Women are underrepresented in leadership roles across the hierarchical levels as well as in sectors that are paths to top positions such as finance and STEM (Science, Technology, Engineering, Mathematics) (Cook & Glass, 2014; Dezső et al., 2016; Ding et al., 2013; Kogut et al., 2014; Kossek et al., 2017).

Increased female entrepreneurship can be a way to improve societies’ vertical gender integration by creating more female leaders; but in order to create more equal societies it is also important to focus on horizontal gender integration, since high-growth entrepreneurship is typically found within male-dominated sectors.

Women are much less likely to become entrepreneurs, also in gender-equal societies (Tonoyan et al., 2019). However, in societies with an institutional arrangement that focuses on solving work-family conflicts, for example with subsidized childcare and paid leave, women are better represented in growth-oriented entrepreneurship (Thébaud, 2015). There is thus no apparent conflict between creating equal gender conditions in the labour market and female entrepreneurship. We do, however, have a long way to go in regard to creating horizontal and vertical gender integration, and female entrepreneurship can be viewed as an untapped potential that can be leveraged if the right conditions are created (Berger & Kuckertz, 2016; Van der Zwan et al., 2012).

To do this efficiently will require a holistic approach to dealing with barriers women experience (Kossek et al., 2017). In this text, five areas, in which impactful initiatives could be initiated to increase female entrepreneurship, will be presented. These areas are the following: 1) Female role models, 2) Access to finance, 3) Access to networks, 4) Communication, and 5) Education.

1) Female role models

Situation and identified problems

Social influence plays a major role when it comes to deciding career paths (Kossek et al., 2017). Gender-specific role expectations become internalized at an early age (Cheng et al., 2017; Cvencek et al., 2011; Eccles & Jacob, 1986), and women avoid male-dominated fields such as STEM, finance and entrepreneurship, due to expected role incongruity (Eagly & Karau, 2002) and anticipated stereotype threats (Brush & Greene, 2018; Steele, 1997; Steele & Aronson, 1995).

On average, women also acquire less entrepreneurship-relevant resources in their labour market roles (Tonoyan et al., 2019). Differences in perceived entrepreneurial competence and entrepreneurial self-image explain a significant part of the gender gap in entrepreneurship (Eble & Hu, 2019; Koellinger et al., 2013; Thebaud, 2010). This gender gap could be significantly decreased if women had more access to successful female entrepreneurs (Ahl, 2006; Bechthold & Huber, 2018; Bell et al. 2017; Gupta et al., 2014; Laviolette et al., 2012).

Studies have shown that parents can have a strong social influence on their children when it comes to pursuing a career as self-employed (Lindquist et al., 2015). This process is particularly notable in mother-
daughter relationships (Greene et al., 2013; Hoffman & Junge, 2013; Hoffman et al., 2014; Kickul et al., 2008). Organisational contexts (Dobrev & Barnett, 2005; Sørensen & Fassiotto, 2011) as well as colleagues (Nanda & Sørensen, 2010) can also have a significant influence on individuals’ entrepreneurial aspirations.

A recent study thus demonstrated that, when it comes to women’s propensity to engage in entrepreneurial activities, especially the creation of ventures with employees, the most determining factor was whether they had worked with a female entrepreneur (Rocha & Van Praag, 2020). Having a self-employed mother has been viewed as one of the strongest indicators for women’s entrepreneurship (Lindquist et al. 2015). Compared to this, the influence, which working for a female entrepreneur has, is twice as strong. The influence was especially strong when the business was in a male-dominated field and when there were similarities between the employee and the entrepreneur, for example in age and educational background. Females who lacked prior entrepreneurial exposure experienced the highest effect.

Rocha and Van Praag (2020) found that females who have worked with a female entrepreneur are 30% more likely to engage in entrepreneurial activities and 89% more likely to found a venture with employees. When the female employee and the female entrepreneur shared individual attributes, the chance increased with 60–90%. The most important attribute was similar educational background, but also motherhood, birthplace, and age, played an important role.

Suggested policy initiatives

Exposure to female entrepreneurs can effectively alleviate stereotyped self-image and demystify the entrepreneurial process (Beaman et al., 2012; Eble & Hu, 2019; Kofoed & McGovney, 2019; Pryor et al., 2016). A popular policy initiative is to identify successful female entrepreneurs and provide exposure to them with specialised online platforms, and to assign organisations the task to proactively work with educational institutions to include female entrepreneurial role models in their educational programmes (Skonieczna & Castellano, 2020).

The findings by Rocha and Van Praag (2020) demonstrate that trainee programmes in which women who lack entrepreneurial exposure are matched with female entrepreneurs who are active within male-dominated sectors can be an effective way to increase the number of female entrepreneurs.

2) Access to finance

Situation and identified problems

There is a long-standing perception of women as being more interpersonally oriented and communal, whereas men are associated with attributes such as leadership, agency, independence, decisiveness, risk propensity and competitiveness (Bowles et al., 2005; Dennis & Kunkel, 2004; Diekman et al., 2010; Eagly & Karau, 1991; Gupta et al., 2014; Heilman, 1983; McCarty et al., 2014; Rudman & Kilianski, 2000). Meta-analyses show that women have a preference for working with and helping people, whereas men are much more focused on working with gadgets (Su et al., 2009). Men are also viewed as being able to channel their passion rather than getting entangled in emotions (Wolf et al., 2016), and to be less limited by work-life issues such as child and elderly care (Aldrich & Cliff, 2003; Barbulescu & Bidwell, 2013). Women thus “lean out” from growth-oriented sectors (McCarty et al., 2014) as they view themselves as having lower ability in typically male-dominated spaces such as STEM and entrepreneurship (Brush & Greene, 2018; Eble & Hu,
In a study by Kwapisz and Hechavarrian (2018), they found that women are less likely to ask for funding of their newly established ventures, but that this changed if they had the assistance of a business advisor.

These differences have an influence on the type of ventures women and men start and, thus, to which extent they have access to venture funding (Brush et al., 2014; Coleman & Robb, 2009, 2016; European Commission & OECD, 2017; Leitch et al., 2018; Thébaud & Sharkey, 2014). It is more common for women to start their ventures in sectors with low growth potential (Ahl, 2006; Alsos et al., 2006; Carter et al., 2003; Eurofund, 2017; European Commission & OECD, 2017; Fernandez & Sosa, 2005; Heilman & Chen, 2003; Kollmann et al., 2016; Sweida & Reichard, 2013), and women are typically less growth-oriented also within the same sectors (Guzman & Kacperczyk, 2019). However, when it comes to successful high-tech entrepreneurs, their backgrounds are very similar regardless of gender (Cohoon et al., 2010).

Female entrepreneurs are thus stereotyped as being less effective leaders (Gupta & Turban, 2012; Thébaud, 2010), whose ventures have limited growth potential (Brush et al., 2014; Guzman & Kacperczyk, 2019). In addition to this, investors are typically male, and they tend to prefer entrepreneurs with similar attributes as themselves (Franke et al., 2006, 2008; Gompers et al., 2014; IFC, 2019; Pitchbook, 2018). Experimental studies, in which the venture ideas and venture plans could be held constant, show that negative stereotypes about gender lead to underinvestment in female entrepreneurs (Bigelow et al. 2014; Brooks et al. 2014). A clear example of this is that female entrepreneurs get asked many more prevention-oriented questions, whereas male entrepreneurs get asked promotion-oriented questions. Unfortunately, this pattern seems to be consistent for both male and female venture capitalists (Kanze et al., 2017). However, Guzman and Kacperczyk (2019) demonstrated that the differences between men and women, in regard to early-stage funding, became much less pronounced for ventures with a strong growth orientation (and continued to diminish as it moved towards the top 5%, 1%, or 0.1%).

According to the report “The state of European tech 2018” by Atomico (2018), tech companies with all-male founding teams received 93% of the capital, 5% of the capital went to mixed teams and only 2% to all-female teams. For every Euro invested, females thus only get 7 cents, whereas males only lose out on 2 cents.

The distribution of venture finance in the European tech sector

Initiatives that focus on closing the gender gap in male-dominated sectors (e.g. STEM) can thus be anticipated to have a positive influence on women’s access to finance, which will lead to increased female entrepreneurship with a high growth potential (Guzman & Kacperczyk, 2019). Female start-ups in male-
dominated sectors would greatly benefit from additional assistance by business advisors. It has been demonstrated that when they get assistance from an outsider, women seek funding for their ventures to a larger extent (Kwapisz & Hechavarrian, 2018).

Increasing the diversity of decision makers in funding institutions can also decrease investors’ tendency to prefer male entrepreneurs. Female investors are three times as likely to invest in female-led ventures (Brush et al., 2014). Initiatives should thus focus on initiating gender equal policies in this type of organisation, but also on finding and training women to become investors in early-stage ventures (Skonieczna & Castellano, 2020).

Another strategy could be to acknowledge the importance of more communal-oriented entrepreneurship, such as social and sustainable entrepreneurship. This would require a more patient venture capital since this type of company requires more time to generate a profit (O’Rourke, 2010). Studies have shown that female investors have a preference for investing in females and ventures with a more communal orientation (Skonieczna & Castellano, 2020). So, by focusing on early-stage funding in areas such as social and sustainable entrepreneurship, and increasing the number of female investors, female entrepreneurs would be both more likely to seek and receive funding for their ventures.

3) Communication

Situation and identified problems

Our use of language is so embedded within the social structure that its creation of salient stereotypes and gender biases is often overlooked (Deutsch, 2006). A recent study investigated gender biases in languages, with a focus on how words associated with women were related to the domestic life (e.g. home, children, family) and how words associated with men were related to the professional life (e.g. work, career, business) (Lewis & Lupyan, 2020). Especially important was the language’s use of separate words for male and female versions of the same occupation. They found that Germanic languages where the most gender-biased, with Denmark as number one followed by Germany and Norway. They also found that in countries with more gender-biased languages, women were underrepresented in STEM professions1.

Researchers have moreover shown that men and women use everyday language in different ways (Pennebaker et al., 2003). Women are found to reference more social and emotional words, whereas men make more references to impersonal topics and object properties (Newman et al., 2008), and men’s emotional expressions are more often related to anger (Mehl & Pennebaker, 2003). Researchers have also found that communication about men and women differs. Men are assigned more agentic characteristics, whereas females are assigned more communal traits (Madera et al., 2009; Schmader et al., 2007). Women also get more negative and personality-oriented feedback in their performance reviews (Snyder, 2014, 2016).

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1 It should however be noted that this is a correlation and the association can have many potential causes. Germanic speaking countries also score high on gender equality, and a study by Stoet and Geary (2018) show that in these countries women typically opt for careers within the humanities since they are comparatively better within this field. Thébaud (2015) shows that female entrepreneurship is less frequent in gender equal countries since women do not have to become entrepreneurs to solve work-life issues, but that the differences in male/female high growth entrepreneurship in these countries is less pronounced.
Language thus has an influence on stereotypes and perceptions, and this leads to differences in the choices that people make (Snyder, 2016). Gaucher with colleagues (2011) developed a list of masculine and feminine words based on prior gender-focused language research (Bartz & Lydon, 2004; Bem, 1973; Hoffman & Hurst, 1990; Rudman & Kilianski, 2000; Schullo & Alperson, 1984). They found that job advertisements included gendered wording with more masculine words for male-dominated professions and more feminine words for female-dominated professions. Furthermore, their results showed that women found jobs that used more masculine words to be less suitable for them, even if they perceived that they had the required expertise. In a similar vein, Snyder (2016) found that using more gender-neutral wordings in job advertisements in the tech industry, rather than phrases such as “rock star”, “ninja”, “mad skills”, increased the number of female applicants. The inclusion of an equal opportunity statement also greatly affected the number of female applicants. This was however also true for more subtle aspects of the text such as extensive use of bullet points (>50%) and words such as ‘managing a team’ rather than ‘leading’ or ‘building a team’.

Since male-dominated activities evoke male stereotypes, a strategy that can be applied when communicating about entrepreneurship is to focus on the behaviour, that is, “to be entrepreneurial”, rather than on the individual who is performing this behaviour. In a well-performed randomised controlled trial by Rhodes with colleagues (2019), this strategy was investigated in the male-dominated STEM field. They found that girls who were told that the task was about doing science rather than acting like a scientist, demonstrated a higher level of engagement, interest, and perseverance in a science-oriented assignment.

Suggested policy initiatives

In order to attract more women to engage in entrepreneurial activities, it is important that actors within the entrepreneurial ecosystem avoid a male-biased style of communication. Entrepreneurship is a male-dominated activity and references to success stories from the male-dominated sector in Silicon Valley are common in presentations and on websites of entrepreneurship-supporting organisations (Bruni et al., 2004; Hamilton, 2014). But whereas some key words and phrases may be easy to identify in the communication of organisations in the entrepreneurial ecosystems, others are more subtle (Gaucher et al., 2011), and it requires the use of specialised software to detect them (Snyder, 2016). A first step could thus be to focus on male-biased key words and contexts as well as equal representation of entrepreneurial narratives from women and men. Since entrepreneurship is related to male stereotypes, it is also important to focus on the activity rather than on the individual who performs the activities.

4) Networks

Situation and identified problems

Apart from increasing the number of female role models, establishing female networks is one of the most common initiatives used to decrease gender inequalities (Skonieczna & Castellano, 2020). This makes sense given the vital role that networks play in career development (Casciaro et al. 2014; Cross & Thomas, 2008; Forret, 2014; Granovetter, 1995; Ingram & Morris, 2007; Podolny & Barron, 1997; Wolff & Moser, 2009; Yakubovich, 2005). Networks are of immense importance to entrepreneurs (Aldrich, 1989; Karlsson & Honig, 2009; Johannisson, 2017), since it is an effective way to access relevant and influential people (Burt, 1992; Dahlander & McFarland, 2013; Wuchty et al. 2007) and acquire new knowledge and skills (Allen, 1977; Durbin, 2011; Hansen 1999). Compared to men, women’s access to valuable networks is
Unfortunately more limited (Benschop, 2009; Berger et al., 2015; Brands & Kilduff, 2014; Burt, 1998; Durbin, 2011; Greenberg & Mollick, 2017; Huffman & Torres, 2002; Ibarra, 1992, 1993; Kanter, 1977; Kleinbaum et al. 2013; Kossinets & Watts, 2009; McDonald, 2011; McPherson et al., 2001; Singh et al., 2010; Trauth et al., 2009; Van den Brink & Benschop, 2013). This is especially true in male-dominated activities such as STEM and entrepreneurship (Ahuja, 2002; Aldrich et al., 1989; Armstrong et al., 2018; Ashcraft et al., 2016; Cheryan et al., 2013; Singh et al., 2010; Xu and Martin 2011).

Although women are often stereotyped as social specialists with a high focus on interpersonal relations (Wood & Lindorff 2001), women typically have predominantly female contacts (Aldrich, 1989; Kleinbaum et al. 2013) and fewer bridging connections and mentors (Ahuja 2002; Ibarra 1992; McDowell et al., 2006; Podolny 2001; Singh et al. 2010). The lack of male contacts (Torres, 2002; McDonald, 2011) and network brokers (Brands & Kilduff, 2014; Burt 1992, 1998, 2005) leads to less access to valuable information and unsolicited job offers for women. On the one hand, gender discrimination and gender stereotyping would thus seem to make it natural for women to try to establish women-exclusive networks within male-dominated industries, but this could also be viewed as counter-productive, since it is contacts with well-connected males, network brokers, and the informal leaders of these industries which women typically lack.

Underrepresented groups tend to form networks and support and assist members of the same minority (Mehra et al., 1998; Levine et al., 2005). This enhances in-group identity (Levine et al., 2005; Tajfel et al., 1971) and develops confidence in individuals belonging to the underrepresented group (McMillan 1996). This can sometimes have positive effects, as the research by Greenberg and Mollick (2017) demonstrates. They found that female founders were more successful in receiving crowdfunding, especially in industries where women were underrepresented.

However, the tendency to prefer social interactions with individuals with similar attributes (Dahlander & McFarland, 2013; Kossinets & Watts, 2009; McPherson et al., 2001) has the effect that women in male-dominated industries need to work much harder than men to demonstrate their value as a contact (Burt, 1998; Trauth et al., 2009). Not only do women struggle with negative stereotypes and the perception of women as being less important and valuable contacts (Brands & Kilduff, 2013; Greenberg & Mollick 2017; Joseph et al. 2015; Younkin & Kuppuswamy, 2017); there is also the issue that most people are reluctant to initiate contact with the opposite sex, since it could be misinterpreted as romantic interest (Miller, 2017; Piscorski 2014).

In a recent study, Bapna and Funk (forthcoming) designed an intervention that aimed to reduce barriers for women's networking activities at a male-dominated conference. They found that, relative to men, women met 42% fewer new contacts and spent 48% less time talking to new contacts during the conference, and they added 25% fewer contacts on LinkedIn. Bapna and Funk designed different versions of introduction mails that prompted networking. One of the designs proved to be very effective. When the women received an email that introduced them to 16 other conference attendees, and these other attendees received a similar email but with the names of other attendees (this non-reciprocity resulted in access to 256 contacts), the women, compared to the control group, met 57% more new contacts, spent 90% more time talking with them, and added 29% more contacts on LinkedIn. Their odds of changing jobs also increased by a factor of 1.6 (Bapna & Funk, forthcoming).

Suggested policy initiatives
Since entrepreneurship is a male-dominated activity, it makes sense that female entrepreneurs establish gender-exclusive networks to share experiences and to support and assist each other (Greenberg & Mollick, 2017; Mehra et al., 1998). However, women typically have smaller and less diverse networks, which makes access to network brokers and central contacts to the in-group, which in this case is predominantly men, crucial (Aldrich, 1989; McDonald, 2011). Networking events in different forms are a common practice within the entrepreneurship field, but navigating the entrepreneurial ecosystem can be challenging (Cunningham et al., 2019). Reducing barriers for women to establish contacts is thus crucial (Burt, 1998; Trauth et al., 2009). Networking activities are therefore a common component in initiatives that focus on increasing women’s entrepreneurship, even though it is typically just one ingredient in a more holistic approach that also focuses on information dissemination, mentoring, education and training, as well as access to finance (Skonieczna & Castellano, 2020). Online platforms such as the European gateway for women’s entrepreneurship (https://wegate.eu/) can be an efficient tool for women to navigate the entrepreneurial ecosystem. However, interventions that can be accomplished with small means, such as introducing participants to each other before events (Bapna & Funk, forthcoming), should not be underestimated.

5) Education

Situation and identified problems

Women perform better at all levels of education, compared to men, and they reach higher levels of educational attainment (OECD, 2015; Stoet & Geary, 2018). An analysis of Danish university graduates in the years 2001-2011 showed that female entrepreneurship increased especially among master students. In 2001, 37% of the companies were founded by women, in 2011 it was 49% (Barslund-Fosse, 2014). This shows that female entrepreneurship is more common among individuals with a higher level of educational attainment. However, when it comes to male-dominated topics such as STEM and entrepreneurship, women have lower levels of confidence in their abilities and tend to view proficiency in these topics as something innate (Bagès et al. 2016; Blackwell et al., 2007; Good et al., 2003; Koellinger et al., 2013; Wilson et al., 2007).

Competition is often a central component in much entrepreneurship education, and it is not uncommon that entrepreneurship programmes are structured as actual competitions (Brentnall et al., 2017; Jones & Iredale, 2010). Compared to men, women are less prone to engage in risky activities and competitive situations (Charness & Gneezy, 2012; Hügelschäfer & Achtziger, 2014; Jacobsen et al., 2014; Niederle & Vesterlund, 2011). This is a finding that has been demonstrated repeatedly both in laboratory experiments (Buser, Niederle, & Oosterbeek, 2014; Niederle & Vesterlund, 2007) and in field studies (Hogarth, Karellaia, & Trujillo, 2012; Pekkarinen, 2015), and it holds especially true when the competition is between males and females (Shurchkov, 2011; Gneezy & Rustichini, 2004).

Still, a number of practical trials and quasi experiments have demonstrated that women and girls respond specifically positive to entrepreneurship education (Moberg, 2020). Wilson with colleagues (2007) found that female MBA students surpassed their male counterparts in their level of entrepreneurial self-efficacy (perceived competence in their entrepreneurial ability) after having participated in an entrepreneurship-focused programme. A similar pattern was found by Lyons and Zhang (2017, 2018), who studied the

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2 See Moberg (2020) for a more elaborate and extensive discussion about gender issues in entrepreneurship education: https://www.ffe-ye.dk/media/791782/viden-om-entrepreneorskap-og-koen_forskningen.pdf
influence of an incubator programme. The short-term influence of this programme was more profound for Caucasian males, but the long-term effects were much more pronounced for minorities and females - almost large enough to offset the negative association between being a minority or female and subsequent entrepreneurial activity. In a large-scale practical trial on German university students, Bechthold and Huber (2018) randomised the allocation of entrepreneurial mentors to the students. They found that females who had female mentors increased significantly more in their confidence in using competences that are typically viewed as traditional obstacles to female entrepreneurship, such as financial literacy, managing uncertainty and marshalling resources.

This finding also holds true at the lower levels of education. In a large-scale study of the challenge-based entrepreneurship programme Youth Start – Entrepreneurial Challenges, Moberg with colleagues (2018) found that girls improved significantly more than boys in their confidence in using competences that are typically viewed as traditional obstacles to female entrepreneurship, such as financial literacy, managing uncertainty and marshalling resources.

Suggested policy initiatives
An increased focus on embedding entrepreneurship education at all levels of the education system seems to be an efficient way to increase female entrepreneurship (Moberg et al., 2018; Lyons & Zhang, 2017, 2018; Wilson et al., 2007). However, in order to have the largest impact on female students, it is important that they are exposed to female role models (Bechthold & Huber, 2018).

It is also important that alternatives to competition-focused entrepreneurship programmes are available (Brentnall et al., 2017; Jones & Iredale, 2010), since girls and women are more reluctant to engage in competitive activities (Niederle & Vesterlund, 2011; Pekkarinen, 2015). Since females are particularly reluctant to compete against their male counterpart (Shurchkov, 2011; Gneezy & Rustichini, 2004), entrepreneurship educators are recommended to use mixed-gender teams in entrepreneurship competitions (Moberg, 2020), which can moreover be expected to have positive influence on performance due to diversity bonuses (Hong & Page, 2004, Page, 2007, 2017).

An emphasis on the importance of educational attainment for high-growth entrepreneurship (Bosma et al., 2012; Guzman & Kacperczyk, 2019) can also be expected to further women’s interest in entrepreneurship in different forms. The embedding of entrepreneurship education in high prestige educational programmes can signal the importance of educational attainment. Further focus on developing a broader palette of educational offerings such as social, public, and sustainable entrepreneurship programmes (Conway et al., 2018; Hockerts, 2006; Klein et al., 2010; Petersen, 2010), corporate venturing and intrapreneurship programmes (Afanasjeva et al., 2019; Covin & Lumpkin, 2011; Covin et al., 2006; Lackéus et al., 2020) can also be expected to attract more women to the entrepreneurship field, since it adapts better to female preferences of entrepreneurship with more communal goals.

Summary
Although concrete policy initiatives within different areas can be easily identified, the difficulties lie in assessing how synergies between different initiatives can be accomplished most efficiently (Kossek et al., 2017). Female role models are important in many different areas (Bosma et al., 2012), and education (Moberg, 2020) and communication (Rhodes et al., 2019) are important ingredients in almost all policy
initiatives that target women’s entrepreneurship. Changing stereotypes, which will have an impact on both networks and female’s access to finance (Joseph et al. 2015; Younkin & Kuppuswamy, 2017), will require changes in how we communicate and how we educate, and female role models can provide powerful examples of how women entrepreneurs have successfully dealt with barriers in a male-dominated sector (Rocha & Van Praag, 2020). In order to be efficient, a strategy for increasing women’s entrepreneurship should thus take a holistic approach to the problem and target multiple areas of discrimination (Kossek et al., 2017). This text, which identifies concrete policy initiatives in five different areas, is an attempt to provide policy makers with the means to design such a strategy.

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