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Article abstract

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Access to Medical Technologies: Do Gender and Social Capital matter?*

L'accès aux technologies médicales : le genre et le capital social sont-ils importants ?

Acceso a tecnologías médicas: ¿Importan el género y el capital social?

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ABSTRACT

We explore the relationship between the characteristics of social capital, the speed of access to medical technologies and the role of gender in a private practice context. Our findings from a sample of 98 German private practitioners show that: (a) being a woman has an overall negative impact on the *speed of access to medical technologies*; (b) private practitioners with strong social network ties obtain quicker access to medical technologies than do those with weak ties; (c) men relying on their weak ties perform better than women who do so. In contrast, we observe that women relying on strong ties outperform their male counterparts in terms of *speed of access to medical technologies.*

Keywords: social capital, gender, private practitioners, healthcare

RÉSUMÉ

Nous explorons la relation entre les caractéristiques du capital social, la rapidité d'accès aux technologies médicales et le genre dans le contexte de cabinets médicaux privés. Les conclusions tirées *à partir* d'un échantillon de 98 médecins privés allemands montrent que : a) le fait d'être une femme médecin a un impact négatif global sur la rapidité d'accès aux technologies médicales; (b) les médecins privés ayant des liens sociaux forts obtiennent un accès plus rapide aux technologies médicales que ceux qui ont des liens faibles; c) les hommes qui s'appuient sur leurs liens faibles obtiennent de meilleurs résultats que les femmes. En revanche, nous observons que les femmes qui ont des liens forts ont plus rapidement accès aux technologies médicales que leurs homologues masculins.

Mots-Clés : capital social, genre, médecin dans le privé, médecine

RESUMEN

Exploramos la relación entre las características del capital social, la rapidez del acceso a tecnologías médicas y el papel del género en un contexto de práctica privada. Nuestros hallazgos en una muestra de 98 practicantes privados alemanes muestran que: (a) ser una mujer tiene un impacto negativo en general en relación con la rapidez de acceso a tecnologías médicas; (b) practicantes privados con vínculos fuertes de redes sociales obtienen acceso a tecnologías médicas más rápido que aquellos que tienen vínculos débiles; (c) hombres que dependen en sus vínculos débiles se desempeñan mejor que mujeres que hacen lo mismo. Por lo contrario, observamos que mujeres que dependen en vínculos fuertes superan a sus contrapartes varones en términos de rapidez de acceso a tecnología médica.

Palabras Clave: capital social, género, practicantes privados, cuidado de salud

Contemporary healthcare has become highly complex and knowledge based, including medical technologies (e.g., magnetic resonance imaging) to facilitate diagnosis and treatment (Kirkpatrick *et al*., 2013; Lettieri *et al*., 2013). Private practitioners – whom we define as professional health care providers – are often the first point of referral for diagnosis and treatment. However, private practitioners often do not have direct access to medical technologies. Rather, they depend on other organizations to access diagnosis and treatment tools. Technological resources such as medical technologies are currently a critical source of added value in many segments of activity (Conceição *et al*., 2000; Oudshoorn, 2011). In the healthcare industry, ever-increasing resource constraints, time pressure, and rationing of medical technology (Busson-Villa *et al*., 2016; Calciolari *et al*., 2017; Gundolf *et al*., 2017; Kopetsch, 2014; Lemieux-Charles *et al*., 1993; Shapiro, 2005) cause a bottleneck for private practitioners seeking to obtain timely access to medical technologies for which they compete with other private practitioners. Waiting times for treatment and diagnosis arise because supply cannot serve the current need for medical treatments (Kopetsch, 2014), and the speed of access to the necessary resources constitutes a key competitive dimension.

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The social capital literature indicates that resource can be leveraged through the use of social networks based on either weak ties (Burt, 1992; Granovetter, 1973; Nahapiet & Ghoshal, 1998) and/or reaping the benefits of strong ties (Adler & Kwon, 2002; Coleman, 1988; Nahapiet & Ghoshal, 1998). Social capital indeed improves the timeliness, quality, and relevance of available information (Adler & Kwon, 2002; Pearson *et al*. 2008) and appears particularly important for efficiently accessing a variety of resources, including information, knowledge, and tangible resources (Chollet *et al*. 2014; Godwin *et al*., 2006; Greve & Salaff, 2003).

However, gender differences related to these assumptions should be considered (Dang & Nguyen, 2016). The social capital *and* gender literature emphasize that compared to their male counterparts, women are less present in networks and have fewer and more informal networks characterized primarily by strong ties (Hampton *et al*., 2009; Watson, 2012). Researchers have interpreted gender differences in network composition as posing a disadvantage for women in business (Berger & Benschop, 2015; Forsberg Kankkunen, 2014; Liao & Stevens, 1994; Linehan & Scullion, 2008; Oakley, 2000) and have emphasized women's need to accumulate social capital to reap the same benefits as men (Kumra & Vinnicombe, 2010). However, recent work has presented an alternative interpretation, revealing that women could benefit from relational social capital through their use of cohesive networks and strong ties in some contexts (De Jong & Marsili, 2015; Efendic *et al*. 2015; Vosta & Jalilvand, 2014). A few studies have explored the positive role of strong ties in accessing resources from a gender perspective (e.g., Jack, 2005; Lee, 2015). Mostly focusing on women, these often qualitative, in-depth studies are crucial to understand gender dynamics with regard to social capital. Adopting a quantitative methodology complementary to these studies, we seek to explore the differentiated impacts of strong versus weak ties on men's and women's access to resources.

We investigate the following research question: How does gender affect the relationship between the strength of ties and access to medical technologies for male and female private practitioners? To answer this question, we first investigate how male and female private practitioners obtain access to medical technologies. Second, we show how the strength of ties impacts this access. Third, we test the moderating effect of gender on the relationship between the strength of ties and access to medical technologies.

We undertake this study in the German healthcare sector, a particularly relevant setting for our research given a number of reasons. First, healthcare has become highly scientific, technical, and knowledge intensive (Kirkpatrick *et al*., 2013; Lettieri *et al*., 2013). The merits of technology, such as improved diagnostics, care, and cost effectiveness, parallel the main approaches of healthcare reforms in many Western societies, including Germany, in recent decades: specialization and commodification, i.e., controlling costs and maintaining high quality standards (Schröder, 2010). In such an efficiently planned health economy, the supply of diagnostic and therapeutic tools is slightly below demand (Breyer, 2012; Kopetsch, 2014; Shapiro, 2005), which causes rationing problems and increasing resource constraints for actors, especially in the private sector (Kopetsch, 2014; Shapiro, 2005). Second, strong ties have generally been shown to have particular value for entrepreneurs and small business owners as well as for industries characterized by high expertise, knowledge, and advanced technologies. The healthcare industry in Germany is dominated by microenterprises, often single physicians or small offices with few employees, creating challenges in accessing resources (Busse & Blümel, 2014). Other market actors in the network (i.e., public and private hospitals, specialized centers for diagnostics and care) control the medical technologies necessary for advanced and deepened analysis. Consequently, private practitioners must act proactively to connect to these key persons in order to gain a timely access to these technologies and provide an optimal service delivery process. Third, the German healthcare sector is also comparable with the French healthcare system on several criteria, such as the GDP percentage of health expenditures. Consequently, this survey is relevant for French policy makers and for other Western countries facing such challenges.

Our main contribution is to highlight the gender-contingent effect on the relationship between tie strength and resource accessibility in the context of male and female private healthcare practitioners. First, our findings reveal that female practitioners benefit from strong ties more than weak ties in their access to medical technologies, while men reap the same benefits from strong *and* weak ties. Second, we show that men using weak ties access medical technologies more efficiently than women do, whereas women outperform men when mobilizing their strong ties. These findings contribute to advancing our knowledge of how strong ties affect performance in specific contexts and industries, and reveal the moderating effect of gender.

Our paper proceeds as follows. First, we frame our theoretical line of argumentation and derive our hypotheses in the first section. The second section details the methodology and measures applied. The third section presents the findings. The paper concludes with a discussion of the findings, limitations and managerial implications of this study.

Social Capital Theory and Gender in Healthcare: Development of Hypotheses

The Speed of Access to Medical Technologies in the Healthcare Sector

The key proposition of social capital theory is that access to valuable resources is dependent on a person's network ties (Burt, 1992; Nahapiet & Ghoshal, 1998). In that regard, the seminal work of Burt (1992) does not only focus on the access to resources in itself (ability to gain resources not available to people without similar network contacts), but also pays particular attention to *timing*, i.e. the ability to access resources sooner than they become available to people without similar network contacts. This speed of access is also explored in subsequent conceptual research work, postulating a positive impact of social capital on the quality, relevance, but also timeliness of available information and resources (Adler & Kwon, 2002; Pearson *et al*. 2008).

However, in empirical studies, if some researchers evoke this dimension theoretically (e.g. Calciolari *et al*., 2017; Chen *et al*. 2007; Engelen *et al*., 2016; Jansen *et al*., 2011), they then fail to explore it in depth. In fact, they constrain their focus to the ability to access resources or not; consequently, the timing

dimension remains unexplored in empirical research despite its key significance in specific contexts and situations. One notable exception is the study of Krause *et al.* (2007) in the U.S. automotive and electronics industries. The authors investigate the influence of buying firms' social capital accumulation with key suppliers on their performance improvements in terms of cost, quality, flexibility, and delivery speed. Because these types of industries rely heavily on component suppliers, these four criteria are thought as primary competitive priorities affecting the end-customer. The delivery speed, in particular, is defined in terms of "short delivery times", and measured through asking the buying company respondents to indicate the performance in terms of short delivery times on a Likert scale (Krause *et al.* 2007).

The healthcare industry in Germany shares some similar concerns and challenges. Private practitioners, usually single physicians or small offices with few employees, depend heavily on other market actors (i.e., hospitals, private clinics, specialized centres for diagnostics and care) to access the necessary medical technologies to provide diagnosis and treatment services to their patients (Busse & Blümel, 2014). If the access to medical technologies is granted for all practitioners in a similar way in terms of relevance and quality, the speed of access to those resources constitutes a key competitive factor, directly affecting patients. In a health economy characterized by a supply of diagnostic and therapeutic tools below demand (Breyer, 2012; Kopetsch, 2014; Shapiro, 2005), private practitioners compete with each other due to increasing resource constraints and higher time pressure (Busson-Villa *et al.*, 2016; Calciolari *et al.*, 2017; Shapiro, 2005). To gain timely access and provide an optimal service delivery process with low waiting times for treatment and diagnosis private practitioners have to connect to key providers of medical technologies.

The Structural Disadvantage of Women In Healthcare

The social capital literature (Bourdieu, 1984; Burt, 1992; Coleman, 1988; Granovetter, 1973; Nahapiet & Ghoshal, 1998) emphasizes the benefits of a structural position inside network structures. According to Burt (1992), the number and quality of relationships and collaborations an individual has can be subsumed under the notion of social capital. The seminal work of Granovetter (1973) and later Burt (1992) described how a network structure offers competitive advantage to its members. In particular, social capital theory highlights how actors can more efficiently access and use additional resources embedded in the network structure (Adler & Kwon, 2002; Engelen *et al.*, 2016; Jansen *et al.*, 2011; Jonsson & Lindbergh, 2011; Klyver & Schenkel, 2013; Pearson *et al.*, 2008; Romero & Yu, 2015; Semrau & Werner, 2012).

In terms of gender, the extant literature indicates a variety of differences in men's and women's social capital, indicating how they benefit from it and access different types of resources (Jones, 2015; Lutter, 2015). Studies typically show that women are less present in networks and spend less time networking than men (Aldrich *et al.*, 1989; Hampton, *et al.*, 2009; Watson, 2012). In addition, women have fewer informal networks, while men are more likely to be affiliated with core associations that provide more information, resources, and higher economic returns (Beggs & Hurlbert, 1997; Davidsson & Honig, 2003; Lin, 2000; Watson, 2012). Gender differences in network use and composition and the resulting unequal access to resources (Liao & Stevens, 1994; McGowan *et al.*, 2015; Unger & Crawford, 1992) have been highlighted as important disadvantages for women.

In the health sector, as in other industries, 'old boys networks' remain very powerful (Linehan & Scullion, 2008); hence, women tend to network less and differently than their male counterparts (Buddeberg-Fischer *et al.*, 2010). This leads to additional career obstacles for female practitioners (Nomura & Gohchi, 2012) and persistent structural gender inequality, including unequal resource availability (Buddeberg-Fischer *et al.*, 2010; Tesch *et al.*, 1995). Given these arguments, we hypothesize that strategic positions to timely access medical technologies are occupied by men through a social reproduction process (Bourdieu, 1984) that places female practitioners in an asymmetric situation that disadvantages them. We thus formulate the following hypothesis.

H1: Female private practitioners are disadvantaged in terms of speed of access to medical technologies in the healthcare sector.

The Role of Tie Strength in Resource Accessibility

An ongoing discussion in the literature on structural social capital concerns whether strong versus weak ties are more beneficial for resource acquisition and use (Efendic *et al.*, 2015; Hmieleski *et al.*, 2015; Jonsson & Lindbergh, 2011; Mamavi *et al.*, 2015; Semrau & Werner, 2012; Zane & De Carolis, 2016).

Granovetter (1973) conceptualized the quality of relations as the strength of ties, i.e., the amount or frequency of contact, emotional affection, reciprocal behavior, or trustworthiness. Compared to strong ties, which may cause social fragmentation into cliques that allows little communication and resource exchange with outsiders, weak ties as door openers to other cliques provide access to more information and novel ideas. Essentially, being a broker in a social structure constitutes an advantage by exposing an individual to new opportunities (Burt, 1992; Granovetter, 1973). Therefore, weak ties may be powerful means for resource access because they expose people to new social groups and provide novel and diversified information and resources (Carter *et al.*, 2003; Jansen *et al.*, 2011; Jones, 2015; Jonsson & Lindbergh, 2011; Long *et al.*, 2013; Manolova *et al.*, 2006; Renzulli *et al.*, 2000).

However, the classical social capital approach by Coleman (1988) assumes that strong, dense, and cohesive ties create a network closure fostering trust, common norms and sanctions, and reciprocity among actors. Strong ties therefore enable efficient information flow and enhance the timing, relevance, and quality of information (Adler & Kwon, 2002; De Carolis *et al.*, 2009; Pearson *et al.*, 2008). The nature and configuration of links that a person maintains within his/her social environment are therefore crucial to resource access, whereas social capital – both strong and weak ties – appears to have a contingent value (Ahuja, 2000; Hmieleski *et al.*, 2015; Hoang & Antoncic, 2003; Klyver & Foley, 2012). Hence, depending on the context, strong or weak ties can be more or less important in accessing resources.

Regarding the contingent factors, research indicates that small enterprises and entrepreneurs rely primarily on strong ties in the form of informal and personal relationships, which can be particularly valuable for resource acquisition in this context. Strong ties are also particularly efficient during firm emergence, as they lead to a cohesive network structure allowing for increased resource accessibility (Felício *et al.*, 2012; Ingram & Roberts, 2000; Jonsson & Lindbergh, 2011). Moreover, strong ties appear to have particular importance in industries characterized by high expertise and knowledge as well as advanced technologies. For instance, in the university sector, individuals with a cohesive network have early access to technologies, as their contacts may have accumulated obligations with respect to each other (De Carolis *et al.*, 2009). Finally, strong ties have also been shown to be particularly relevant for gaining access to technical resources (Mosey & Wright, 2007).

Given the above arguments and the specific context of private healthcare professionals who run unipersonal or very small structures in a sector characterized by high expertise and advanced medical technologies, we hypothesize that female and male practitioners who rely on strong ties can enhance the speed of access to medical technologies. Strong ties should leverage this strategic resource more efficiently than weak ties. We formulate the following hypothesis.

H2: Relying on strong ties is significantly and positively related to the speed of access to medical technologies for private practitioners.

Strong Ties, Resource Accessibility and the Moderating Effect of Gender

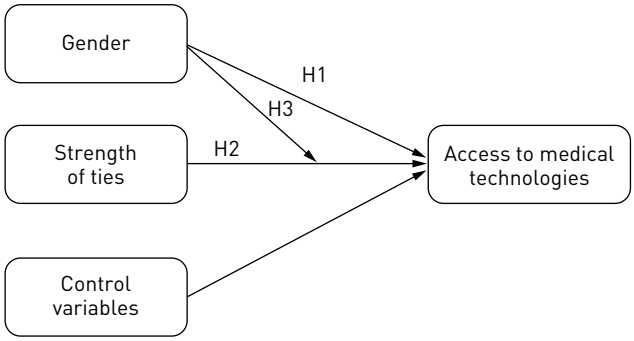
Consistent with the theoretical approaches on social capital, gender research has examined what type of ties women rely on to acquire different types of resources. Men and women were found to have different social network structures (Jones, 2015). Several studies verify that women primarily use strong ties (in particular family and friends) to obtain different types of resources, including funding for business start-up and growth (Carter *et al.*, 2007; Orhan & Scott, 2001; Singh & Lucas, 2005). Accordingly, women are less likely to have weak ties in their job- or business-related networks (Eddleston, 2013; Klyver & Terjesen, 2007; Powell & Rankin, 2002; Renzulli *et al.*, 2000; Robinson & Stubberud, 2009). Some researchers thus conclude that women benefit less from their networks than men do (Jones, 2015; Lin, 2002; Molyneux, 2002; Shaw *et al.*, 2001) because women tend to turn to more affective family-to-business support to gain access to resources (McGowan *et al.*, 2015; Powell & Eddleston, 2013; Watson, 2012). However, recent research has shown that relying on strong ties can be beneficial for women in some contexts. Strong ties, characterized by trust-based relations, lower the need to protect oneself against opportunistic behavior and therefore enhance resource and information flow. This type of relational social capital has been described as positively affecting female entrepreneurship, particularly through their wider use of cooperative behaviors (De Jong & Marsili, 2015; Efendic *et al.*, 2015; Vosta & Jalilvand, 2014).

While female practitioners receive less mentoring than men for their career advancement in the medical field (Buddeberg-Fischer, *et al.*, 2010; Carr *et al.*, 2009; Seraj *et al.*, 2015), recent research reveals that cooperative behavior is gaining more attention in the field and that empathy and sharing of ideas and resources through tied networks might be more important for female than for male physicians (Buddeberg-Fischer *et al.*, 2010; Busse & Blümel, 2014; Carr *et al.*, 2009; Schröder, 2010).

Given the medical context, hypothesized as favorable to strong tie mobilization, as well as the propensity of women to rely on such ties, we expect female private practitioners to rely on strong ties to compensate for their gender-based disadvantage in accessing medical technologies. In other words, female private practitioners who use strong ties might access medical technologies as efficiently (or even more efficiently) than men using the same type of ties. We formulate the following hypothesis about the moderating effect of gender.

H3: Being a woman positively affects the relationship between strong ties and speed of access to medical technologies for private practitioners.

FIGURE 1
Access to Medical Technologies Model



Methodology

Data

We tested our hypotheses utilizing a sample of private practitioners in Germany. After selecting medical private practitioners and obtaining their contact details from the Schober Business TargetBase, emails soliciting participation in an online survey were sent during January and February 2013. After two follow-up emails, we received 98 completed questionnaires (return rate: 3.05 percent). As indicated in Table 1, most of these private practitioners are male (84.7 percent), with an average tenure of 30 years. The vast majority (89.8 percent) work in practices with an average of two employees. Private practitioners in our sample work in a hospital or a clinic (92.86 percent). Our sample also contains general practitioners (29.73 percent) and specialists.

Measures

As highlighted in our literature review, the time spent on care delivery is a central issue in the German healthcare industry. However, a scale to measure *speed of access to medical technologies* does not exist in the literature. In line with Krause *et al.* (2007) and their empirical approach, we measured *speed of access to medical technologies* through asking private practitioner

TABLE 1
Sample Composition

	Men *n*=83	Women *n*=15	Total sample *n*=98
Personal information			
Tenure (in years)	30.08	27.71	29.73
Occupation characteristics			
Self-employed	90.36%	86.67%	89.8%
Size of medical practice (no. of employees)	2.12	2.07	2.11
Work in an hospital or a clinic	93.98%	86.67%	92.86%

to assess the speed of access on a six-point Likert scale, with the following items: (1) access to diagnostic and therapeutic facilities, (2) access to medical technologies, and (3) access to high-technology equipment for diagnosis and treatment. Variance is 83 percent and Cronbach's alpha 0.883.

Measuring the *strength of ties* requires specific methods. In explaining how to delimitate a personal network, Chollet (2005) first differentiates two types of methods. In the first case, the respondent does not participate in the data construction. The researcher can use archives, communication support, or observations to describe the network. In the second case, the respondent does participate in the data construction by reports of his/her daily relationships and interactions, a list of people, or a name generator. Each method has advantages and disadvantages, but the name generator has the advantage of determining the respondent's self-perception of who is relevant in his/her personal network to achieve certain goals. Thus, consistent with previous studies (e.g., Burt, 1992), we utilized a name generator to measure the *strength of ties*. Respondents were asked to provide the names of those individuals with whom they maintained contact to (1) obtain a second opinion about a diagnosis, (2) receive a complementary opinion, (3) receive a supplementary opinion, and (4) seek advice. The fifth generator was more open, with the goal of identifying any person the respondent considers important for performing his/her job well. Each respondent could enter up to 18 names. For each name, the respondent was then expected to answer a number of other questions. As demonstrated by Marsden and Campbell (1984), emotional closeness is the most reliable variable with which to measure the *strength of ties*. Our data collection tool therefore asked the respondents to position each of their listed contacts on a four-point Likert scale ranging from *distant* to *especially close* (Burt, 1992). The *strength of ties* variable is then calculated as the average of the listed contact scores.

To reduce the risk of underestimating access to medical technologies, we included *gender* as a theoretical dummy variable as well as the number of employees on a five-point Likert variable (from *I work alone* to *more than 500 employees*). We added *tenure* as a typical control. In management studies, it is common practice to control for *tenure* as it may have an impact on individual or organizational performance (Chollet *et al.*, 2014). With regard to our sample, tenure (i.e., the number of years of professional experience) should could have an impact on the speed of access to medical technologies because network ties to access medical technologies form over time.

Data analysis

We conduct a hierarchical regression analysis to test our set of hypotheses[1]. First, we present the effect of controls and introduce the theoretical variables. Second, we add the moderating effect (Gender X strength of ties) to determine to what extent men and women benefit more from their weak/strong ties. Third, we present the moderating effect through a graph showing interaction (Figure 2).

Findings

As expected, *gender* and the *strength of ties* influence *access to medical technologies*. Our analysis also reveals the existence of an effect of the interaction between *gender* and the *strength of ties* on the *speed of access to medical technologies*.

The Direct Effects of Gender

Our first hypothesis is confirmed. We proposed that female private practitioners would be disadvantaged in their *speed of access to medical technologies*. Table 3 shows that being a woman has an overall negative impact on the *speed of access to medical technologies* in each model. This result indicates a direct effect of gender that is stable after the introduction of the other theoretical variables.

The Direct Effect of Strength of Ties

The regression analysis also reveals that the *strength of ties* is a determinant of practitioners' *speed of access to medical technologies*. The second hypothesis, H2, is therefore confirmed. Thus, private practitioners with strong social network ties obtain more timely access to medical technologies than those with weak ties.

The Interaction Effect of Tie Strength and Gender

Gender moderates the impact of the *strength of ties* on the *speed of access to medical technologies*. For male practitioners, relying on strong ties only slightly improves the *speed of access to medical technologies*. For female practitioners, strong ties prove to be far more effective in terms of *speed of access to medical technologies*

1. Before conducting the regression, we perform a mean comparison to show whether men and women score similarly on the dependent variable. Both the *Levene* Test and the Non-Parametric *U Mann-Whitney* Test show that men score significantly higher than women on their *speed of access to medical technologies*.

TABLE 2
Pearson Correlations

Variables	Mean	S.D	(1)	(2)	(3)	(4)	(5)	(6)
(1) Access to technical resources	0	1	1					
(2) Tenure	29.736	7.891	0.068	1				
(3) Gender	0.150	0.365	-0.255*	-0.107	1			
(4) No. of employees	2.110	0.607	0.336**	0.026	-0.032	1		
(5) Work in hospital/clinic	-	-	0.125	-0.042	-0.102	-0.080	1	
(6) Strength of ties	3.09	0.775	0.277**	0.138	-0.192	0.130	-0.012	1
N	98	98	98	98	98	98	98	98

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

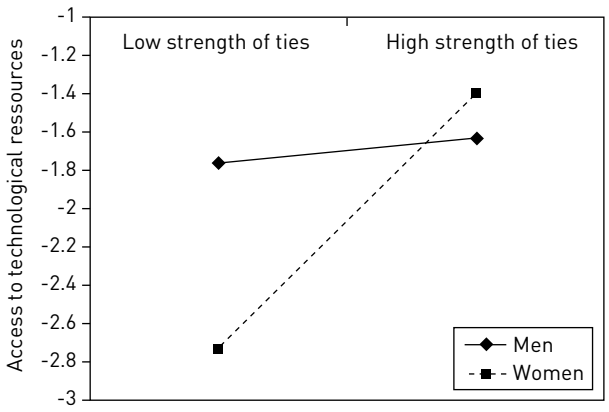
TABLE 3
Stepwise Linear Regression Analysis for Access to Technological Resources

	Model 1	Model 2	Model 3
Tenure	0.040	0.018	-0.014
Nb of employees	0.345**	0.322**	0.340***
Work in an hospital/Clinic	0.151	0.150	0.169
Gender	-0.234*	-0.195*	-0.984**
Strength of ties		0.198*	0.059
Gender*Strength of ties			0.807*
R^2	0.191	0.227	0.285
Adjusted R^2	0.154	0.182	0.235
SE estimate	0.938	0.923	0.893
F	5.182**	5.104**	5.703***
	98	98	98

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; † $0.05 < p < 0.10$

than weak ties. While men perform better than women when they rely on their weak ties, we observe that women outperform their male counterparts in terms of *speed of access to medical technologies* when relying on strong ties. Thus, H3 is confirmed. Figure 1 illustrates this interaction effect.

FIGURE 2
Gender Differences about Strength of Ties



Effects of Controls

The number of employees impacts the speed of access to medical technologies. Thus, larger companies are able to secure more timely access to these resources whereas *tenure* does not affect the dependent variable.

Discussion and Conclusion

In today's knowledge-intensive healthcare systems, private practitioners compete for access to medical technologies. This study investigated how male and female private practitioners manage resource scarcity, exploring the role of gender, i.e., whether male and female private practitioners have equal access to medical technologies and how social capital impacts this access. Our results focus on the German healthcare system but can provide insights for other Western countries, such as France, whose context is similar in terms of health care systems and expenditures (see the World Bank website for more information).

Our findings reveal a direct positive effect of strong social network ties and a direct negative effect of gender on the speed of access to medical technologies. Furthermore, we identify an interaction effect between tie strength and the gender variable, highlighting the contingent effect of social capital (e.g., Ahuja, 2000;

Chollet *et al*., 2014). While male practitioners benefit from a relatively stable pace in access to medical technology regardless of their social capital characteristics, female private practitioners must leverage their strong ties to obtain timely access to those technologies.

Although male and female private practitioners in the healthcare sector share a similar background in terms of education, experience (measured as tenure), and business size, the mean comparison shows that men are still in a better position to negotiate timely access to these critical resources. For this reason, we suggest that women can effectively manage their relationships by building and maintaining strong relations with providers of medical technologies. In other situations, women can mobilize indirect but strong ties (e.g., friends or employees) to connect to crucial actors. Moreover, networking activities can also be helpful for developing the size of their network and amplifying potential outputs, such as the speed of access to medical technologies. This strategy may be particularly valuable because women cannot build a variety of weak ties given that they receive less mentoring throughout their early career (e.g., Buddeberg-Fischer, *et al*., 2010; Carr *et al*., 2003; Seraj *et al*., 2015). Finally, we show that women outperform men when they use strong ties to gain access to medical technologies. This is a novel result, as few studies have compared men and women with a quantitative approach. We show that strong ties can be an asset rather than a drawback as presented in some studies following the crucial work of Ibarra (1992), who highlighted the relative disadvantage of women in networking.

By highlighting the crucial role of strong ties, especially for female private practitioners, we advance the discussion surrounding gender, social capital, and access to critical resources. Out work therefore provides a better understanding of factors that enable the delivery of high-quality, efficient treatment and diagnosis in healthcare systems, in which private practitioners increasingly must respond to demands for personalized care, efficiency, quality, *and* ethical behavior.

As with all studies, our findings are impaired by several limitations. We focused on the strength of ties but did not consider the gender composition of these ties. The composition of ties may partly explain resource access. Future research should therefore incorporate this perspective to determine whether homophilic (female-female/male-male) or heterophilic (male-female) ties (McPherson *et al*., 2001) are more or less efficient. Despite the uniqueness of the sample, its restricted size limits the representativeness of our study. Furthermore, our findings may not be generalizable to all private practitioners because practitioners in different specialties might experience varying needs for technology. Given our specific study context, the findings also might not generalizable across other industries and national contexts with dissimilar health care systems. In light of these limitations, we encourage subsequent large-scale international comparisons in the healthcare sector with other less regulated countries, such as the United States. We assume that in a less regulated environment, the power of social capital might be stronger because of the higher degree of freedom for practitioners and patients.

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