and congratulations. *Leverage* refers to "accessing or mobilizing resources from others or brokering structural holes" (Kuwabara et al., 2018, p. 12). Leverage is essentially motivated by concerns for resources. It refers to exploitation, that is to activities aimed at extracting value (Bensaou et al., 2014). Typical examples of leveraging activities would be taking a break with someone to get access to the resources he or she has, regularly meeting someone well-informed to get strategic information, or making bold asks about what one wants in terms of promotion, position, or assignment to projects to people who have the power and influence to make things happen.

Motivation to network

Past research has emphasized the role of motivation in networking. For example, Kuwabara and colleagues (2018) conceptualize networking as a motivational problem and argue that acknowledging the benefits of networking may not be sufficient to motivate people to network. Similarly, Gulati and Srivastava (2014) have developed a theoretical model linking structural constraints to agency, in which motivation represents the reason why people exert agency to change their network. These theoretical pieces underline the importance of

motivation in networking actions. However, they do not elaborate on the potential connections between different motivations and different networking actions.

Motivation is the psychological process that causes the arousal, direction, and persistence of a behavior (Atkinson, 1964; Campbell, Dunnette, Lawler, & Weick, 1970; Huse & Bowditch, 1977; Kast & Rosenzweig, 1974; Korman, 1974; Luthans, 1977; Mitchell, 1982). Motivation is an internal force that pushes individuals to satisfy their needs and wants (Yorks, 1976), by energizing them to act, by determining the direction of their action, and by helping them sustain their efforts (Duttweiler, 1986; Russel, 1971).

Motivations for Specific Networking Behaviors

Engagement in networking reflects "the extent to which people commit their emotional, mental, or physical resources and energy toward networking" (Kuwabara et al., 2018, p. 52). Since the actions a person undertake are a function of motivational forces (Casciaro, 1998), it is reasonable to expect that different motivations will be associated with different networking behaviors. The question is then to determine which motivational drivers push people to engage in different networking actions.

In their qualitative work, Bensaou and colleagues (2014) propose a typology of networking strategies implemented by employees in the consulting and auditing industries, and discuss the antecedents of those different networking strategies. They observed that people's networking strategy varies with the "focus" of the individual, that is with the specific motivational force that pushes them to act. For example, people who were concerned with climbing the hierarchical ladder and occupying influential positions within the organization networked extensively. In contrast, those who were focused on the development of expertise and the mastery of new skills networked very little. Finally, those who saw the company as a "family" and had a strong desire to be part of the firm had intermediate levels of networking

activities. From this qualitative work it appears that people's motivation may account for variations in their engagement in various networking behaviors.

More precisely, the different foci that Bensaou and colleagues (2014) describe echo the three different motivations documented by McClelland in his theory of human motivation (1987): power, affiliation and achievement. *Motivation for power* reflects a desire to have impact on others by influencing their emotions, attitudes, and behaviors, to acquire status and prestige (Schönbrodt & Gerstenberg, 2012), and to have control over people and resources (Kalish, 2008). *Motivation for affiliation* reflects a desire to secure and maintain warm and friendly relationships with unfamiliar people and acquaintances, to be liked and accepted by others, and to feel a sense of involvement and belonging within a social group (French & Chadwick, 1956; McAdams, 1980; Sokolowski, 2008). Finally, *motivation for achievement* reflects a desire for significant accomplishments, improved performance, and high standards of excellence. It is associated with intense, repeated and prolonged efforts to master new skills and accomplish complex goals, and characterized by a tendency to seek challenges (Campbell, 1982; McClelland, Atkinson, Clark, & Lowell, 1953; Wallace, Goldstein, & Nathan, 1987).

In the following sub-sections, I formulate hypotheses regarding the connection between those different psychological motives and different networking behaviors.

Motivation for Power and Networking Behaviors

An individual with a strong need for power is likely to focus on the means allowing him or her to increase the degree of influence he or she can exert on others, the level of control over resources, and the prestige and status he or she can get through others (Kalish, 2008). From this perspective, the number of persons this individual can reach, the development of relationships with key organizational members, as well as the capacity to access valuable resources could be particularly important for this individual. For example, past research has shown that people who

aim to improve their structural positions typically search for novel information (Ahuja, 2000; Burt, 1992) and try to increase their influence by managing interdependencies with others (Aiken & Hage, 1968; Brass, 1984; Galaskiewicz, 1982; Gulati & Gargiulo, 1999; Pfeffer & Salancik, 1978). Similarly, those who want to make a career and climb the corporate ladder explicitly seek relationships with others who can give them access to useful resources (Adler & Kwon, 2002; Forret & Dougherty, 2004; Higgins & Kram, 2001; Kram, 1988). In turn, having connections to many others in a network increases the centrality and therefore the power of the individual occupying such position (Brass & Burkhardt, 1993; Landis, 2016): Those central actors can coordinate or limit the flow of information between disconnected individuals (Cook & Whitmeyer, 1992; Yamagishi, Gillmore, & Cook, 1988), and access alternative contacts who can provide them with novel and therefore strategic information (Burt, 1992). Finally, Bensaou and colleagues (2014) observed that employees who were power-oriented and focused on their career advancement were active networkers, and engaged across the entire range of networking actions. For example, they dedicated a lot of time, thought and energy to the expansion of their relationships: They explored their social environment a lot, deepened relationships with key organizational members, and did not hesitate to make bold asks. From those various pieces of evidence, I hypothesize that people motivated by power would be likely to search for new ties, maintain relationships, and leverage contacts to satisfy their needs.

Hypothesis 1: *Motivation for power will be positively related to search, maintenance, and leverage activity.*

Motivation for Affiliation and Networking Behaviors

A person with a strong need for affiliation is likely to devote a significant part of his or her time and energy to search for new ties and strengthen relationships. Past research has indeed shown that people with interpersonal affiliation goals seek connections with others (Shea & Fitzsimons, 2016): They want to begin new relationships or maintain and improve the quality

of existing relationships (Bleidorn et al., 2010; Cantor, Norem, Niedenthal, Langston, & Brower, 1987; Kumashiro, Rusbult, & Finkel, 2008). It has also been shown that the pursuit of affective ties can influence the pattern of organizational networks (Baker, Cross, & Wooten, 2003; Casciaro & Lobo, 2008; Westphal, Boivie, & Ming Chng, 2006), and in turn some specific patterns of networks can provide such relational benefits (Landis, 2016; Shea & Fitzsimons, 2016). For example, dense cliques and closed networks are likely to satisfy people's need for affiliation by increasing support (Durkheim, 1897), trust (Burt, 1992, 2005; Gelfand et al., 2011; Uzzi, 1997), cooperation (Burt, 1992, 2005; Walker, Kogut, & Shan, 1997), loyalty (Burt, 2005), and by providing individuals with positive identities (Menon & Smith, 2014). Finally, people high in need for affiliation should "view others in terms of friendship and companionship, […] as ends in themselves, rather than means to other goals" (Shea & Fitzsimons, 2016, p. 47). This way of considering others might in turn make difficult to leverage relationships in order to obtain valuable resources.

These various pieces of evidence echo the observations made by Bensaou and colleagues (2014): Employees who saw their work environment as an "extended family" liked meeting new people and building interpersonal relationships through maintenance activities. On the contrary, they avoided disingenuous networking attempts. If they were willing to leverage useful relationships, they did it with care and moderation, and avoided pushy tactics, bold asks, and aggressiveness.

In such a framework, I therefore hypothesize that motivation for affiliation will be associated with search and maintenance activities. However, I do not predict that motivation for affiliation will be associated with leverage: Since people high in need for affiliation view others as meaningful connections rather than as means to an end, they should not be more likely to extract resources from their contacts.

Hypothesis 2: *Motivation for affiliation will be positively related to search and maintenance.*

Motivation for Achievement and Networking Behaviors

People with a strong need for achievement strive for success through the accomplishment of challenging tasks. Such individuals are likely to focus on the means to accomplish their goals (Casciaro, 1998). As such, they might be particularly willing to leverage people with specific expertise, skills, or competence likely to help them achieve their complex goals.

On the contrary, they might perceive search and maintenance activities as a costly distraction. When people search for new ties, they incur initiation costs (Bala & Goyal, 2000; Gargiulo & Benassi, 1999; Portes & Sensenbrenner, 1993). When people maintain ties, they incur maintenance costs (Bala & Goyal, 2000; Burt, 2002; Feld, 1981). Those costs refer to the time, energy, affect, attention, and other resources invested in the formation and maintenance of ties (Shipilov et al., 2014). In other words, when people engage in networking activities, they incur opportunity costs: They prevent themselves from devoting time and efforts to other activities that would be more useful to the satisfaction of their goals. Given that people with a strong need for achievement focus on the development of expertise allowing them to achieve complex goals, and value their independence, they might perceive search and maintenance activities not only as a hindrance to their independence but also as an obstacle to their goals.

The present argument again echoes the observations made by Bensaou and colleagues (2014). Employees who cared most about developing their expertise and acquiring new skills were the least likely to network: They did not believe that relationships could be forced, and therefore made little effort to broaden or deepen relationships within the organization. However, they were proud of their expertise, and interested in opportunities that would allow them to further it. As such, they kept track of others' expertise to leverage it and acquire new skills. In this framework, I therefore hypothesize that motivation for achievement will be mainly associated with leverage activities.

Hypothesis 3: *Motivation for achievement will be positively related to leverage activity.*

Consequences of Networking Behaviors

The relative weight of agency (versus structure) in network dynamics has been debated for long time (Bourdieu, 1986; Giddens, 1984; Sewell, 1992). However, conceptual and empirical work have favored structural determinism over human agency (Emirbayer & Mische, 1998; Wellman, 1983; Wellman & Berkowitz, 1988; White, Boorman, & Breiger, 1976). While network scholars have kept calling for a better understanding of the role of human agency in the formation of networks (Bensaou et al., 2014; Emirbayer, 1997; Emirbayer & Goodwin, 1994; Ibarra et al., 2005; Shipilov et al., 2014; Vissa, 2012), limited attention has been devoted to how actors create, maintain, and change structure through their actions (Gulati & Srivastava, 2014).

According to the structural determinism perspective, actors occupying advantageous network positions are supposed to possess the skills, abilities, and motivations to optimally use the resources in their network (Khattab et al., 2020). In other words, opportunities, and the motivation to seize them, are determined by one's structural position (Burt, 1992): Network structure affects people's views of their social world and their ability to exert agency. In this framework, networking is viewed as mechanistic: It happens because an individual occupies a strategic position (Bensaou et al., 2014).

The goal of the present paper is not to determine whether structure shapes actions (Burt, 1992; Coleman, 1990b) or actions shape structure (Bensaou et al., 2014; Khattab et al., 2020; Shipilov et al., 2014). Instead, I seek to understand whether and how agentic actions, such as various networking behaviors, correlate with different network characteristics.

Few studies have investigated the impact of networking behaviors implemented by individuals on the kind of network they develop. For example, Kuwabara and colleagues (2018) have theoretically conceptualized the link between each type of networking behaviors and

different network characteristics. Bensaou and colleagues (2014) have examined in a qualitative study the link between various networking strategies and the size and density of the resulting networks. Shipilov and colleagues (2014) have investigated the impact of "structured-foci networking" (i.e., networking occurring within formal groups designed to encourage members to form personal bonds) and "individually-driven networking" (i.e., networking occurring outside of structured foci) on the diversity of networks. In this paper, I propose to empirically relate each type of networking behaviors (i.e., search, maintenance, and leverage) to specific network characteristics (i.e., size, diversity, and density) that have previously been shown to be core properties of network effectiveness (Reagans & Zuckerman, 2001).

Network Size

Network size represents the number of ties to which an individual is connected. A network with many connections can give people access to multiple sources of tangible and intangible resources necessary for their work performance and career success (Brass & Burkhardt, 1993). In friendship networks, people with many connections can benefit from multiple sources of social support and other psychological resources (Gibbons, 2004). In advice networks, people with many connections can benefit from multiple sources of knowledge, expertise, and information (Baldwin, Bedell, & Johnson, 1997).

From an agentic perspective, engagement in search activities could positively correlate with network size. Indeed, the more time individuals spend searching for new ties, the more people they will meet and add to their network. However, search activity will translate into increased network size only if, above and beyond meeting new people, those who search for new ties make sure that they remember the people they met (and are remembered by those people). Indeed, search activity does not only consist of meeting new people by participating to every social event or taking any opportunity to introduce oneself. The potential benefit in search activities is not only in the number of people met, but also in the ability to contact them in the

future when necessary (e.g., to find a job), or to be contacted by them (e.g., if they have opportunities or resources to offer). For example, McGinn and Tempest (2000) described how Heidi Roizen, a venture capitalist particularly skilled at networking, knew to turn brief conversations with unknown people into memorable ones, and established the communication flow with these new people by sending e-mails after the meeting to let them know she had enjoyed the conversation.

In other words, people who seriously and efficiently engage in search activities will be able to activate an extended network when necessary and will join the network of many others likely to contact them in the future.

Hypothesis 4: *Search activity will be positively related to network size.*

Network Diversity

Network diversity refers to the number of connections that a person has and that are different from him or her on certain characteristics (e.g., gender, nationality, age, expertise, personality, attitude, values, socio-economic background, …). A diverse network is effective insofar as it allows individuals to obtain non-redundant and novel information (Burt, 1992). However, past research has shown that people have a tendency toward homophily (i.e., interacting with people similar to them): They perceive similarity as facilitating communication and social integration, since it makes others' behaviors more predictable, and fosters reciprocity and trust (Brass et al., 2004; Tsui & O'Reilly, 1989; Wagner, Pfeffer, & O'Reilly, 1984). In addition, they are less likely to feel a sense of connection with those who are dissimilar (Rivera, 2012). In other words, because building and maintaining ties with dissimilar (as opposed to more similar) others require a conscious, deliberate, and purposeful effort, people tend to spontaneously create and maintain relationships with others who are more similar to them (Ibarra, 1993; McPherson et al., 2001).

Even people motivated to network tend to find easier to connect with similar others instead of meeting and developing relationships with diverse others (Ingram & Morris, 2007). Given the difficulty people may experience when networking (e.g., emotional discomfort under the form of guilt, or cognitive discomfort under the form of objectification or image risk as shown in Essay 1 and 2), people may renounce connecting with diverse others.

However, networking happens when people make a conscious and deliberate effort to establish connections beyond spontaneous, passive, forced or affective interactions (Bourdieu, 1985; Ingram & Zou, 2008; Kuwabara et al., 2018; Wellman & Berkowitz, 1988). Ties born from networking activities do not emerge naturally or effortlessly (Kuwabara et al., 2018). When people search for new ties, they spend time and efforts developing ties located beyond their usual social circles and therefore increase their chance to meet diverse people. Similarly, people who spend time and effort in maintaining relationships try to convert diverse, and therefore weak relationships, into strong relationships, characterized by high frequency of contact, emotional closeness, and durability (Granovetter, 1973; Kuwabara et al., 2018). I therefore expect search and maintenance activity to be positively related to network diversity.

Hypothesis 5: *Search and maintenance activity will be positively related to network diversity.*

Network Density

Network density refers to the extent to which a person's ties are themselves connected. When a person's ties are disconnected from one another, then this person is said to occupy a brokerage position, which offers multiple advantages (Burt, 1992; Burt et al., 2013; Fang et al., 2015). First, brokers have access to non-redundant information from their diverse contacts. Second, they can quickly access new information, since there is no intermediary between the source and themselves. Third, they can engage in a brokerage strategy, and decide to either bring together the disconnected groups to which they have access or keep them separate.

The decision to keep a triad open (vs. close it) depends on the type of resources that the broker seeks (Grosser, Obstfeld, Labianca, & Borgatti, 2019; Kuwabara et al., 2018; Lingo & O'Mahony, 2010; Soda et al., 2018). For example, people can play a strategy of union (Obstfeld, 2005) to increase trust, cooperation and coordination (Coleman, 1990b), or a strategy of disunion (Burt, 1992) to exploit strategic information. Since both strategies have their own advantages, people may flexibly use them depending on the resources they look for.

In any case, past research has shown that brokers are greatly rewarded (e.g., high performance evaluations, generous compensations, early promotions; Burt et al., 2013) for their ability to bring unknown or misunderstood information where it has value (Fang et al., 2015). However, the three types of networking actions (i.e., search, maintenance, and leverage) that the literature describes do not capture those different brokerage strategies and so cannot clarify how different types of networking behavior would generate denser (vs. sparser) network structures. In particular, the concept of "leveraging" (under which brokerage strategies would fall) does not distinguish between the different brokerage strategies that people can implement, as a function of the situation in which they are and the benefits that they seek.

However, one possible prediction is that, since people who seek to build new ties will increase the size and diversity of their network, they could develop sparser networks. Similarly, since people engaged in maintenance activities will maintain relationships with diverse people, above and beyond their usual social circles, their network could be sparser. I therefore expect that both search and maintenance will be negatively associated with network density.

Hypothesis 6: *Search and maintenance activity will be negatively related to network density.*

METHOD

Sample

To test the previous hypotheses, I used a cohort of 126 EMBA students in a Dutch business school. Eighteen participants either did not participate into the survey or did not

consent to the use of their data for research purpose. As such those participants were removed from the data before analysis. The final sample included 108 participants (age: *M* = 34, *SD* = 4.67; gender: 34% women; nationality: 42% Dutch, 30% Non-Dutch Europeans, 13% Indian, 8% Chinese).

Procedure

The full network of the cohort was obtained with a roaster containing the names of all students in the cohort. Participants first saw a list containing the names of their classmates, and were then asked to select, from this list, the names of the persons with whom they have had meaningful interactions since the beginning of their training program. Meaningful interactions were explicitly defined as substantial interactions having significant consequences on one's study, work, or social life. In a second step, participants were asked to reflect upon the names they had previously selected. For each name, they indicated the frequency at which they sought advice from this contact on a three-point scale (1 = a few times, but less than once a month; 2 = once or twice a month; 3 = weekly). They repeated the same procedure for their friendship network: They indicated the frequency at which they had socialized with this contact on the same three-point scale.

Those two sets of responses were used to construct two types of networks: The advice (i.e., instrumental) and friendship (i.e., expressive) network. The network literature defines instrumental ties as connections through which work-related resources, information, professional advice, material resources, expertise, or political access are exchanged (Fombrun, 1982; Hill, 1992; Ibarra, 1993; Kanter, 1984; Kotter, 1982; Lincoln & Miller, 1979; Pettigrew, 1973; Tichy, Tushman, & Fombrun, 1979). On the other side, expressive ties refer to friendships and social support, and are characterized by proximity and trust (Ibarra, 1993). However, many relationships are in fact both instrumental and expressive (Kram, 1988; Thomas, 1990). In particular, in the context of an EMBA cohort, a friendship network is not

merely a group of friends but also a social system in which decisions are made, resources mobilized, information transmitted or retained, and all sorts of functions performed (Ibarra, 1993; Lincoln & Miller, 1979). As such, all the analysis reported in the paper are based on the aggregate of both networks, and exploratory analyses were conducted on each of the two sub-networks.

After completing this network survey, participants answered questions about their motivation and networking behaviors. They also provided information about their age, gender, nationality, expertise, and attitude toward networking.

Measures

The descriptive statistics of each measure are reported in Table 11. The scales, the operationalization of the network measures as well as the correlations between all variables can be found in the Appendix.

Motivations. The different motivations were measured using the Unified Motive Scale developed by Schönbrodt and Gerstenberg (2012) in which each motive (power, achievement, and affiliation) is captured with three items measured on a 6-point scale going from (1) Strongly disagree to (6) Strongly agree (power: α[19] = 0.76; affiliation: α = 0.72; achievement: α = 0.75). Examples of items include: "I like to have the final say" for power, "Personally, producing work of high quality is important for me" for achievement, and "Encounters with other people make me happy" for affiliation.

[19] All Cronbach's alphas are standardized.

TABLE 11

Descriptive Statistics

Measures	Mean	Std. Dev.	Min.	Max.
Motivations				
Power	4.29	0.86	2	6
Affiliation	4.32	0.9	2.33	6
Achievement	5.16	0.7	3	6
Networking Behaviors				
Search	4.11	1.28	1.5	7
Maintenance	4.44	1.15	2	6.75
Leverage	4.82	1.16	1.6	7
Network Properties				
Network size				
Out-degree centrality *	0.12	0.08	0	0.35
Reciprocal degree centrality *	0.07	0.04	0	0.25
Network diversity				
Gender	0.02	0.33	-1	1
Nationality	0.7	0.15	0	0.88
Expertise	0.79	0.14	0	0.91
Network density				
Effective size	6.06	5.88	-2.6	24.47
Constraint	0.14	0.07	0.06	0.38
Betweenness *	0.01	0.01	0	0.07

Note. * normalized score

Networking Behaviors. Participants were asked how frequently they engaged in different networking behaviors during the previous twelve months on a 7-point scale from (1) Never to (7) Always. Their search and maintenance activities were both measured with four items (search: $\alpha = 0.86$, maintenance: $\alpha = 0.76$), and their leverage activities with five items ($\alpha = 0.84$). To measure these three networking behaviors, I used established scales developed to measure different types of networking behaviors (Forret & Dougherty, 2001; Michael & Yukl, 1993; Shipilov et al., 2014; Vissa, 2012; Wolff, Schneider-Rahm, & Forret, 2011), selected some of their items and adapted them with qualitative descriptions of networking behaviors (Bensaou et al., 2014; McGinn & Tempest, 2000). I then run an exploratory factor analysis in a pilot study to verify the presence of a factor for each networking behavior and reduce the

number of items per factor. I finally run a confirmatory factor analysis on the final scale with the sample of the main study to confirm the fit of the three-factor model. Details of these analyses can be found in the Appendix. Examples of items include: "I consciously set aside time for meeting new people" for search, "I take actions to build friendships with my professional contacts" for maintenance, and "When I know that a professional contact has resources I need at her disposal, I ask her for it" for leverage.

Network Size[20]**.** Network size can be captured through centrality (Wasserman & Faust, 1994). In particular, I used two measures of centrality: out-degree centrality and reciprocal degree centrality. The first measure, out-degree centrality, counts the number of outgoing ties, and is an indicator of social agency (i.e., how proactive people are in forming ties with others; Brands & Kilduff, 2014). The second measure, reciprocal degree centrality, is the number of reciprocal ties a node has: A tie between nodes i and j exists only if both i and j mention the existence of the relationship. As such, reciprocal degree centrality captures the existence of mutually acknowledged ties. Both measures were normalized (i.e., divided by the highest possible degree centrality score in the network), and expressed as a percentage of that amount (Borgatti, Everett, & Johnson, 2013).

Network Diversity. Network diversity was captured though three dimensions: expertise, nationality, and gender. To capture diversity in expertise and nationality, I used a measure of variety (Harrison & Klein, 2007): I applied Blau index to the egos' networks based on the two demographic questions about participants' expertise and nationality. A Blau index of zero indicates that all alters of ego belong to the same category (i.e., same nationality or same expertise). To capture gender diversity, I used a coefficient of association (Yule, 1912): I applied Yule's Q to the egos' networks based on the demographic question about participants'

[20] Except for the reciprocal degree centrality, each network measure was computed on a directed network.

gender. Yules's Q takes into account the proportion of alters who share the gender of ego in ego's network, while controlling for the proportion of nodes who share the gender of ego in the whole network (Borgatti et al., 2013). As a correlation coefficient, Q is bounded between -1 and +1: A Q close to -1 indicates that ego tends to connect with people of the opposite gender, whereas a Q close to +1 indicates that ego tends to connect with people of the same gender. A Q close to 0 indicates that ego's gender is not associated with the alters' gender.

Network Density. The three common ways to measure brokerage, or closure around a person, (Brands & Kilduff, 2014; Fang et al., 2015; Landis, 2016) are effective size (Wasserman & Faust, 1994), constraint (Burt, 2005), and betweenness centrality (Freeman, 1977). When a same concept can be captured with different specifications and that the theory does not provide clear answer on a preferred measure, it is important to test them all to avoid type I error (Simonsohn, Simmons, & Nelson, 2019). Effective size is a measure of redundancy in ego's network. It refers to the number of alters an ego has, minus the average number of ties among those alters (Borgatti, 1997). Effective size is maximum when it equals the ego's network size: In this case, none of the alters of the ego is redundant since they are not connected to each other. On the contrary, effective size is minimum when all the ego's alters are connected to each other. Constraint is a local measure representing the extent to which individual's relationships are connected to each other. As individuals are more constrained, the number of structural holes to which they have access to among their immediate contacts diminishes, and they therefore have fewer brokerage opportunities (Burt, 2005). Thus, low constraints scores represent opportunities for local brokerage. In technical terms, the measure developed by Burt (1992) is a function of size, density, and hierarchy (Landis, 2016). Finally, betweenness centrality is a global measure capturing, across the whole network, the extent to which interactions between disconnected individuals depend on ego (Freeman, 1978). When interactions between disconnected individuals frequently depend on a specific person, then this person has a high

betweenness centrality with more brokerage opportunities. In technical terms, betweenness centrality refers to the number of times ego falls on the geodesic path (i.e., the shortest path) connecting two individuals in the network for every pair of nodes (Landis, 2016; Wasserman & Faust, 1994). While constraint is a local measure of brokerage that only captures the direct ties around ego, betweenness is a global measure of brokerage that includes both direct and indirect ties to ego (Landis, 2016). I used the normalized betweenness centrality in which the betweenness score is divided by the maximum possible betweenness and expressed as a percentage.

ANALYSIS & RESULTS

Motivations to Networking Behaviors

I first analyzed the relationships between motivations and networking behaviors. To test hypotheses 1 to 3, I developed a single model in which I treated each motivation and each networking behavior as a latent variable (measured by the survey items that participants answered) and regressed the three types of networking behaviors on the three types of motivations.

To analyze this model, I used a multivariate structural model (Edwards, 2001), also called latent multivariate regression analysis that I estimated through structural equation modeling. For each model, I examined whether the structural coefficients aligned with my predictions. Variables' intercorrelations are reported in Table 12, structural coefficients are reported in Table 13 and graphically represented in Figure 8.

Test of H1: Association between Motivation for Power and Networking Behaviors

I first predicted a positive relationship between motivation for power and each networking behavior. The inspection of the structural coefficients indicates a positive and significant coefficient for search (β = 0.45, p = .010), a non-significant coefficient for maintenance (β = -0.07, p = .37), and a non-significant coefficient for leverage (β = 0.18, p =

.36). Hypothesis 1 is therefore only partially supported since motivation for power seems to be positively related to search activities, but neither to maintenance nor to leverage.

Test of H2: Association between Motivation for Affiliation and Networking Behaviors

I then predicted a positive relationship between motivation for affiliation and both search and maintenance. The inspection of the structural coefficients indicates a positive and significant coefficient for both search (β = 0.93, p = .007) and maintenance (β = 0.38, p = .030), and a non-significant coefficient for leverage (β = 0.27, p = .40). Hypothesis 2 is therefore supported.

Test of H3: Association between Motivation for Achievement and Networking Behaviors

Finally, I predicted a positive relationship between motivation for achievement and leverage. The inspection of the structural coefficients indicates a non-significant coefficient for each networking behavior (search: β = -0.07, p = .63; maintenance: β = 0.07, p = .26; leverage: β = 0.17, p = .28). Hypothesis 3 is therefore not supported.

TABLE 12
Correlation Coefficients between Motivations and Networking Behaviors

	1	2	3	4	5
1. Motivation for power	-				
2. Motivation for affiliation	0.23 *	-			
3. Motivation for achievement	0.18 +	0.23 *	-		
4. Search	0.33 ***	0.33 ***	0.08	-	
5. Maintenance	0.07	0.36 ***	0.21 *	0.36 ***	-
6. Leverage	0.16	0.12	0.19 *	0.33 ***	0.37 ***

Note. + p < .1, * p < .05, ** p < .01, *** p < .001

TABLE 13

Structural Coefficients (SD) between Motivations and Behaviors

	Networking behaviors		
	Search	Maintain	Leverage
Motivation for power	0.45 * (0.18)	-0.07 (0.08)	0.18 (0.20)
Motivation for affiliation	0.93 ** (0.34)	0.38 * (0.18)	0.27 (0.32)
Motivation for achievement	-0.07 (0.14)	0.07 (0.07)	0.17 (0.16)

Note. * p < 0.05, ** p < 0.01

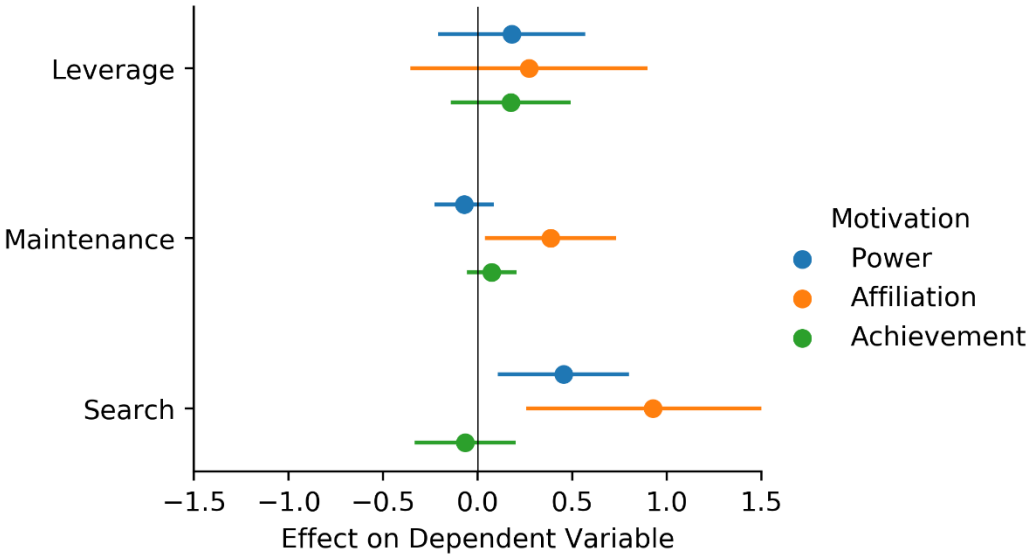

Figure 8. Overview of the effects of Motivations on Networking Behaviors
Note. Each point represents a structural coefficient and its 95% confidence interval.

Networking Behaviors to Network Properties

To analyze the relationship between networking behaviors and different properties of the network, I treated each networking behavior as a latent variable (captured by the individual scores on the survey items answered by participants) and regressed each network characteristic on the three networking behaviors. The eight network characteristics were estimated in separate

models[21]. Each model therefore included four variables: The three latent variables describing the networking behaviors, and the one observed variable describing the network property (e.g., out-degree centrality). Variables' intercorrelations are reported in Table 14, structural coefficients are reported in Table 15 and graphically represented in Figure 9.

Test of H4: Association between Networking Behaviors and Network Size

I first predicted a positive relationship between search activity and network size. I captured network size through two variables: out-degree centrality to capture people's ability to extend their network through their networking actions and reciprocal degree centrality to capture reciprocity in the formation of those relationships (i.e., "do the people I consider as making part of my contacts also acknowledge me as such?").

For out-degree centrality, the inspection of the structural coefficients indicates a positive and significant coefficient for both search (β = 0.02, p = .008) and maintenance (β = 0.05, p = .028), and a non-significant coefficient for leverage (β = -0.01, p = .27). For reciprocal degree centrality, the same pattern of results was found (search: β = 0.01, p = .016; maintenance: β = 0.03, p = .023; leverage: β = 0.001, p = .67). These results confirm hypothesis 4, but also indicate that maintenance might be positively related to network size as well.

Test of H5: Association between Networking Behaviors and Network Diversity

Next, I predicted a positive relationship between both search and maintenance activity and network diversity. More precisely, I expected that people engaged in search and

[21] The eight network characteristics were estimated in separate models for several reasons. First, it would be incorrect to assume that those different network characteristics are factor loadings of a latent "network" variable: They do not correspond to a theoretically identified higher-order construct and are not linked together by a linear relationship. Second, it would also be inaccurate to jointly estimate the eight variables as separate responses: This model would seek to estimate participant-specific variance (reflected in the correlation of the responses at the participant level), but the scores on the variables are not independent across participants. Indeed, the network scores of the different participants on one variable are not only a function of their own responses to other variables, but also of the responses of others. This problem is observed in analysis of dyadic responses, or more generally in any setting in which the errors are not independent across participants and cannot be decomposed in systematic and non-systematic variance.

maintenance activities would have less gender homophile networks and more variety in terms of nationality and expertise in their networks.

The inspection of the structural coefficients indicates that neither search nor maintenance were related to gender heterophily (search: β = -0.004, p = .91; maintenance: β = 0.04, p = .62). However, leverage was positively though marginally related to gender heterophily (β = -0.05, p = .074). Similarly, neither search nor maintenance were related to diversity in terms of nationality (search: β = 0.02, p = .10; maintenance: β = 0.04, p = .29) or expertise (search: β = 0.01, p = .25; maintenance: β = 0.03, p = .46). However, leverage was significantly related to reduced diversity in terms of nationality (β = -0.03, p = .019), but not in terms of expertise (β = -0.01, p = .34). Hypothesis 5 is therefore not supported.

Test of H6: Association between Networking Behaviors and Network Density

Then, I predicted that both search and maintenance activities would decrease network density. Density was captured through three measures: effective size, constraint, and betweenness centrality.

The inspection of the structural coefficients indicates that search and maintenance were indeed positively associated with effective size and so reduced network density (search: β = 1.04, p = .050; maintenance: β = 4.31, p = .022). However, this effect was not stable across measures. When measuring network density with constraint, only search activities were negatively and marginally related to constraint and so reduced density (β = -0.01, p = .066). Similarly, when measuring network density with betweenness centrality, only maintenance activities were positively and significantly related to betweenness and so reduced density (β = 0.01, p = .025). I then concluded that hypothesis 6 was only partially supported: Only maintenance activities seem to be associated with a lower network density.

TABLE 14

Correlation Coefficients between Networking Behaviors and Network Properties

	1	2	3	4	5	6	7	8	9	10
1. Search	-									
2. Maintenance	0.36 ***	-								
3. Leverage	0.33 ***	0.37 ***	-							
4. Out-degree centrality	0.34 ***	0.31 **	0.12	-						
5. Reciprocal degree centrality	0.36 ***	0.4 ***	0.28 **	0.83 ***	-					
6. Gender diversity	-0.07	-0.02	-0.2 *	0.08	-0.02	-				
7. Nationality diversity	0.13	0.11	-0.12	0.35 ***	0.38 ***	0.01	-			
8. Expertise diversity	0.12	0.09	-0.01	0.53 ***	0.46 ***	0.06	0.63 ***	-		
9. Effective size	0.27 **	0.31 **	0.07	0.95 ***	0.73 ***	0.1	0.27 **	0.46 ***	-	
10. Constraint	-0.21 *	-0.18 +	-0.05	-0.68 ***	-0.59 ***	-0.17 +	-0.26 **	-0.47 ***	-0.69 ***	-
11. Betweenness centrality	0.24 *	0.36 ***	0.23 *	0.73 ***	0.81 ***	-0.02	0.24 *	0.36 ***	0.77 ***	-0.56 ***

Note. + p < .1, * p < .05, ** p < .01, *** p < .001

TABLE 15

Structural Coefficients (SD) between Behaviors and Structure

Networking Behaviors	**Network Structure**							
	Network Size		Network Diversity			Network Density		
	Out-degree centrality	Reciprocal degree centrality	Gender	Nationality	Expertise	Effective size	Constraint	Betweenness centrality
Search	0.017 ** (0.007)	0.008 * (0.003)	-0.004 (0.031)	0.023 (0.014)	0.015 (0.013)	1.039 + (0.529)	-0.011 + (0.006)	0.001 (0.001)
Maintain	0.050 * (0.023)	0.026 * (0.011)	0.044 (0.087)	0.043 (0.04)	0.027 (0.036)	4.312 * (1.888)	-0.027 (0.018)	0.008 * (0.004)
Leverage	-0.007 (0.006)	0.001 (0.003)	-0.055 + (0.031)	-0.032 * (0.014)	-0.012 (0.013)	-0.741 (0.499)	0.006 (0.006)	0.000 (0.001)

Note. + p < .1, * p < .05, ** p < .01

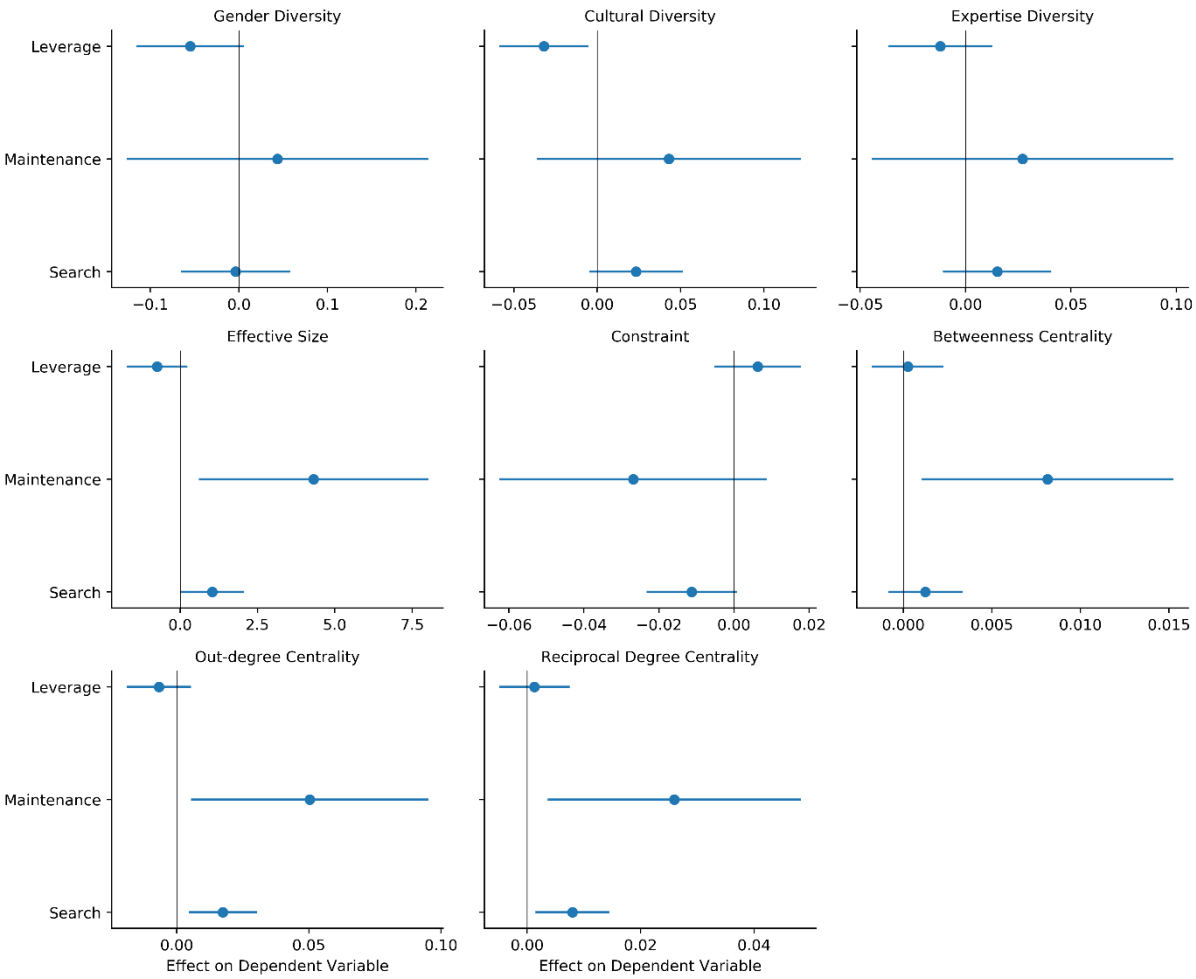

Figure 9. Overview of the effects of Networking Behaviors on Network Properties
Note. Each point represents a structural coefficient and its 95% confidence interval.

Exploratory Analyses

In an exploratory analysis, I re-ran the second part of the model on the friendship network on one side, and on the advice network on the other side. The structural coefficients for each network are reported in Table 16. The results show that both search and maintenance were positively associated with an increase in network size in the friendship network (ODC: search: β = 0.02, p = .006, maintenance: β = 0.04, p = .04; RDC: search: β = 0.01, p = .01, maintenance: β = 0.02, p = .03) and that maintenance was positively associated with a reduced network density in the advice network (effective size: β = 4.02, p = .03; constraint: β = -0.04, p = .07; betweenness: β = 0.01, p = .03). It also seems that leverage activities reduce network

diversity in terms of nationality in both networks (friendship network: β = -0.04, p = .04, advice network: β = -0.03, p = .049).

I then verified whether networking behaviors were associated with relationships of different strength. The strength of relationships refers to the frequency, duration, and closeness of a relationship (Granovetter, 1973). Weak and strong ties present both advantages and disadvantages. Because weak ties are infrequent and distant relationships, they allow to reach distinct social circles, with distinct pockets of content, and so provide access to novel information by bridging otherwise disconnected groups (Granovetter, 1973; Hansen, 1999; Perry-Smith, 2014). In contrast, strong ties are likely to give access to redundant information because strong ties are typical of small groups in which everyone knows what everyone else knows (Hansen, 1999). However, and contrary to weak ties, strong ties favor the transfer of complex knowledge (Hansen, 1999), as well as the development of trust, reciprocity, cooperation and coordination (Coleman, 1990b).

Relationships developed through networking are typically considered to be weak (Keele, 1986), and therefore a good source of information about strategic information, career tips or job opportunities (de Janasz & Forret, 2008). However, those "networking relationships may also evolve intro stronger ties […] if contact becomes more frequent, and the relationship becomes characterized by greater familiarity and comfort" (de Janasz & Forret, 2008, p. 632).

Since search activity consists of meeting new people, people strongly engaged in this activity should count more weak ties in their network. On the contrary, since maintaining relationships consists of deepening and strengthening relationships with selected others, people strongly engaged in this activity should count more strong ties in their network. I measured tie strength as the average strength of ties for each node in the general network. I then ran a structural equation model by regressing this dependent variable on the three networking behaviors (as captured by the survey items that participants answered). The inspection of the

structural coefficients indicates that search was indeed negatively related to the strength of relationships (β = -0.07, p = .047), but maintenance was not (β = -0.11, p = .25), and leverage was positively though marginally associated with tie strength (β = 0.05, p = .08).

TABLE 16

Structural Coefficients (SD) between Behaviors and Structure for FRIENDSHIP Network

Networking Behaviors	Network Structure							
	Network Size		Network Diversity			Network Density		
	Out-degree centrality	Reciprocal degree centrality	Gender	Nationality	Expertise	Effective size	Constraint	Betweenness centrality
Search	0.017 ** (0.006)	0.008 * (0.003)	0.01 (0.039)	0.028 (0.019)	0.034 + (0.019)	1.223 * (0.538)	-0.014 (0.011)	0.002 (0.001)
Maintain	0.042 * (0.021)	0.022 * (0.01)	-0.065 (0.109)	0.089 (0.057)	0.043 (0.052)	3.085 + (1.756)	-0.045 (0.034)	0.009 * (0.005)
Leverage	-0.004 (0.006)	0.002 (0.003)	-0.006 (0.037)	-0.036 * (0.018)	-0.019 (0.018)	-0.383 (0.498)	-0.006 (0.011)	0.000 (0.001)

Structural Coefficients (SD) between Behaviors and Structure for ADVICE Network

Networking Behaviors	Network Structure							
	Network Size		Network Diversity			Network Density		
	Out-degree centrality	Reciprocal degree centrality	Gender	Nationality	Expertise	Effective size	Constraint	Betweenness centrality
Search	0.01 + (0.006)	0.005 + (0.003)	0.02 (0.034)	0.021 (0.015)	0.008 (0.015)	0.633 (0.515)	-0.01 (0.006)	0.001 (0.001)
Maintain	0.035 + (0.018)	0.015 + (0.008)	0.139 (0.1)	0.049 (0.042)	0.063 (0.045)	4.024 * (1.809)	-0.036 + (0.02)	0.008 * (0.004)
Leverage	-0.005 (0.005)	0.001 (0.002)	-0.075 * (0.034)	-0.028 * (0.014)	-0.022 (0.015)	-0.909 + (0.497)	0.008 (0.006)	0.000 (0.001)

Note. + p < .1, * p < .05, ** p < .01

DISCUSSION

Summary

In this paper, I investigated the relative impact of three types of motivation (i.e., power, affiliation, and achievement) on three types of networking behaviors (i.e., search, maintenance, and leverage), and found partial support for the hypotheses. Motivation for power was positively related to search, but not to maintenance or leverage; motivation for affiliation was positively associated with both search and maintenance; motivation for achievement was not related to leverage.

A post-hoc explanation for the null results between motivation for power and both maintenance and leverage might be that people who have a strong motivation for power are motivated to network, but mainly see networking as efforts made to meet new people. People might not necessarily know that networking goes above and beyond search activities, and that those search actions by themselves might not be sufficient to help them benefit from their networks. People might indeed see meeting new people as a necessary and sufficient condition to the development of their network, and might believe that once they have met new people, the relationships with those new contacts will develop, grow, and strengthen and resources will naturally flow through the relationships without them needing to maintain or leverage the relationships.

Besides, motivation for achievement appears to be unrelated to leverage activity. Again, a post-hoc explanation justifying this null result can be found in previous research and in the definition of motivation for achievement. One of the characteristics of motivation for achievement is the tendency to look for a high degree of independence (Campbell, 1982; Wallace et al., 1987). If people with strong motivation for achievement tend to particularly value their independence towards others, they might then perceive leverage activities as a debt

owed to others. In consequence, they might see leveraging as a cost rather than as an opportunity to extract valuable resources such as expertise, knowledge, or information, which might in turn demotivate them to network.

I have also investigated the relative impact of those different network behaviors on chore properties of the network (Reagans & Zuckerman, 2001), such as size, diversity, or density. I found that both search and maintenance were related to an increase in network size. However, neither search nor maintenance were related to an increase in network diversity. Finally, maintenance, but not search, was associated with reduced network density.

Theoretical Implications

From a theoretical perspective, this paper is an additional step toward a better understanding of networking behaviors, their antecedents in term of motivation and consequences in term of network structure. The present essay complements the view of previous authors who have argued that networking behaviors find their roots in people's motivation (Bensaou et al., 2014; Gulati & Srivastava, 2014; Kuwabara et al., 2018) by developing a theoretical argument connecting different types of motivation to different types of networking behavior, and providing empirical evidence in support of this argument. The results show that while motivation might play a role, this role might be weaker than expected. Indeed, motivation for power seemed to be only associated with an increased engagement in search activities (but not in other types of networking behaviors), while motivation for achievement seemed to be unrelated to networking behaviors.

The present paper also develops a theoretical argument on the downstream consequences of each networking behavior in term of network structure, and empirically tests this model. As such, this essay may help us better understand the link between networking behaviors and outcomes such as pay raise, promotion, or career opportunities (Eddleston et al.,

2004; Forret & Dougherty, 2001, 2004; Gould & Penley, 1984; Hwang et al., 2004; Leeman & Whymark, 2001; Michael & Yukl, 1993; Shipilov et al., 2014; Sonnenberg, 1990; Vissa, 2012; Wanberg et al., 2000; Wolff & Moser, 2009). However, the results again show that the association of networking behaviors to specific network properties might be weaker than expected. Indeed, if search and maintenance were associated with increased network size, they were unrelated to network diversity, and only maintenance was related to reduced network density. However, those results should not be interpreted as evidence in favor of the structural determinism perspective: More research is indeed necessary to understand the link between networking behaviors and network properties, as well as the circumstances under which this link might be present (Stevenson & Greenberg, 2000).

Gulati and Srivastava (2014) have developed an argument that might explain the lack of significant results on the two parts of the hypothesized model (i.e., link between motivations and networking behaviors and link between networking behaviors and network properties). The motivation to network and the subsequent networking behaviors resulting from it might be conditional on the positions occupied in the network. People might be particularly motivated to network when they are embedded in structurally constrained networks that prevent them from satisfying their motivation for power, affiliation, or achievement (Khattab et al., 2020). Those constraints might push them to network and flexibly use different networking behaviors. Those networking behaviors might ultimately reduce the structural constraints in which people were initially embedded and translate into a more advantageous network position. On the contrary, when people are already embedded in an advantageous network structure, networking might not help them shape an even more favorable network, but might help them accumulate resources (e.g., access to strategic information, to key actors, to political support, increased visibility, fast promotion).

Practical Implications

One implication of the present paper is that it might be important to communicate to people that networking consists of a set of different behaviors, and that each behavior has its own logic and may satisfy specific goals. Distinguishing each networking behavior depending on individuals' motivations and its benefits in term of network structure might help people network by pinpointing exactly which behavior should be undertaken to help them reach their goal.

In addition, given the multiple costs people associate with networking (Agneessens & Wittek, 2012; Bala & Goyal, 2000; Bensaou et al., 2014; Burt, 2002; Feld, 1981; Gargiulo & Benassi, 1999, 2000; Kuwabara et al., 2018; Nebus, 2006; Wanberg et al., 2000, as well as Essay 1 and 2), giving them insights on the links between different motivations, different networking behaviors, and different network properties might help them network more efficiently by limiting costs they do not need or do not want to bear.

Finally, employees with a strong need for achievement should be particularly targeted: While they can be both a source of knowledge and expertise for other organizational members, and a source of success for the organization through the challenging tasks they accomplish, those employees seem reluctant to network. Making them understand that relationships are not just a cost or a burden, but could in fact help them accomplish their goals, might facilitate their engagement in networking actions, and by extension the exchange of knowledge within organizations.

Limitations

The current study has multiple limitations. First, the study has limited internal validity: This study is indeed correlational and does not allow to infer causal links between the different variables. In particular, students had started the program six months before doing the survey

and had already a position in the network of their cohort when the survey was run, preventing from causally linking their networking behaviors to the structure of their network.

Second, networking behaviors were self-reported which may raise questions about the validity of responses. Participants were asked to recall the extent to which they networked in the past twelve months. Except for people who regularly network, such recall may not be easy. In addition, in a social context such as an EMBA program, in which networking is valued, people might overestimate the frequency with which they network. One solution to avoid such problem would be to ask participants to daily report their networking actions, but of course this diary on their networking activity could be done only on a short period of time (e.g., one to three weeks).

Third, the sample characteristics must be considered. First, a portion of students participated into the study but refused to have their data used for research purpose. I cannot exclude the possibility that this self-selection was not random, and that those students might share specific characteristics that bias the sample. For example, students who view their network as a tool to reach their goals might be more reluctant than others to give strangers access to their motivation, to the pattern of their networking behaviors, as well as to their network data. In addition, another portion of students simply did not participate into the study. The network to which I got access is therefore a truncated version of the real network of this cohort, and results inferred from it must be considered with caution. Second, the sample size (i.e., 108 participants) might have been too small to detect the hypothesized effects. As such, the null results should be interpreted accordingly.

Finally, the external validity of this sample is limited as well: The students were Executive MBA students which make them a very specific population to study networking behaviors. Indeed, those types of students have generally been largely exposed to the benefits of networks and networking and may even have learned some techniques to network effectively.

The findings obtained in this sample might therefore not generalize to less idiosyncratic populations. In addition, one of the motivations people generally have when they register to this kind of program is to meet new people, get access to a large pool of alumni, and benefit from a network of key actors in which flow strategic information for their career. In such social context, people might show a high degree of homogeneity in their perception of networking and their motivation to network, which in turn may be problematic to study networking behaviors and their impact in terms of network structure. The data confirmed this idea: Participants reported their attitude toward the morality and utility of networking on a 7-point scale, a high score indicating a negative attitude toward networking. The median score was 1.67, and the third quartile was 2.37, indicating that most students saw networking as useful and not immoral, or at least amoral, which indicates that they had positive attitude toward networking, tended to feel comfortable and motivated to network.

Directions for Future Research

An important progress would be to establish the causal link between networking behaviors and network structure. A longitudinal study run with a sample of individuals assigned to a new role or a new organization (e.g., a new department, a new business unit, or a new company branch) would provide for stronger causal evidence. Indeed, since people who have just joined an organization are not yet embedded in the organization, surveying them on their motivation at the time they join their position, three months later on their networking behaviors, and three months later on their organizational network would increase our ability to infer causality among those variables.

Past research has looked at the impact of different personality traits on the engagement in networking behaviors (Ashford & Black, 1996; Shipilov et al., 2014; Thompson, 2005; Wolff & Kim, 2012). The present essay studies the impact of different motivations on this engagement. Future research could investigate the role of cognition in people's engagement in

networking, and study how individuals' perception of their social networks could affect their engagement in networking actions (Brands, 2013).

The concept of "leverage" in networking would deserve more theoretical and empirical investigation. In its current form, leveraging behavior should foremost correlate with outcomes such as assignment to developmental missions, performance evaluations, payroll increase, or promotions, rather than with network structure. The theoretical definition and operationalization of this activity does not allow to connect the behavior to specific network structures. Indeed, leverage has been largely conceptualized and operationalized as attempts to extract valuable resources from relationships, without explicating the process used to do so. In other words, leveraging captures whether people extract resources from others but not how they do so. However, as soon as these leverage activities occur in a triad, leveraging may imply different brokerage processes, such as mediation, union or disunion (Obstfeld, Borgatti, & Davis, 2014), resulting in different network structures in terms of density and strength of relationships. For example, people willing to network and embedded in triads may decide to mediate the relationship between two disconnected alters: By playing the role of a conduit, they might increase their prestige and influence. Alternatively, they may decide to introduce the parties to each other, facilitate interactions, and pursue coordination for the success of a complex project for example. Finally, they may decide to actively maintain and exploit unfamiliarity or competition between parties for their personal benefit. A more comprehensive definition of leveraging activities should therefore integrate those different brokerage strategies.

If the present research investigates the relationships between motivations and networking behaviors, as well as the relationships between networking behaviors and network properties, other scholars could investigate the mediating role of networking behaviors in the relationship between motivations and network properties (Casciaro, 1998; Flynn, Reagans, & Guillory, 2010). Besides, if the present research gives insight on the link between networking

behaviors and network properties, investigating the mediating role of network properties in the relationship between networking behaviors and access to tangible outcomes (e.g., good performance evaluation, pay raise, promotion, assignments to developmental projects) would help us understand how networking helps people access valuable resources through better network configurations.

Another interesting venue would be to investigate how people combine different networking behaviors. On the one hand, those who network the most are probably using a combination of the three types of networking behaviors, which should in turn give them access to advantageous network structures. By searching for new contacts, they get access to new pockets of information. Among those new contacts, they can select individuals with whom to maintain relationships because they are key organizational actors (for example, a manager, an expert, a mentor). Then, they can flexibly decide whether to leverage weak ties obtained through their search activity, or strong ties obtained through their maintenance activity, depending on the type of resources they are looking for (e.g., job tips or codified knowledge through weak ties, mentoring or tacit knowledge through strong ties, Hansen, 1999). They can also decide, depending on their goals and the benefits they seek to obtain, how to broker structural holes (i.e., with a strategy of mediation, union or disunion).

On the other hand, those who network the least might be more constrained in what they can access: Someone only engaged in search or maintenance activity might have access to a lot of non-redundant information but might be unable to fully benefit from it if he or she never leverages those relationships. Similarly, someone who only leverages relationships might lack access to novel information: He or she would either reach out to close ties who would have redundant information, or to external ties that are so weak that they would not share what they know. Finally, people who only search and leverage without maintaining might also prevent

themselves from getting access to certain resources requiring time, trust, and proximity within the relationship.

Finally, understanding the evolution in the engagement in networking behaviors over time would be of interest. The relationships born from networking at time t might have various effects at time t+1: Those relationships will either constrain or facilitate individuals' actions and access to resources. Past research has also shown that instead of continuously engaging in brokering behaviors, people would be better of oscillating between intermittent and punctuated brokering actions to get access to new strategic information, and periods in which they retreat within cohesive networks to strengthen trust and cooperation with their relationships (Burt & Merluzzi, 2016). Similarly, efficient networking strategies could consist at alternating between periods of pursuit of individual advantages with periods of retreat within a close and dense network favoring support, trust, cooperation, and loyalty (Burt, 1992, 2005; Durkheim, 1897; Gelfand et al., 2011; Uzzi, 1997; Walker et al., 1997).

APPENDIX

Measures

Attitude toward Networking scale

From Ko Kuwabara.
Please, indicate to which extent you agree with the following statements.
Measured on a 7-point scale from (1) Strongly disagree to (7) Strongly agree

- Attitude toward the morality of networking:
    1. Networking is unfair
    2. Networking is inauthentic
    3. Networking is dirty
- Attitude toward the utility of networking:
    4. Networking is useless
    5. Networking is unrewarding
    6. Networking is a waste of time

Motivations scale

From Schönbrodt and Gerstenberg (2012)
For each of the following items, please indicate to which extent you agree.
Measured on a 6-point scale from (1) Strongly disagree to (6) Strongly agree

- Power:
    1. Having the opportunity to exercise control over an organization or group is important for me.
    2. Being able to exert influence is important for me.
    3. I like to have the final say.
- Achievement:
    4. Maintaining high standards for the quality of my work is important for me.
    5. Personally, producing work of high quality is important for me.
    6. Working on projects that challenge me to the limits of my ability is important for me.
- Affiliation:
    7. I try to be in the company of friends as much as possible.
    8. Being engaged in a lot of activities with other people is important for me.
    9. Encounters with other people make me happy.

Networking Behaviors scale

Based on a literature review of networking behaviors (Bensaou et al., 2014; Forret & Dougherty, 2001; McGinn & Tempest, 2000; Michael & Yukl, 1993; Shipilov et al., 2014; Vissa, 2012; Wolff et al., 2011), 30 items capturing each networking behavior (9 items for search, 12 items for maintenance, and 9 items for leverage) were generated. A pilot study run on Prolific with 166 participants was then used to test the factor structure of the items and develop shorter scales.

I first analyzed their response in an exploratory factor analysis using maximum-likelihood estimation and allowing for factor correlation, with direct oblimin rotation. Among the 12-maintenance items, 4 were reverse-coded (i.e., a high score indicated a low level of maintenance activity). Eliminating those four items produced the expected three-factor solution with eigen-vectors above 1 (4.22 for search, 3.61 for leverage, 1.92 for maintenance). Based on the item loadings on the hypothesized factor, on the reliability indices of various three-factor models, and on theoretical and logistic considerations, I selected 13 items in total: 4 items for search ($\alpha = 0.86$), 4 items for maintenance[22] ($\alpha = 0.76$), and 5 items for leverage ($\alpha = 0.84$), all measured by asking participants how frequently they engaged in the following actions during the previous twelve months on a 7-point scale from (1) Never to (7) Always.

Using the sample of my main study, I then verified in a confirmatory factor analysis that this scale had an adequate level of fit and that the three-factor model was better than a single-factor model or various two-factor models. The following fit indices indicate an acceptable level of fit with a CFI larger than 0.90 (0.94), and a RMSEA slightly smaller than 0.08 (0.076). Besides, the three-factor model fitted the data better than all more parsimonious models according to difference in multiple fit indices. For example, the difference in chi-square[23] between the three-factor model was significant when compared to a single-factor model ($\Delta\chi^2 = 242.19$; $\Delta df = 3$; $p < .001$) and to various two-factor models combining search and maintenance ($\Delta\chi^2 = 113.12$; $\Delta df = 2$; $p < .001$), search and leverage ($\Delta\chi^2 = 156.45$; $\Delta df = 2$; $p < .001$), or maintenance and leverage ($\Delta\chi^2 = 104.45$; $\Delta df = 2$; $p < .001$). Similarly, the SRMR of the three-factor model was below the recommended threshold of .08[24] (.07), while the SRMR of the single-factor model (.13) and of various two-factor models combining search and maintenance (0.11), search and leverage (.12), or maintenance and leverage (.10) was above this threshold. Finally, the three-factor model had the lowest BIC (4721.9) compared to a single-factor model (4950.02) and various two-factor models combining search and maintenance (4828.64), search and leverage (4868.96), or maintenance and leverage (4816.96), and this difference in BICs was stronger than 10[25].

[22] One of the items, originally reverse-coded, was changed to a regular item.

[23] A significant difference in chi-square statistics indicates that the larger model with more estimated parameters and fewer degrees of freedom is better than the smaller model with less estimated parameters and more degrees of freedom (Werner & Schermelleh-Engel, 2010).

[24] To show evidence of a good fit, the SRMR must be below 0.08 (Hu & Bentler, 1999).

[25] A BIC difference of 10 is a strong evidence that the model with the lowest BIC fits best (Raftery, 1995).

How frequently did you engage in the following actions during the previous twelve months? Measured on a 7-point scale from (1) Never to (7) Always

- Search:
    1. When I attend social events (e.g., parties, networking events, alumni meetings, hobby associations etc.), I build connections with people I did not know before.
    2. I consciously set aside time for meeting new people.
    3. I seize as many opportunities as possible to meet new people.
    4. When I have the opportunity to establish contact with a new person, I go ahead and introduce myself.
- Maintenance:
    5. I make an effort to stay in touch with former colleagues even when one of us moves jobs.
    6. I take actions to build friendships with my professional contacts.
    7. I socialize with my professional contacts.
    8. I organize events (e.g., drinks, parties, dinners, outdoor activities) to see my professional contacts outside of a work context.
- Leverage:
    9. When I know that a professional contact could help me get in contact with someone else I'm interested in, I ask him/her to introduce me.
    10. When I know that a professional contact has resources I need at her/his disposal, I ask him/her for it.
    11. When I know that a professional contact could help me get a job position, I ask him/her to put in a good word for me.
    12. When I identify someone as competent, I seek opportunities to work with him/her.
    13. If a friend can be of use to me professionally, I ask him/her for what I need.

Operationalizations of Network Scores

Concept	Measure	Formula	Details
Diversity	Blau index	$1 - \Sigma p_k^2$	k, number of categories p, proportion of ties per category
Diversity	Yuel's Q	$\frac{ad - bc}{ad + bc}$	<table><tr><th></th><th>Same Gender</th><th>Different Gender</th></tr><tr><td>Tie</td><td>a</td><td>b</td></tr><tr><td>No tie</td><td>c</td><td>d</td></tr></table>
Density	Effective size	$n - \frac{2t}{n}$	n, the total number of nodes in the egocentric network (excluding ego) t, the number of ties among alters (excluding ties to ego)
Density	Constraint	$c_{ij} = \left(p_{ij} + \Sigma_q \, p_{iq} \, p_{qj} \right)^2$	i, the ego j, the alter q, another alter between i and j p_{ij}, the proportion of edge weigths from i to j $p_{iq}p_{qj}$, the amount of resources the ego i and the alter j can indrectly share through q
Density	Betweenness centrality	$b_j = \Sigma \frac{g_{ijk}}{g_{ik}}$	g_{ijk}, the number of geodesic paths connecting i and k through j g_{ik}, the total number of geodesic paths connecting i to k

Correlations between Motivations, Networking Behaviors, and Network Properties

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Motivation for power	-												
2. Motivation for affiliation	0.23 *	-											
3. Motivation for achievement	0.18 +	0.23 *	-										
4. Search	0.33 ***	0.33 ***	0,08	-									
5. Maintenance	0,07	0.36 ***	0.21 *	0.36 ***	-								
6. Leverage	0,16	0,12	0.19 *	0.33 ***	0.37 ***	-							
7. Out-degree centrality	0,03	0.19 +	-0,04	0.34 ***	0.31 **	0.12	-						
8. Reciprocal degree centrality	0,02	0.22 *	-0,03	0.36 ***	0.4 ***	0.28 **	0.83 ***	-					
9. Gender diversity	-0,04	0,07	0,07	-0,07	-0,02	-0.2 *	0.08	-0.02	-				
10. Nationality diversity	0,00	0,15	-0,04	0,13	0.11	-0.12	0.35 ***	0.38 ***	0.01	-			
11. Expertise diversity	0,05	0,14	-0,08	0,12	0.09	-0.01	0.53 ***	0.46 ***	0.06	0.63 ***	-		
12. Effective size	0,04	0.19 *	-0,05	0.27 **	0.31 **	0.07	0.95 ***	0.73 ***	0.1	0.27 **	0.46 ***	-	
13. Constraint	-0,04	-0,11	0,01	-0.21 *	-0.18 +	-0.05	-0.68 ***	-0.59 ***	-0.17 +	-0.26 **	-0.47 ***	-0.69 ***	-
14. Betweenness centrality	-0,03	0.19 *	-0,08	0.24 *	0.36 ***	0.23 *	0.73 ***	0.81 ***	-0.02	0.24 *	0.36 ***	0.77 ***	-0.56 ***

Note. + p < .1, * p < .05, ** p < .01, *** p < .001

CONCLUSION

Theoretical Considerations

The common thread of those three essays is to explain variance in networking activities.

In Essay 1, I have explored people's reluctance to engage in networking by examining the cognition and emotion that people associate with this activity. I have shown that people experience guilt at the idea of networking, partly because they perceive networking as an activity in which others are objectified (i.e., used as means to satisfy personal ends). This chapter refines our understanding of the way people frame their networking activities, of the subsequent negative moral emotions they experience when they network, and brings novel insights into the discomfort and reluctance that people have toward networking.

In Essay 2, I have examined whether men and women vary in their willingness to engage in a specific type of networking activity consisting of deepening relationships with their supervisors. While those network-deepening actions can be key for people's career, I hypothesized that women may be less likely than men to engage in this activity because of the risk for their image they associate with those actions. Indeed, because of a specific gender stereotype painting women as willing and able to use their power of attraction to manipulate men, women could decide to self-steer away from this type of networking activity to avoid reputational cost. I found that, even if women are more likely than men to associate image risk with their network-deepening actions when those actions are directed toward supervisors of the opposite gender, women and men appear equally likely to avoid network-deepening actions with a supervisor of the opposite gender. However, since most supervisors are men, such self-censoring might be more harmful to women's career than to that of men. This finding contributes to a stream of literature highlighting that the mere anticipation of a stereotype (here, being seen as a "temptress") may lead women to avoid actions that would be beneficial to their

career (here, deepening relationship with a supervisor), even when this stereotype is not endorsed by the majority of people (Brands & Fernandez-Mateo, 2017; Fernandez-Mateo & Fernandez, 2016; Fernandez-Mateo & Kaplan, 2018).

From those first two essays, I conclude that more descriptive work on the lay theories people hold about networking would be beneficial to the analysis of networking behaviors. Among many questions, it would be important to study how people frame networking, what are the implicit and explicit rules that govern their networking efforts, when do they avoid networking and why, how do they react to networking actions from others, do men and women perceive and interpret networking actions differently, and do they rely on different rules to network. Understanding those lay theories would first help us understand how different networking actions might activate different cognitive frames and moral emotions, and enrich our understanding of how people feel when networking (Essay 1). Second, such descriptive research on the lay theories of networking would help us determine whether men and women hold different rules of networking, and if so how and why those rules differ (Essay 2). The arguments that we develop can ascend to the status of scientific theories when our explanations of reality are well-substantiated, that is based on a body of facts that have been repeatedly confirmed through observation and experiment. Absent a richer description of people's networking, our ability to build strong theories and predict people's networking actions will be limited.

In Essay 3, I have investigated the variance in people's engagement in various networking behaviors, and how this variance is associated with different motivations and different network properties. This essay reminds us that when people network, they do not necessarily engage in all types of networking action. Depending on their motivation, the resources they want to acquire, and the type of needs they want to satisfy, they may engage in some networking activities but not in others. In addition, different types of networking

behaviors may be associated with different types of network: The size, diversity, and density of people's network is related to the networking actions that they undertake.

This final essay calls for further reflection on the link between different levels of analysis: How can we connect networking behaviors observed at the individual level (i.e., the micro-level) to the whole network (i.e., the macro-level)? In the present dissertation, I have mainly focused on the micro level, and tried to identify the sources of variance (i.e., cognitive frames, moral emotions, gender stereotypes, and motivations) in the engagement in networking behaviors. However, one would also expect that this individual-level variance in networking behaviors shapes the structure of the whole network. A first step toward understanding the relationship between these micro behaviors and the macro network would be to empirically establish the causal link between different networking behaviors, and potential resulting changes in network structure. While Essay 3 has offered preliminary results into this relationship, it could not establish this causal link.

Many other related questions would deserve further attention. For example, are organizations in which members network extensively different from organizations in which members network very little? The quantity and quality of networking actions occurring within the organization may impact knowledge sharing, employee turnover rate, level of competition among individuals and therefore interpersonal hostility, but also interpersonal trust and so cooperation among individuals. In turn, each of those factors could impact organizational performance, and lead to networks that are more or less stable over time. For instance, in an organization characterized by intensive networking, knowledge sharing could be more efficient than in an organization in which organizational members network very little, which would in turn increase organizational performance, but it could also increase the turnover rate by giving individuals access to external opportunities and so impair organizational performance.

A related question is to determine whether there exists an optimal level of networking within an organizational network. Past research has shown that while high levels of network density facilitate cooperation (Coleman, 1990a), a network in which there are too few structural holes reduces the ability of its members to access new ideas (Burt, 2004). Conversely, while low levels of network density facilitate brokerage opportunities (Burt, 2005), a network in which there are too many structural holes reduces the ability of its members to coordinate (Burt, 2004). In other words, an optimal network might be a network characterized by average levels of density or oscillating between low density and high density over time. Similarly, if high levels of networking activities facilitate the flow and exchange of valuable resources among individuals, too much networking might increase competition at unsustainable levels, by deteriorating trust and favoring hostility among individuals, which would ultimately prevent cooperation and coordination and therefore impair performance. Conversely, if low levels of networking activities allow the emergence of a dense and close network facilitating trust, loyalty, and cooperation, too little of this activity might prevent new ideas and strategic information to flow across the network, might reduce people's visibility, and ultimately their capacity to get resources and perform.

The amount of within-organization heterogeneity in networking actions also raises interesting questions. For example, if people who network a lot (e.g., as the "devoted players" described by Bensaou, Galunic and Jonczyk-Sédès, 2014) and people who network very little (e.g., the "purists") coexist within the same business unit, how would those different behaviors affect their ability to cooperate and work together? One may expect those differences to create a divide making the whole network inefficient. For instance, if those who network a lot are perceived as instrumental, selfish, and Machiavellian by those who network very little, the former may not be able to reap the benefits of their networking activities (Kleinbaum, Jordan, & Audia, 2015).

Finally, this dissertation interrogates the very definition of networking: What makes a behavior "networking"? In the present dissertation, I have relied upon the usual definition from the literature on networking behaviors: Networking actions are proactive and purposeful efforts made by individuals to create, maintain, and leverage relationships that can provide them with valuable resources for their work and career. This definition indicates that networking is not only defined by the behaviors people undertake, but also by the mindset that animates their agentic actions. Engagement in networking indeed requires people to commit their emotional, cognitive, and physical resources as well as their energy towards networking (Kuwabara et al., 2018); it requires people to analyze their existing social network in terms of available resources, and to make those resources accessible through deliberate social interactions (Van Buren & Hood, 2011). In other words, networking is not just about the mobilization of the network (the "process of putting the network to use"), but also about its activation (the mental activity through which people construct and represent themselves their network) (Smith, Menon, & Thompson, 2012).

However, this definition omits another aspect of networking: People may leverage relationships that were not initially built and maintained with an instrumental motive, but that may facilitate the acquisition of resources at a given point in time. For example, one may leverage a kin, a friend, or any other type of affective relationship. Would people then consider networking easier when the tie was not created with an instrumental purpose? On the one hand, some research has shown that when people have positive interpersonal affect toward someone else, they are more likely to seek out task-related resources from this person, no matter his or her competence, and to avoid seeking out resources from someone they dislike even if he or she would be the most qualified person (Casciaro & Lobo, 2008). On the other hand, leveraging communal relationships (e.g., friends, family members, or any type of affective relationships) could be emotionally and cognitively challenging from a moral perspective because it is mixing

two spheres of exchanges (Fiske & Tetlock, 1997): the communal-affective sphere characterized by a general obligation to care for the welfare of others without expecting compensation in return, and the economic sphere in which people look for means to satisfy personal ends. In other words, it is unclear whether people would leverage relationships that were not initially created with instrumental motives, and therefore whether the definition of networking should be broadened to accommodate such actions.

In a general sense, this definitional question indicates that the boundaries of the concept might not have reached stability yet, and that more work would be necessary to refine and strengthen those boundaries. The literature on networking suffers from an overdispersion of concepts that are insufficiently integrated into a cohesive body of knowledge. For instance, brokering or "the behavioral processes through which organizational actors shape others' relationships" (Halevy, Halali, & Zlatev, 2018, p. 215) appears to be a sub-type of leveraging action, but is never discussed as such (Grosser, 2013; Grosser et al., 2019; Obstfeld, 2005; Obstfeld et al., 2014; Quintane & Carnabuci, 2016; Soda et al., 2018). Similarly, concepts such as "network utilization" (Khattab et al., 2020), "resource mobilization" (Clough, Fang, Vissa, & Wu, 2018), "propensity to connect to others" (Totterdell, Holman, & Hukin, 2008), "network activation" and "network mobilization" (Smith et al., 2012), and the ideal-types of constrained agency within networks (i.e., maneuvering, fortifying, reorienting, and anchoring; Gulati & Srivastava, 2014) have been scarcely connected to each other, and to the concept of networking behavior. It would be important to integrate those concepts within the broader literature on networking behaviors, so as to refine our understanding of networking.

Methodological Considerations

Beyond the specific topic of networking behaviors, this dissertation has also been an attempt to align management research toward the principles of Open Science. Indeed, serious

doubts have been raised in the past decade about the quality and replicability of social sciences (Honig et al., 2018; Ioannidis, 2005; Simmons et al., 2011; The Open Science Collaboration, 2015; Tourish, 2020b). As a consequence, a growing number of researchers now consider the findings of social sciences to be "incredible", as opposed to "credible" (Vazire, 2020). To quote Simmons, Nelson, and Simonsohn (2018, p. 255): "When results in the scientific literature disagree with our intuition, we should be able to trust the literature enough to question our beliefs rather than to question the findings. We were questioning the findings. Something was broken".

Similar concerns have been raised about the field of management, and specifically about its theories. For example, Tourish (2020b) observed that we are often tempted to create the illusion of theory development rather than effectively developing theories to pass the bar of the review process. Similarly, DeDeo (2020) noted that our theoretical objects are partly autonomous from the reality, as in a game involving a suspension of disbelief. However, what those authors do not explicitly mention is that the proliferation of weak theories is afforded by weak empirical standards: If researchers' degrees of freedom allow us to present "any finding as significant" (Simmons et al., 2011), then our theories can be untethered from reality.

To make research more credible, two actions have been recommended: Research must be open (i.e., based on norms of transparency and inclusion, by opposition to norms of secrecy and elitism), and must be animated by an organized skepticism in which all producers and consumers of science can question the work of others, before or after publication, and critically accounts for what they have discovered (Campbell, 1988; Simmons, 2020; Vazire, 2020).

In this spirit of openness, this dissertation is tied to repositories that include all materials, methods, data, and analysis scripts necessary to reproduce the results[26]. Further, three out of the

[26] Essay 1: https://osf.io/2hjp9/, Essay 2: https://osf.io/hauxp/, Essay 3: https://osf.io/naf2h/

four studies have been pre-registered. Simmons, Nelson, and Simonsohn (2011) showed in a seminal paper that flexibility in data collection and data analysis (what they call researcher degrees of freedom) raises the chance of getting a false-positive result from a nominal 5% to 61%. These questionable research practices, or p-hacking (i.e., conducting many analyses on the same data set and reporting those that are statistically significant; Simonsohn, Nelson, & Simmons, 2014) does not result from the supposed immorality of researchers, but rather from the ambiguity they face in the research process as well as from their desire to find statistically significant results (Simmons, 2020; Simmons et al., 2011). However, p-hacking is consequential for science as a whole: A study comparing positive result rates between pre-registered and non-pre-registered studies has found that while 96% of non-pre-registered studies find evidence for their hypothesis, only 44% of pre-registered studies do (Scheel, Schijen, & Lakens, n.d.). This ratio is similar to the one found for replications: While 97% of original studies have significant results ($p < .05$), 36% of replications have significant results (The Open Science Collaboration, 2015). In other words, while not pre-registering one's work may lead to a private gain (i.e., publishing a paper), it also leads to a collective cost: It makes the field more and more fragile, and less and less credible. By comparing the analysis conducted in this dissertation to the pre-registrations, readers will be able to judge the severity of the statistical tests, and to meaningfully interpret the p-values reported (Mayo, 2018).

In a skeptical spirit towards past work, I have also accounted for the issues discovered in a paper (i.e., CGK) while working on the first chapter of my dissertation, and offered a model based on sounder theoretical and methodological grounds. Peer review is a good, but imperfect, mean of detecting errors in papers: The fact that a paper was published does not mean that it is free of errors and mistakes, or even that it is replicable and true. However, the goal of science is ultimately to distinguish what is true and replicable from what is false (Simmons, 2020). As a consequence, researchers' commitment to detecting, correcting, and reporting errors is

particularly important to make science progress and build a credible scientific community (Vazire, 2020). One way to improve the literature is then to continuously re-examine what we hold to be true, and to point out flaws when we identify them (Campbell, 1988; Vazire, 2020). The trustworthiness we place in scientific findings does not then depend upon the honesty and competence of any single scholar, the reputation of a journal, or the hope that future theories will correct past work, but on a norm of "organized skepticism," which, combined with the ambition to advance science, lead scholars to monitor each other for improved validity (Campbell, 1988; Heathers, 2017; Merton, 1973b; Vazire, 2020). This form of "post-publication peer review" is all the more important that false-positive findings are unfortunately common in the published literature (Simmons, 2020).

A parent discipline of organizational behavior, psychology, has shown us the importance of changing our research practices. The year 2011 was a turning point for psychology (Engber, 2017; Syed, 2019): Daryl Bem published a paper demonstrating the impossible result that humans are capable of pre-cognition (i.e., guessing the future) (2011); Diederik Stapel was revealed as a fraudster, ending a prolific career and leading to 57 retractations; and *False-Positive Psychology* (Simmons et al., 2011) was published, revealing how common research practices allow researchers to present any result as significant. A few years later, large reforms have been on the way, with considerable agreement that, while much remains to be done, the field of psychology has improved by leaps and bounds (Nelson, Simmons, & Simonsohn, 2018).

In the field of management, a first step was taken when some management scholars have recently acknowledged both the problems and the solutions (Honig et al., 2018). To this date however, the remedies that have led to "psychology's renaissance" (i.e., pre-registration, open science, publication of replications and null findings, errors detection and correction) have not been adopted by the field of management. If this resistance to change is multifactorial (Empson,

2020; Honig et al., 2018; Yarkoni, 2018), one of the factors might be that science has become a game (DeDeo, 2020). As Tourish recently wrote (2020a, p. 250): “Of course, we don’t have to do any of this. We can […] express overall satisfaction with the status quo, and continue to play “the publishing game.” […] Ultimately, I think this approach is unsustainable. Our stakeholders won’t tolerate it indefinitely. Moreover, the despair and cynicism it engenders among ourselves may make academic life too meaningless to bear […]. We can, and we must, aim higher and do better.” This dissertation is a small step toward “doing better”.

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