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From Gender Socialization to Economic Gender Segregation: Gendered Mental Health Risks at Work and Psychological Safety
An Integrative Literature Review

verfasst von | submitted by

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# Abstract English

This thesis examines the connection between gender socialization, the gender segregated economy, and mental health, focusing on the importance of psychological safety within organizations to address social changes in gender roles for teams and for individuals. While men and women, viewed from a traditional binary perspective, are unevenly represented across various employment sectors and experience psychologically as well as physiologically distinct work environments, they both benefit from or require psychologically safe workplaces. This need becomes especially pronounced when individuals work in roles that are not typically associated with their gender, as well as in very homogenous teams.

Research indicates that male-dominated sectors carry potentially different risks for mental and physical health issues as compared to female-dominated sectors. While women are more prone to suffer from distress and commit more suicidal attempts, men are more likely to die by suicide, arguably one of the greatest outcomes of distress and suffering. While the role of women in society has changed greatly, the role of men seems to lack the ability to adjust itself to gender equality with various barriers that protect the perception of a typically masculine status quo on men, leading to potential risks such as underreporting injuries or socially accepted but harmful coping strategies for men. In contrast, diverging from the gender-typical role in society seems to lead to a perceived loss of masculinity.

Therefore, this thesis proposes a novel approach to gender equality by analysing statistical disparities and correlations, highlighting the significance of gender balance across all sectors for individual well-being and, ultimately, the overall health of an inclusive society, which, in turn, benefits organizational performance.

# Abstrakt Deutsch

Diese Arbeit untersucht den Zusammenhang zwischen geschlechtsspezifischer Sozialisation, der geschlechtsspezifisch segregierten Wirtschaft und psychischer Gesundheit, wobei der Schwerpunkt auf der Bedeutung psychologischer Sicherheit in Organisationen liegt, um soziale Veränderungen in Geschlechterrollen für Teams und Individuen zu bewältigen. Während Männer und Frauen, aus einer traditionellen binären Perspektive betrachtet, in verschiedenen Beschäftigungssektoren ungleich vertreten sind und psychologisch sowie physiologisch unterschiedliche Arbeitsumgebungen erleben, profitieren beide von oder benötigen psychologisch sichere Arbeitsplätze. Dieses Bedürfnis wird besonders deutlich, wenn Personen in Rollen arbeiten, die nicht typischerweise mit ihrem Geschlecht assoziiert werden, sowie in sehr homogenen Teams.

Forschungsergebnisse deuten darauf hin, dass männerdominierte Sektoren potenziell unterschiedliche Risiken für psychische und physische Gesundheitsprobleme im Vergleich zu frauendominierten Sektoren bergen. Während Frauen anfälliger für psychische Belastungen sind und häufiger Suizidversuche unternehmen, sterben Männer mit höherer Wahrscheinlichkeit durch Suizid, was als eine der gravierendsten Folgen von Belastung und Leid angesehen werden kann. Während sich die Rolle der Frau in der Gesellschaft stark verändert hat, scheint die Rolle des Mannes Schwierigkeiten zu haben, sich an die Geschlechtergleichstellung anzupassen, wobei verschiedene Barrieren die Wahrnehmung eines typisch männlichen Status quo schützen. Dies führt zu potenziellen Risiken wie der Untererfassung von Verletzungen oder sozial akzeptierten, aber schädlichen Bewältigungsstrategien für Männer. Im Gegensatz dazu scheint das Abweichen von der geschlechtstypischen Rolle in der Gesellschaft zu einem wahrgenommenen Verlust von Männlichkeit zu führen.

Daher schlägt diese Arbeit einen neuartigen Ansatz zur Geschlechtergleichstellung vor, indem statistische Disparitäten und Korrelationen analysiert werden. Sie unterstreicht die Bedeutung einer geschlechtlichen Ausgewogenheit in allen Sektoren für das individuelle Wohlbefinden und letztlich die allgemeine Gesundheit einer inklusiven Gesellschaft, was wiederum die Leistungsfähigkeit von Organisationen fördert.

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# Introduction

This thesis aims to provide readers with insights into the potential interconnections between research in gender studies, management, economics, and psychology. By adopting an intersectional approach, this literature review endeavours to support organizations and individuals by establishing suggestions for managerial guidelines to promote gender equality and mental health within teams while further addressing the role of society itself.

This thesis will first address the potential role of gender socialization in the gendered segregation within employment preferences by addressing studies in relation to gendered perception of work, touching on the general gendered distribution in employment as well as potential gendered valuations associated with motivators, finishing with the perception of work for men and their experiences outside male-dominated employment. Afterwards, the thesis will address the role of mental health and specifically stress at work, addressing potential gender differences in stress responses as well as how socialization could promote certain coping strategies for men and women, leading to the potential role of work in suicidal ideation and potential (mental) health vulnerabilities for men. The next segment will deal with the role of psychological safety at work and what tools can be considered in promoting healthy work environments through fostering open and safe conversations. The final discussion will hint towards the interconnection between the previously discussed research and its potential applications for organizations.

The research seeks to illuminate how gender norms in society can influence organizations and their employees and how psychological safety measures can facilitate the transition between such influences, organizational change, and the individual workplace experience. This thesis offers a fresh perspective on how the pursuit of equality can be translated into organizational transformation, affecting individuals, and vice versa. It helps to understand how individuals and the organizations they work for can integrate an equality mindset and work collaboratively towards social change for gender equality.

Further, the research aims to provide an integrative narrative connecting equality and business from an HR and management perspective while offering tools that promote organizational and individual resilience to drive the desire for equality. Readers will gain insights into how the pursuit of social change for equality can be distilled into its core need—empathy.

Reviewing the literature potentially necessitates broadening the concept of masculinity and male roles in employment. The help-seeking gap of men was addressed, for instance, by Seidler et al. (2016), while a research gap in adolescent boys regarding dangerous adaptation of masculinity through influence and pressures by gender socialization was addressed by Reidy et al. (2018). Reaching further to fill the gap in the research on gendered mental health interventions within organizations, as was studied by Wagner et al. (2016), as well as the need to research the role of masculinities relating to the stigma of mental health in men, as stated by McKenzie et al. (2022). This thesis aims to point out the potential causality between these addressed gaps.

To achieve gender equality, society needs to redefine its gendered norms and challenge gender stereotypes related to both female and male employees. Given their significant influence in industrialized nations, organizations can play a crucial role in shaping these new norms as agents of society. They must adapt to rapid changes in social roles, and the concept of psychological safety can serve as a mediator in organizations for changes in society's perception of gender.

# 1. The Main Concepts and How They Are Used to Fill the Gap

The concepts used in this thesis span various aspects, from mental health to economic gender segregation. Before these concepts are explored in more detail, they will first be briefly introduced to the reader.

To elaborate on the concepts to further understand the meaning behind *gender stereotypical socialization*, at first, the term *stereotype* is described as:

> A fixed general image or set of characteristics that a lot of people believe represent a particular type of person or thing. If someone is stereotyped as something, people form a fixed general idea or image of them, so that it is assumed that they will behave in a particular way. (Collins Dictionary, n.d.)

In addition, stereotypes, as Hilton and Von Hippel (1996) suggest, are formed and maintained by motivational and cognitive processes. They also can emerge from self-

fulfilling prophecies or through the perception of out-groups. Additionally, stereotypes can emerge through the individual's need to make sense of his or her environment (Hilton & Von Hippel, 1996). Bordalo et al. (2016) further see stereotypes as unlikely extreme attributions that tend to neglect false or inaccurate stereotype predictions. Information that affirms stereotypes tends to be seen as valid, while contradictions get undermined (Bordalo et al., 2016).

Stereotypes can also be applied to the gender of a person. The Office of the High Commissioner for Human Rights (OHCHR) defines this as being:

> A generalized view or preconception about attributes or characteristics, or the roles that are or ought to be possessed by, or performed by, women and men. A gender stereotype is harmful when it limits women's and men's capacity to develop their personal abilities, pursue their professional careers and/or make choices about their lives. (n.d.b)

Conventions that aim to counter gender stereotypes exist such as the *Convention on the Elimination of All Forms of Discrimination against Women,* which states in Article 5 that state parties shall take adequate measures to modify cultural and social patterns of conduct of women and men in order to eliminate prejudices, customary and other practices which are based on the idea of inferiority or superiority of sexes or stereotyped roles for women and men (OHCHR, 1979). In addition, the *Convention on the Rights of Persons with Disabilities* in Article 8(1)(b) aims to ensure that states and their institutions apply immediate, effective and adequate measures to counter stereotypes, prejudice and harmful practices that relate to individuals with disabilities including prejudice on sex, age and all areas of life (OHCHR, n.d.a).

*Gender stereotypes* and expectations were summarized by Ellemers (2018), which often leave women as stereotyped as less fit for certain positions in organisations. The author states that, for instance, while women suffer from the lack of professionally relevant stereotypes, men suffer through the underrepresentation in occupation and family roles that emphasize and value, for instance, care for others as a positive attribute (Ellemers, 2018). Hence, the stereotypes and gendered expectations of men and women seem to generate positive confirmation when, for instance, competence is expected in men regarding employment or care for others as positive for women. However, in different settings, the

once-positive attribution can shift and have negative impacts, such as men who fail to show competence or women who are seen as uncaring (Ellemers, 2018). Several stereotypes that Ellemers (2018, p. 281) summarized can be found in the figure below.

**Table 1**

*Gender Stereotypes and Gendered Expectations*

| Gender stereotypes | Male | Female |
|---|---|---|
| Stereotypical domain | Agency | Communality |
| Relevant behavior | Individual task performance | Care for others |
| Anticipated priorities | Work | Family |
| Perceived qualities | Competence | Warmth |
| Neglected needs | Interpersonal connection | Professional achievement |

A shift in the perception of gender roles between 1980 and 2014 has been found by Haines et al. (2016). The authors researched how the perspective of gender has changed towards becoming less stereotyped, while still basic categorization of gendered characteristics, such as field of employment, persist (Haines et al., 2016).

To complement this, a study by Heilman (2012) assessed the consequences of descriptive (how women and men are) and prescriptive (how women and men should be) stereotypes on gender in relation to women's career progress. The author states that stereotypes can hinder women's advancement through judgments and decisions (Heilman, 2012). The paper discusses that obstacles arise from the perceived mismatch between gender perceptions for women and the attributes considered necessary in male-dominated work environments (Heilman, 2012). An additional problem is the normalization of behavioral standards that lead to disapproval and social penalties for women's success. As Heilman (2012) found, men are also penalized by stereotypes associated with them if they do not fit the stereotypical role, for instance, regarding physical labor or traits typically associated with men. Ultimately, targeting women through gender bias and stereotyping hinders not only individuals but also organizations and society as a whole (Heilman, 2012).

*Gender stereotypization and socialization* in child-sports has been studied, for instance, by Jakubowska and Byczkowska-Owczarek (2018), who assessed the stereotypes and the socialization process of boys in dancing and girls in football. The authors found that genders were stereotypically attributed towards certain activities the children follow (Jakubowska & Byczkowska-Owczarek, 2018). Socialization, the role of the parents, and

the systems surrounding the children are important in reproducing or challenging the associations that come from the activities in relation to what gender is expected to follow them. Parents still tend support their children in stereotypical activities (Jakubowska & Byczkowska-Owczarek, 2018).

*Gender equality* is one of the goals of the United Nations (UN) for sustainable development. The goals are set for 2030 and were adopted by all member states in 2015 to share a common goal for peace and prosperity for the people and the planet (UN, n.d.b.). In total, 17 goals have been defined. Goal 5 focuses specifically on gender equality and empowerment for all women and girls with overall goals to end child marriage and achieve equal rights for men and women as well as equal economic possibilities (UN, n.d.a.). Gender equality, however, has not been achieved to date, for instance, in the health sector, as described by Gupta et al. (2019), who propose agendas for national governments, health institutions, civil society, academia and corporations. Workplaces require reforms to achieve equality (Gupta et al., 2019).

Blackburn et al. (2002) described *occupational gender segregation* through the tendency of women and men to work in different occupations across all societies, especially the wealthy ones. The authors distinguish between vertical segregation (segregation with inequality through male advantage or female disadvantage) and horizontal segregation (difference without inequality) (Blackburn et al., 2002). The authors found that in countries where women are empowered, gender segregation is greater (Blackburn et al., 2002). Additionally, Morrison et al. (2007) pointed out that women are twice as likely to engage in unpaid family work, while men and women are almost equally engaged in wage and salaried work, while men are also far more likely to be self-employed (Morrison et al., 2007).

To assess *gendered economics*, after assessing the potential role of socialization in the segregation (Kalantari, 2012; Hoominfar, 2021; Wharton, 2005; Lawson et al., 2015; Puzio & Valshtein, 2022) the segregation between men and women will be explored, such as statistics and research on gendered mental health in relation to stress at work (Lindquist et al., 1997; Schmaus et al., 2008), job satisfaction (Peterson, 2004; Heilman, 2012; Perugini & Vladisavljević, 2019), help-seeking behavior (Afifi, 2007; Ridge et al., 2011), and coping strategies (Möller-Leimkühler, 2003). Gender stereotypes (Heilman, 2012) and gender socialization effects (Matud, 2004; Scambor et al., 2014) will also be discussed. The

issues surrounding gender stereotypes, especially those that assign specific characteristics to one gender or another, will also be addressed, along with the challenges faced when individuals do not fit these stereotypes (Bertogg et al., 2020; Brescoll et al., 2012; Simpson, 2004). To assess the role of masculinity in the work environment, studies addressing the roles of men in the workplace will be reviewed (Jackson, 2000; Berdahl et al., 2018; Roche et al., 2016), as well as the opposing views when men work outside of stereotypical employment sectors (Simpson, 2004; Rajacich et al., 2013).

The World Health Organization defines *mental health* as a:

> State of mental well-being that enables people to cope with the stresses of life, realize their abilities, learn well and work well, and contribute to their community. It is an integral component of health and well-being that underpins our individual and collective abilities to make decisions, build relationships and shape the world we live in. Mental health is a basic human right. And it is crucial to personal, community and socio-economic development. (World Health Organization, 2022.b)

Mental health has further been defined by Rowling et al. (2002) as the individual's or group's capacity to interact with one another as well as the environment in a way that promotes the subjective well-being, optimal development asides from cognitive, and affective as well as relational abilities. This leads to individual and collective achievement of goals that align with justice (Rowling et al., 2002). In contrast, mental illness or disorders were defined by the WHO (2022) as "characterized by a clinically significant disturbance in an individual's cognition, emotional regulation, or behaviour. It is usually associated with distress or impairment in important areas of functioning" (World Health Organization, 2022.a).

The concept of *psychological safety* will be explained through the works of Edmondson (2003), exploring the possible positive impacts of psychologically safe work environments across various work-related factors (Carmeli & Gittell, 2009; Carmeli et al., 2010; Sherf al., 2018; Lee et al., 2018; Cohen & Sherman, 2014; Rafferty & Griffin, 2006; McEwen, 2012). The topic of mental health will be elaborated upon through research on mental health and stress at work (Plaisier et al., 2008; Eskildsen et al., 2015; Barnay, 2016; Siegrist, 2008) and gender differences in mental health and perception of stress (Lindquist et al., 1997; Schmaus et al., 2008). Additionally, the potentially negative impacts of mental health and

stress on a person's cognition will be explored (Steckler, 2005; Hoffman & al'Absi, 2004; Twamley et al., 2004). Gendered distributions among employment sectors will be reviewed (Adams, 2010; Das & Kotikula, 2019; Farré, 2012), as will statistics and research on the potential relationship between suicide and work (Greiner & Arensman, 2022; Germain, 2013; Milner & King, 2019).

The gender gap in mental health service use has been addressed by Pattyn et al. (2015), who showed the decreased likelihood of men to seek psychotherapy potentially due to social norms. The authors hint at the necessity to further research the causes and implications the stereotypical view of masculinity might have on the mental health of men. This leads further to *a need for research* on gendered mental health interventions within organizations, as was suggested by Wagner et al. (2016), as well as a need to research the role of masculinities relating to the stigma of mental health in men, as stated by McKenzie et al. (2022). Some researchers hint at the importance of individual distress in organizational and social contexts (Cohen & Sherman, 2014; Carmassi et al., 2022), while other researchers further emphasize the importance of changing gender roles in economic employment (Plaisier et al., 2008). The field of psychology is increasingly integrating itself within the contexts of businesses and organizations as a means of mediating and understanding individual motivations and abilities (Sherf et al., 2018). Meanwhile, the field of gender roles in economics is now playing a significant role and increasing public discourse (Matud, 2004). Further, there is a significant gap between men and women in terms of help-seeking behaviour. Men, compared to women, seek less help when dealing with mental health issues or challenges at work (Affleck et al., 2018; Ridge et al., 2011; Galdas et al., 2005). While organizations could and should play a role in supporting employees' mental health (Carmeli & Gittell, 2009; Sherf et al., 2021), this thesis will demonstrate that the decrease in help-seeking and injury reporting among men is potentially due to stereotypical gender roles, socialization and hence the perceptions of masculinity from which it leads to in the context to work.

Men working in sectors traditionally dominated by women may experience a sense of loss of status (see Chapter 3.4.1). However, there is potential to establish a positive definition of masculinity, and creating psychological safety in organizations may provide an environment in which men can safely diverge from gender-stereotypical norms towards a healthier masculinity in which help-seeking, healthy coping, and risk reporting are seen as natural and not related to masculinity. However, it seems that this still contradicts the norms

this thesis will explore.

## 1.1 Design and Structure

To research how socially constructed gender roles can lead from socialization to economic segregation and, hence, potentially stereotyped work environments that pose gender specific threats on mental health, the following research questions were developed.

The research questions guiding this thesis are:

$Q_1$ How do researchers in the field of management, organizational studies, gender studies and sociology explain gender segregation in the economy and how does it influence mental health in females and males?

$Q_2$ What are the measures to promote mental health at work that were discussed in the literature?

$Q_3$ How can individuals and organizations create a safe environment for employees to diverge from gender norms and to address gender specific mental health risks through understanding and challenging gender socialization?

The economic landscape, along with the definitions of gender, has undergone a significant transformation. Through the feminist movement, women and men are collaborating to achieve equality for women in a society that has been traditionally male-dominated and organized along patriarchal lines, where more research is needed to nuance the role of men in feminism (Council of Europe, n.d.; Holmgren & Hearn, 2009). There is the risk of a void in meaning for men when losing the traditional role (Jackson, 2000), which, combined with dangerous stereotypes, can potentially lead to a male health crisis.

While the feminist movement remains crucial and continues its work globally, this thesis aims to examine the role of men in the economic environment, particularly in the context of economic gender segregation at work and mental health. The goal is to propose a concept to make visual and address men's mental health and stereotypes. This thesis is intended for audiences in the fields of management, economics and social science, as well as the interested public. It seeks to initiate a discussion about the role of gendered economics from a male perspective. Ultimately, the thesis aims to establish a deeper understanding of

socialization as well as gendered economics and to provide knowledge for organizations and individuals by shedding light on how gendered socialization potentially shaped societies' work environments. Gendered socialization potentially changes how children grow up and what values such as gender roles are learned, pulling them to certain sectors of employment that potentially fit best to the established gender roles by the environment, potentially leading to gender segregation in the economy and unhealthy work environments. Such environments have potentially developed in a gender homogenous way, where intervention by institutions such as organizations themselves can reduce the gendered mental health risks that could arise in segregated sectors through the absence of heterogeneity. The lack of diversity might lead to specific organizational risks.

The research will put special focus on the mental health risks of men in homogenous (male-dominated) work environments that potentially arise through gendered socialization, leading to gendered employment, and are potentially reinforced within the workgroup itself while also pointing out specific risks for women.

Lastly, psychological safety addresses all genders and can address specific gendered risks. Male work environments are just a potentially under-researched area, as stated previously.

# 2 Research Methodology

This thesis employs the methodology of an integrative literature review, through which the reader will gain insights from existing research on gendered economics and psychological safety. These findings will be examined in relation to the topic of equality, considering both the perspective of psychological safety and the social implications arising from stereotypical gender-based socialization. The integrative literature review approach was selected to facilitate the review and analysis of existing literature from a fresh perspective, one that combines the previously mentioned topics.

In this section, the thesis first elaborates on the methodology used to review the literature and to establish a transdisciplinary argument for psychological safety and gendered economics in organizations.

This methodology was chosen because it not only allows for the understanding of key

concepts but also facilitates their practical application at both individual and organizational levels. Additionally, it aids in developing guidelines for an inclusive, individual-centred approach to psychological safety within organizations, which will be the focus of the final part of this thesis. The methodology for this literature review is based on the work of Hannah Snyder (2019), who emphasizes the importance of structured, high-quality literature reviews for staying current with new research findings (Snyder, 2019).

This thesis will employ an integrative approach, as Snyder (2019) suggests, since it goes beyond simply covering research by emphasizing the relationships between different topics. Torraco (2005) further defines the integrative approach. The author emphasizes that the integrative approach contributes to the field of human resource development (HRD). The role of HR managers will be especially relevant in establishing a psychologically safe environment, as the research in the chapter (4.3) on psychological safety will show.

Furthermore, one of the strengths of the integrative approach lies in its ability to create new knowledge by integrating existing ideas with new ones, thereby developing a fresh perspective on the topic under observation. This process is referred to as synthesis, which Torraco (2005) defines as:

> A creative activity that produces a new model, conceptual framework, or other unique conception informed by the author's intimate knowledge of the topic. The result of a comprehensive synthesis of literature is that new knowledge or perspective is created despite the fact that the review summarizes previous research. (p. 362)

Torraco (2005) outlines four forms of synthesis based on the integrative literature review, which can be used, for instance, to pose provocative questions or develop a metatheory that integrates research findings across theoretical domains. The author summarizes that:

> Critical analysis and synthesis work in tandem as the means through which literature (the data) is used to generate knowledge about a topic. New knowledge about previous research is created through critical analysis; synthesis builds on this to create new perspectives on the topic as a whole. (Torraco, 2005, p. 363)

Furthermore, Torraco (2005) emphasizes the importance of logic, conceptual reasoning, and justification in the creation of new approaches and theories. According to the author, key components of logical reasoning include describing the origins of relevant constructs,

relationships, and conceptual reasoning. Additionally, the perspective provided should offer a new viewpoint on an existing problem in the field of interest (Torraco, 2005). Hence, following the integrative literature review can support a systematic review of potential connections between different research areas.

## 2.1 Conducting the Search – Selection Criteria

Several selection criteria have been developed to limit the number of results and to distinguish relevant from irrelevant sources for the purpose of answering the research question.

The first criteria were that the source be in English; due to its broad usage in research and science, English is more commonly accessible. Additionally, only research that was available for free was included. Further, only research between 1980 and 2024 was included that, using Google Scholar, had at least 20 citations.

Due to the complexity, a broad set of different research sources were reviewed, where mostly studies from journals or chapters from books were used. Additional statistics were used to introduce and complement certain findings. Further, research with various methodologies, such as qualitative and quantitative, and meta-analysis, were used since it ensured that the most common methodologies in the reviewed fields were reviewed to review possible connections. The subject areas for the analysis were Gender Studies, Economics, Management, Social Science, and Psychology (see for more details Table 2).

The assessment whether sources comply with the inclusion criteria or should be excluded was done in the following order: reading the titles of potential sources, reading of summaries and abstracts of potentially relevant studies, reading the full text of the selected texts. The complete inclusion criteria are listed in the table below.

**Table 2**

*Inclusion Criteria*

| Criteria | Included | Excluded |
|---|---|---|
| Language | English | Sources in languages other than English |

| | | |
|---|---|---|
| Access Options | Open publications without restriction or access through the University of Vienna | Only paid access to the literature |
| Date of publication | Published between 1980 and 2023 | Published earlier than 1980 or later than 2023 |
| Number of citations | At least 20 citations on Google Scholar[1] | Less than 20 citations |
| Type of sources | Journal articles, studies, books (and chapters), literature reviews, monographs, legal documents, | conference papers, blogs, videos, |
| Methodology | Empirical methodology, qualitative methodology, literature reviews, (case) studies, meta-analysis, interviews, ethnography, data analysis, mixed methods, longitudinal studies | Observations, field studies, action research, card sorting, |
| Subject Areas | Gender Studies, Economics, Management, Social Science, Psychology, | Engineering, Computer Science, Agricultural Science, Biological Science |

Due to the complexity of the reviewed research areas, especially the relationships between topics were covered within other literature reviews which then have been further elaborated in specific studies, quantitative as well as qualitative analysis and mixed methods. Hence, the used literature spans from a macro to a micro level and vice versa potentially at times giving it the character of a meta-analysis.

After the explanation of the selection criteria, the clarification of how the literature sample was processed follows.

## 2.2 Search Strategy

The criteria for including literature in this thesis were chosen to emphasize the connection between the different fields of research and to highlight the relationship between socialization, gender segregation, and gender specific risks for mental health in

[1] The citation count in the tables for the literature review at the introduction of the chapters is based on the citation count of the articles and chapters on Google Scholar per January the 31st 2025.

employment. The criteria that emerged from the first screening of topics through the fields this research covers were as follows:

- The literature discusses the relevant topics for this thesis and/or the relationship across topics relevant to this research

- The literature deepens or relates to the argumentations related to gendered segregation, mental health as well as the arguments made by Perez (2019) relating to the value of statistical data in assessing gender segregation, Reeves (2022) relating to the different work realities of men and women and Van der Kolk (2014) who emphasizes the physical and psychological aspects of mental health.

- The literature elaborates on theories and possibilities for applications within the fields observed in the thesis.

- The chosen literature consisting of research articles which were cited relatively often with at least 20 citations, compared to other literature that emerges from Google Scholar following the keywords and/or their combinations: gender segregation, gender roles, gender stereotypes, stress at work, gender economics, gender segregation in the economy, gender roles in society, gender stereotypes at work, male/female employment, mental health of men and women, psychological safety.

The Boolean terms ‘and’ as well as ‘or’ were further used to combine the chosen terms.

**Table 3**

*Boolean Terms Examples*

| | |
|---|---|
| Example: Search Strategy 1 | ‘Gender segregation in employment’ AND ‘gender stereotypes AND ‘mental health of men and women’ |
| Example: Search Strategy 2 | ‘Gender segregation in employment’ OR ‘gender stereotypes AND ‘mental health of men and women’ |

The following chapter will explain how the sample was formed.

## 2.3 Sample Formation and Data

After the purpose of the research as well as the questions and approach has been decided upon, the conduction phase, as termed by Snyder (2019) follows. The formation process of the sample will be explained within this section. After the search terms and eligibility criteria were piloted and adjusted through testing as described by Snyder (2019), the research was conducted.

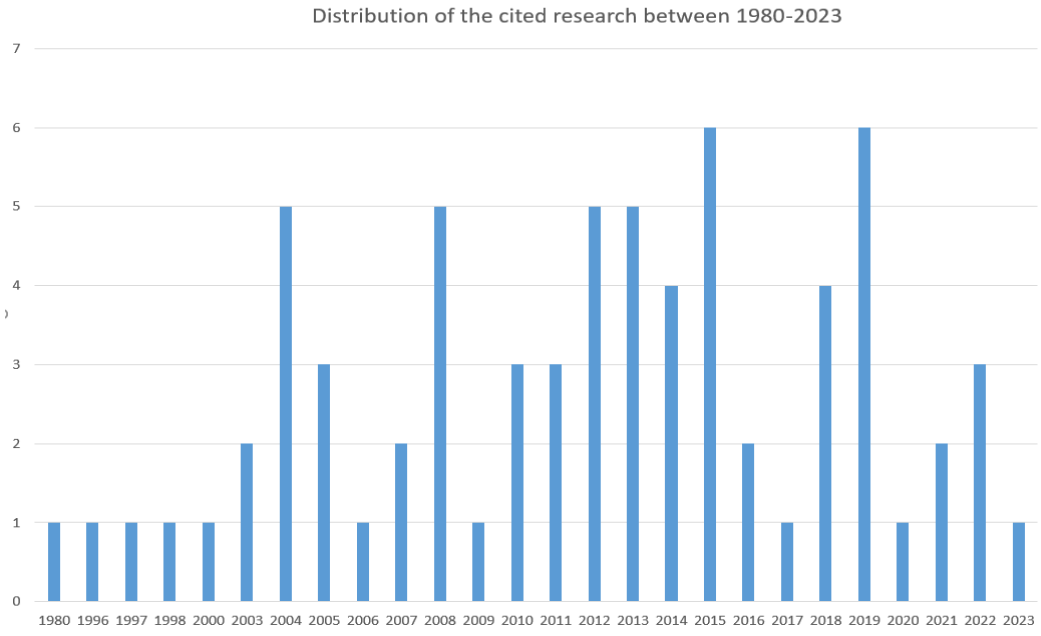
After a first screening of the results by reviewing the abstracts, the papers were processed in the following order.

Studies were identified through screening online databases, mainly Google Scholar. Initially, the search on Google Scholar in total provided over 1000 potential sources, of which approximately 60% of studies were excluded because they did not meet the selection criteria. Of the identified sources, approximately 50% were excluded after reading the titles and abstracts. The eligibility of the remaining approximately 250 articles was assessed, of which 120 have been excluded because the findings were irrelevant for answering the research questions. In total, 70 science sources were used, consisting of studies and articles in journals or books.

The years of publications used for this research were distributed, as can be observed in Figure 1.

**Figure 1**

*Distribution of the Used Literature Per Year*



*Note. The distribution of the literature; Excel screenshot by the author.*

The used research consists of approximately 26 literature reviews, 22 qualitative studies (qualitative, cross-sectional, field, pilot, and others), 12 quantitative analyses, and 10 other methods (including mixed methods and meta-analysis).

As previously stated, the used research will be complemented by other sources, which will not be embedded in the tables for the literature review since they were found through more specific and detailed searches, such as specific statistics.

# 3 From Gender Socialization to Segregation in the Economy

The literature provides various indications of how gender is segregated within employment sectors and how men's and women's experiences in the workplace diverge. It further demonstrates how stereotypes impact both work and private life (where the boards seem to be more fluent since individual mental health cannot or should not be separated between both), potentially contributing to individual distress at work, negatively affecting employee mental health, and consequently impacting performance and organizational costs. Potential differences in gendered mental health needs will show through gendered differences in stress responses later (Chapter 4).

Ultimately, stereotypes cause distress and can potentially harm organizations and individuals (Heilman, 2012). The imposed gender stereotypes within the employment sector and the correlated gender segregation between industries hinder men and women's personal and career development (Rajacich et al., 2013; Heilman, 2012). Addressing false beliefs about masculinity may help to understand and change gender segregation by shedding light on why fewer men work in care.

These potentially false and socially constructed beliefs of what masculinity means highlight the potential need for the male workforce to enhance their inter- and intrapersonal resilience by overcoming stereotypical behaviour and possibly through the implementation of psychological safety measures. The analysis conducted will review the literature and its corresponding intersectional correlations regarding equality. The chosen articles build upon the hypotheses and research presented in books that form the baseline and introduction of

this review. These books, which explore theories and research on mental health and gendered sociology, have received significant public recognition in the fields of economics, psychology and sociology, reaching through aspects of gender roles in society. The books convey certain core messages that will be derived within the thesis and serve as an introduction to the topics that will be assessed in greater depth within the research papers.

While *Of Boys and Men* (Reeves, 2022) takes a holistic approach, assessing the social factors that guide men within society, *Invisible Women* (Perez, 2019) demonstrates the need for gender-disaggregated data to understand the world men and women live in.

Each book employs its own argumentation style, and the books were chosen as an introduction for this thesis because they discuss the following themes:

- Men struggle and face stereotypes that are harmful to individual functioning and achieving gender equality in society (Reeves, 2022).

- Dividing data by gender can reveal the tremendous differences in the world women and men live in (Perez, 2019).

While men still predominantly hold power in the patriarchal societal structure and the economy, a power that seems to slowly fade (see, for instance, Kelbert and Hossain, 2014), it is time to rethink gender equality on an intrapersonal level and assess organizations' readiness for equality since patriarchy is changing with the empowerment of women.

Throughout history, humans, when viewed through the dualistic and asymmetric model of two genders (male and female), have developed cultures, values, and norms that are attributed to those genders. However, both historically and in recent debates, the binary nature of gender has become increasingly complex and publicly discussed (see Otto, 2016 and Mathews, 2017). For the sake of simplification in this study, the thesis adopts a dualistic model of gender, specifically focusing on female and male gender identification, with a clear focus on the perception of men. Nevertheless, the author emphasizes that a dualistic perspective should not be seen as fixed or solely related to biological or identification concerns and acknowledges a variety of genders and identification which, however, exceed the scope of this thesis.

*Gender* is defined by the Cambridge Dictionary as: “a group of people in a society who

share particular qualities or ways of behaving which that society associates with being male, female, or another identity" (Cambridge Dictionary, n.d.a.). Gender roles, on the other hand, are "Social and behavioral norms which, within a specific culture, are widely considered to be socially appropriate for individuals of a specific sex" (European Institute for Gender Equality, n.d.). Gender equality is further defined as "the act of treating women and men equally" (Cambridge Dictionary, n.d.b.). Additionally, the term gender socialization "is the process through which children learn about the social expectations, attitudes, and behaviors typically associated with boys and girls. This topic looks at this socialization process and the factors that influence gender development in children" (Child Encyclopedia, n.d.).

As with the definitions of gender roles and gender socialization, these concepts extend into the realm of economy and employment. Specific fields of employment seem more appealing to certain genders, while others are proportionally less represented. For example, as will be explored later, STEM (science, technology, engineering, and math) jobs are traditionally occupied mainly by men, with an increasing share of women in recent decades (Fatourou et al., 2019). In contrast, HEAL jobs (health, education, administration, and literacy including, for instance, nursing work (Reeves, 2022) are disproportionately held by women, with no significant increase in male representation in these sectors (see Chapter 3.3).

The economy appears historically shaped by gender-stereotypical role definitions and, consequently, gender-stereotypical jobs as the thesis aims to show. However, if these stereotypes were once relevant, they could and perhaps should now be abandoned or changed to promote equality in a more balanced and diversified economy, as reflected in the gender discrepancies within the workforce in certain sectors.

## 3.1 Gender Segregation and Stereotypization: The Need for Data

**Table 4**

*Introductory Literature to Gender Segregation*

| Author | Title | Form of Publication | Reason for inclusion | Citations |
|---|---|---|---|---|
| Perez, 2019 | Invisible women: Data bias in a world designed for men | Book Publication | Strong impulse in understanding the importance of gender segregation in data and policy making | 2532 |
| Reeves, 2022 | Of boys and men: Why the modern male is struggling, why it matters, and what to do about it | Book Publication | Overview of the struggle and risks of men in adapting to new gender norms and values | 149 |

This section provides an introduction and overview of the topics that will resonate with the literature review and are based on the findings of Reeves (2022), who is the founder of the American Institute of Boys and Men[2], assessed within his book *Of Boys and Men*, highlighting societal factors related to the perception of gender roles associated with men, which will be further explored later in this thesis. Further, the data-driven approach by Perrez (2018) will be introduced, which focuses on the use of gender segregated data to understand how policies are made and to further analyse the gender divide, which later will be resonated by reviewed literature with findings that follow a quantitative data analysis.

Education can play an important part in later careers. Reeves (2022) points to data showing that boys are falling behind in the field of education. This trend has been observed across countries through gender-segregated data, a topic also discussed by Caroline Criado Perez (2019) in her book. Another aspect Reeves (2022) highlights is the delayed brain development in boys, which could further impact the downward trend of boys in education, who are now earning fewer degrees compared to women. Additionally, Reeves (2022) points out that men lack skills suitable for the modern labour market due to a shift from physical work towards cognitive work, in which women are better equipped. The author further introduces his concept of the HEAL sector (health, education, administration, and literacy), which is mainly occupied by women (Reeves, 2022). The change in gender roles

[2] (American Institute of Boys and Men, 2024)

has also been assessed by Reeves (2022), who points out that traditionally, men were often expected to individually value their income and hence the family's income above care work they could potentially provide and therefore focused on financial gain rather than taking a caring role beyond a sole financial provider, leaving a potential void of meaning and disconnection to the family. Now, however, the metrics have changed. Reeves envisions a future where men take on an increasing share of caregiving work, a field in which men are poorly developed and educated but could benefit family metrics, gender equality and mental health (2022). The issue of mental health is addressed as Reeves introduces the topic of deaths of despair, which emerged in 2017, referring to mortality from drug overdoses, suicides, and alcohol-related illnesses. Reeves (2022) sees a connection between the deaths of despair faced by men and new economic and cultural changes. He emphasizes the issue of self-medication among men, such as through drug use, and the rising statistics of drug-related deaths (Reeves, 2022). He further highlights the pain of social isolation among men, which contributes to the increasing deaths of despair. The author believes that the sharp increase in suicides among men, compared to a lower increase among women, is a symptom of the feelings of uselessness or worthlessness experienced by men, as well as cultural redundancy (Reeves, 2022).

On the other hand, Perez (2019) has been awarded several prizes and orders for her books and engagement for gender equality and holds among them the Order of the British Empire for her engagement in gender equality[3]. She assessed the debate on gender equality from a data-driven perspective. For her engagement, she received several threats but fought back (see, for instance, BBC News, 2013). Perez (2019) argues for gender-segregated data since most data collected for policymaking purposes are mostly collected from men, leading to a significant underrepresentation of women in databases. These data gaps can have severe consequences for women. For instance, there is a limited understanding of how women commute, increasing the disadvantages regarding transportation needs. Furthermore, medications can work differently based on gender, increasing or decreasing certain risks based on biological sex. Perez (2019) argues that to achieve equality, data that segregates men and women is needed to reduce the negative impacts of biases and improve policies

[3] See for instance (*Birthday Honours Lists*, 2015), (Orf.At, 2019), (*Royal Society Trivedi Science Book Prize | Royal Society*, 2025)

aimed at gender equality. Understanding the importance of gender segregated data leads further to the need to understand such data biases in the development of policies that, without the acknowledgment of adequate data, can cause tremendous risks on women's lives (Perez, 2019).

Combining the arguments of Perez (2019) and Reeves (2022), it perhaps becomes evident that gender-segregated data can benefit both genders. While women face additional health risks due to underrepresentation in data, men and women are unequally represented in certain sectors of employment. Challenging this norm might be difficult, but gender-segregated data can provide valuable insights into how genders are distributed and perhaps stimulate a discourse by asking "why?". Segregating data by gender can reveal various grievances for men and women from diverse perspectives. While the thesis will elaborate on the overrepresentation of women and men in certain sectors, it will become clear that sectors may have gender specific risks or benefits for mental health. In contrast, from a sociological and employment perspective, the reader will see that men are often employed in potentially physically and psychologically dangerous workplaces that, combined with stereotypical views on masculinity, provide a dangerous interconnection. The greatest danger might be, after all, what men and society think men are or should be.

## 3.2 Socialization and Career Choice

**Table 5**

*Literature Review - Socialization and Career*

| Authors and Date | Title | Journal | Method | Citations[4] | Key findings |
|---|---|---|---|---|---|
| Hoominfar, 2021 | Gender Socialization | Springer International Publishing | Literature Review | 38 | Different agents impact socialization through the life of children, while various theories argue for gender differences. |
| Kalantari, 2012 | The Influence of Social Values and Childhood Socialization on Occupational Gender Segregation and Wage Disparity | *Public Personnel Management* | Quantitative | 51 | Children receive early socialization that teaches gendered norms and skills needed for a gendered work environment. Non-conformity with gender roles can be punished in organizations. |
| Lawson, Crouter, & McHale. 2015 | Links between family gender socialization experiences in childhood and gendered occupational attainment in young adulthood | *Journal of vocational behavior* | Study Quantitative | 158 | Parents and the time they spend with their children can impact their later occupations. |
| Puzio, A., & Valshtein, T. (2022) | Gender Segregation in Culturally Feminized Work: Theory and Evidence of Boys' Capacity for Care | *Psychology of Men & Masculinities* | Narrative Style Literature Review | 20 | The feminization skills of work-related attributions can cause men to seek other professions. |
| Wharton, 2005 | Invisible Females, Incapable Males: Gender Construction in a Children's Reading Scheme | *Language and education* | Qualitative Text Analysis | 120 | In children's literature, gender stereotypical descriptions were found. |

Before the thesis assesses the gendered segregation in the economy, some studies will be reviewed, that highlight the potential impacts of socialization on an individual's perception of gendered career prefferences. Kalantari (2012), Hoominfar (2021), Wharton, (2005), Lawson et al. (2015) as well as Puzio and Valshtein (2022) researched aspects of gender socialization that contribute to the persistence of gendered norms through aspects of socialization, different agents, literature and attributing work to gender norms. The reviews and studies show that a rich variety of factors contribute to persisting gender norms that

[4] Citations on google scholar per 31.01.2025. This is the case for all citation counts in the tables of the thesis.

potentially affect a gendered perspective on occupations.

Kalantari (2012) assessed samples from the United States which were retrieved in 2007. The author found that men hold the majority of positions with high pay, while women hold the majority in low pay positions. The author argues that gender related norms and values were learned through socialization in childhood, through reward and punishment, leading children to pursue behaviours that lead to pleasure (Kalantari, 2012). Such socializations educate children and provides skills for their future employment as adults. Men and women, hence, through socialization, learned to pursue social customs which were thought by gender specific socialization, while if such gender specific customs persist, barriers regarding gender-atypical professions will exist. Barriers that could further lead to harassment of employees that work in non-stereotypical professions. Hence, men might push back at women entering their dominated work environment. A wage-system that is non-gender-based is required, while parents, leaders, society, and its institutions in education, media and policies are needed to deconstruct the gender-based norms within societies (Kalantari, 2012).

Furthermore, Hoominfar (2021) explores the concept of gender socialization as a lifelong process through which individuals are taught the social roles society deems appropriate based on their sex. The study highlights key agents such as family, peers, schools, and social media as influential forces in fostering and reinforcing specific gender perceptions (Hoominfar, 2021). Various theoretical frameworks were assessed, including biological theories, which emphasize hormones and physical differences; psychological theories, which focus on inherent psychological distinctions between women and men; social learning theories, which examine how gender roles are acquired through observation and imitation; and cognitive development theories, which consider the differing stages of growth in boys and girls (Hoominfar, 2021). Hoominfar concludes that these agents and theories collectively shape societal expectations of gender, perpetuating traditional roles and norms. As stated, “Gender socialization is a lifelong process to provide women and men with social roles that society has considered based on sex” (Hoominfar, 2021, p. 8), underscoring the pervasive and enduring nature of this phenomenon (Hoominfar, 2021).

Additionally, Wharton (2005) analysed children's literature commonly used in UK schools and found significant gender disparities in character portrayals. Male characters were often depicted as dominant figures, yet they were also frequently portrayed as incompetent,

dependent, and the subject of jokes (Wharton, 2005). In contrast, female characters were consistently associated with more positive attributes, such as capability and competence (Wharton, 2005). This analysis highlights the persistence of gendered stereotypes in children's literature, which may influence young readers' perceptions of gender roles.

The role of parents in children's socialization was studied by Lawson et al. (2015), who conducted a longitudinal study analyzing data from 203 U.S. families between 1995 and 1996, tracking mothers, fathers, daughters, and sons over approximately 15 years to examine factors influencing occupational attainment by age 26. The study found that mothers exhibited less traditional gender attitudes, worked fewer hours outside the home, held more female-typed occupations, and spent more time with their children (Lawson et al., 2015). Daughters' female-typed interests were positively linked to female-typed employment in adulthood, though their male-typed interests did not predict their later occupations. For sons, parental education was associated with a greater likelihood of entering female-typed occupations, while their own gendered interests did not predict their career paths. Notably, for daughters, spending more time with fathers during childhood was linked to less female gender-typed occupations, while for sons, time with their fathers predicted more male-typed occupations (Lawson et al., 2015). These findings suggest that childhood family socialization plays a significant role in perpetuating gender segregation in the labour market. The authors propose that interventions targeting family socialization processes could help reduce occupational gender disparities, thereby enhancing competitiveness in the global economy (Lawson et al., 2015).

Lastly, Puzio and Valshtein (2022) within their narrative review found that gender stereotyping, socialization and the devaluation of feminized HEED work (health care, early education, domestic roles) can cause hostility towards men in such professions while the devaluation of feminized work is likely to occur in the socialization of boys, an effect that continues into adulthood. Such patterns, however, need to be disrupted in order to stop the devaluation of feminized work while further promoting the emotional and rational abilities of boys (Puzio & Valshtein, 2022).

In summary, through socialization processes, children learn specific norms and skills based on their gender through reward and punishment (Kalantari, 2012). Such gender norms can be reinforced through different agents, such as families, institutions, and the media (Hoominfar, 2021). Such gender stereotyped descriptions can be found in UK children's

literature, especially in children's books (Wharton, 2005). Further, family structures and time spent with parents could be linked to whether sons and daughters pursue female or male-typed occupations later in their lives (Lawson et al., 2015), while the feminization of attributes might pull men toward more stereotypical professions (Puzio & Valshtein, 2022).

The following chapter will explore how genders are segregated by industries for which the socialization processes of men and women could be potentially responsible.

## 3.3 Gendered Distribution in Employment

**Table 6**

*Literature Review on Gender Distribution in Employment*

| Authors and Date | Title | Journal | Method | Citations | Key findings |
|---|---|---|---|---|---|
| Bertogg et al., 2020 | Gender Discrimination in the Hiring of Skilled Professionals in Two Male-Dominated Occupational Fields: A Factorial Survey Experiment with Real-World Vacancies and Recruiters in Four European Countries | *KZfSS Kölner Zeitschrift für Soziologie und Sozialpsychologie* | Factorial Survey Experiment | 54 | Hiring processes are affected by gender biases. |
| Burchell, 1996 | Gender Segregation, Size of Workplace and the Public Sector | *Gender, Work & Organization* | Quantitative Data Analysis | 34 | Based on answers given, men work mostly in larger organizations while women are mostly working in smaller organizations. |
| Das & Kotikula, 2019 | Gender-based employment segregation: Understanding causes and policy interventions | JOBS WORKING PAPER | Literature Review | 105 | Gender segregation across employment and education |
| Farré, 2012 | The role of men for gender equality | World Development Report | Literature Review | 24 | Men hold leading positions in various institutions and are hence needed to achieve equality |
| Fatourou, Papageorgiou, & Petousi, 2019 | Women are needed in STEM: European policies and incentives | Communications of the ACM | Literature Review | 58 | Efforts to include women in STEM show effect. |

Now, the thesis will overview gender segregation across several work sectors to clarify gender segregation across industries and emphasize the divide in the economy.

The Global Gender Gap Report 2023 summarizes recent gender distributions and gaps across industries. The report states that Europe has the highest gender parity at 76.3%, with Iceland, Norway, and Finland achieving the best performance regionally and globally. Hungary, the Czech Republic, and Cyprus were ranked lowest regionally. At the current rate of progress, Europe would achieve gender parity in 67 years. The report further delves into the gender division across employment sectors, providing insights into where women and men work. According to the report, women make up 64.7% of the workforce in Healthcare and Care Services, 54% in Education, and 51.8% in Consumer Services. The jobs in the Government and the Public sectors are relatively equally distributed among men and women. 40% of the overall workforce is in industries where women are underrepresented. In Retail, women account for 48.7%; in Entertainment Providers, 48.4%; in Administrative and Support services, 46.5%; in Real Estate, 44.7%; in Accommodation and Food, 43.4%; and in Financial Services, 46.5%. The lowest representation of women in industry can be found in sectors such as Oil, Gas, and Mining, with 22.7%, and Infrastructure, with 22.3% (World Economic Forum, 2023). The data provided here is compared to the data in Figure 1, which is from a different research and uses different categories; however, the key findings align. In summary, the 2023 Gender Gap Report reveals significant gaps and divisions between genders across industries. One observation is that women-led sectors are primarily those involving face-to-face work with people. In contrast, male-dominated work seems more centered around working with objects, such as machines.

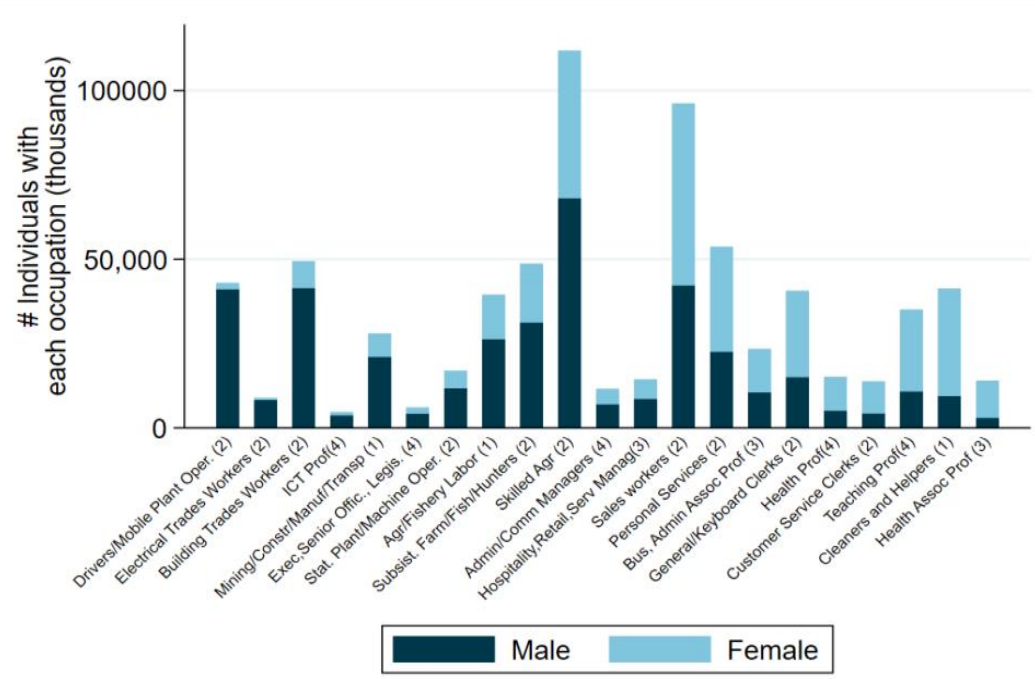
Researchers such as Das and Kotikula (2019), Burchell (1996), Bertogg et al. (2020), and Fatourou et al. (2019) have researched the gender divide in industries, underrepresentation, and potential barriers, while Farré (2012) points to the role of men in changing segregation and fostering gender equality.

Das and Kotikula (2019) assessed the origins and implications of gender-based segregation in employment sectors. Segregation occurs by industry, with men holding the majority in more physical labour and women in labour associated with working with people. The authors used data from the International Labour Organization from the year 2016, that includes 80 developed and developing countries that include 38 countries from Europe and Central Asia, 12 from Latin America and the Caribbean, 12 from East Asia and the Pacific, 10 countries from Sub-Saharan Africa, five countries from Middle East and North Africa as well as three countries from South Asia. The proportion of female employees increases

from left to right (Das & Kotikula, 2019) (see Figure 1).

**Figure 2**

*Number of Individuals by Occupation and Gender*




*Note. (Das & Kotikula, 2019, p. 2).*

Gender segregation is also evident in the field of education as seen in Figure 2, where the difference total is the lowest between men and women in social science, business and law where men still hold the majority. Men seem more prone to education in engineering, manufacturing and construction, agriculture and science, while women prefer fields such as education, health and welfare (Das & Kotikula, 2019). (See Figure 2).

**Figure 3**

*Segregation in Education*

| Field of study | Fraction of countries where the field of study is: | | | Number of countries |
|---|---|---|---|---|
| | Female dominated % | Male dominated % | Neutral % | |
| Agriculture | 6 | 74 | 20 | 95 |
| Education | 81 | 8 | 10 | 106 |
| Engineering, manufacturing and construction | 0 | 98 | 2 | 106 |
| Health and welfare | 85 | 5 | 10 | 106 |
| Humanities and arts | 60 | 8 | 32 | 103 |
| Science | 9 | 75 | 16 | 107 |
| Services | 16 | 64 | 20 | 95 |
| Social sciences, business and law | 29 | 11 | 60 | 107 |

*Note. (Das & Kotikula, 2019, p. 12)*

In academia, additional data from the World Bank (2024) shows that women are still behind men in primary and secondary education while surpassing men in tertiary education. While more men receive primary and secondary education, gender parity is relatively low, while regarding tertiary education, gender parity is greater (World Bank, 2024).

Burchell's (1996) analysis of interview data from 1986, encompassing approximately 34,000 job descriptions across England and Scotland, reveals significant gender-based workplace segregation. The data indicates that men are more likely to be employed in larger workplaces, often occupying roles such as office managers, while women tend to work in smaller organizations. Furthermore, women face stronger exclusion in larger organizations, particularly in male-dominated fields like production fitting and electrical work, where segregation is most pronounced. Conversely, women are predominantly concentrated in welfare-related roles, though their representation decreases as organizational size increases. These findings highlight persistent gender disparities in workplace distribution and occupational roles during the mid-1980s (Burchell, 1996).

Gender segregation could also be found in the recruiting process, as Bertogg et al. (2020) assessed gender discrimination in recruiting within the male-dominated sectors of mechanics and IT professionals. The authors sampled a factorial survey experiment from Bulgaria, Norway, and Switzerland, involving real advertisements and 1,920 responsible

recruiters who rated 10 hypothetical CVs. Gendered discrimination was found in Bulgaria and Greece and to a lesser degree in Switzerland, while no discrimination was found in Norway. Discrimination was particularly pronounced in mechanics (Bertogg et al., 2020).

Gender segregation also creates various entry barriers, as women remain underrepresented in STEM professions. For instance, Fatourou et al. (2019) assess the negative aspects of the underrepresentation of women in STEM (science, technology, engineering, and math) jobs, research and innovation from the perspective of gender equality, while the European Union and the European Commission try to implement measures to change this gender gap. The availability of labour force in this field becomes a challenge, and the sector could benefit if more women were included in the STEM labour force, thus benefiting research, innovation, and society as a whole. According to the authors, gender equality is needed in social, political, and cultural aspects of life, including education. Among the strategies, the EU finances prizes and projects across sectors to improve women's access to STEM professions for job stability and good pay (Fatourou et al., 2019).

To achieve gender equality, the role of men in the process was exemplified by Farré (2012) who conducted a literature review assessing the role of men in gender equality. The author states the importance of men in achieving gender equality since, across societies, men hold powerful positions. Especially in developing countries, men have full control over economic resources and exercise power regarding women's health and economic issues. The author further found that policies targeting only women might hinder their well-being, while programs that inform men about women's socioeconomic status are more likely to succeed (Farré, 2012).

In conclusion, data suggests a gender divide between employment sectors (World Economic Forum, 2023; Das & Kotikula, 2019; Bertogg et al., 2020) a divide that also can be found in choice of studies (Das & Kotikula, 2019; World Bank, 2024) where it appears that men in particular hold the majority in technical fields such as jobs in STEM, while women seem to work in employment that has a stronger connection to working with people such as teaching and nursing. Measures to introduce women into STEM professions through public interventions and funding seem fruitful (Fatourou et al., 2019), while gender discrimination in recruiting could still be seen among European recruiters (Bertogg et al., 2020), showing that the segregation is potentially linked to recruiters' expectations of gender roles or a gendered suitability for a role. Hence, there seem to be rather clear lines

between where men and women work, potentially fitting to gender norms (see Chapter 3.2). Thus, gender segregation exists across industries and education. Researchers have studied this phenomenon to understand equality and the economic risks associated with it.

The following chapters will explore the topic of gendered work valuation as providing an additional hint to where different career choices might stem from reaching further into the different work environments and valuations of women and men, what could hint to how socialization could affect what individual's value at their work.

## 3.3 Gendered Career Choices and Job Valuation

**Table 7**

*Literature Review on Gendered Careers and Job Valuation*

| Authors and Date | Title | Journal | Method | Citations | Key findings |
|---|---|---|---|---|---|
| Andrade, Westover, & Peterson, 2019 | Job Satisfaktion and Gender | Journal of Business Diversity | Quantitative Data Analysis | 95 | Extrinsic and intrinsic factors are valued differently among genders. |
| Linz and Semykina, 2013 | Job satisfaction, expectations, and gender: beyond the European Union | International Journal of Manpower | Quantitative Data Analysis | 66 | Job satisfaction requires different aspects for men and women. |
| Perugini and Vladisavljević, 2019 | Gender inequality and the gender-job satisfaction paradox in Europe | Labour Economics | Quantitative Empirical Data Analysis | 138 | Women are found to have higher job satisfaction. |
| Peterson, 2004 | What men and women value at work: Implications for workplace health | Gender Medicine | Mixed Methods | 116 | Men and Women value different aspects of work. |
| Pita & Torregrosa, 2021 | The gender-job satisfaction paradox through time and countries | Applied Economics | Quantitative Data Analysis | 31 | Decreasing gender differences in job satisfaction. |

Understanding how work values may differ between men and women, and the potential impact of stereotypes on these choices, is essential for grasping the underlying dynamics of socialization. This chapter delves into these complexities by examining various studies that highlight gender differences in valuing work and job satisfaction. Peterson (2004), Perugini and Vladisavljević (2019), Linz and Semykina (2013), Andrade et al. (2019), and Pita and Torregrosa (2021) researched the potential gendered differences in the valuation of employment and the potential differences in gendered job satisfaction.

Peterson (2004) conducted a comprehensive study with 1,123 participants (608 males and 515 females) to assess what individuals value in the workplace. The findings revealed that while both sexes appreciate similar aspects of a healthy workplace, the significance attributed to each varies. Men placed greater emphasis on tangible rewards such as money, benefits, authority, and power, whereas women prioritized relationships, recognition, and collaboration. Notably, men often underestimated women's values, while women overestimated the importance men place on extrinsic rewards. Furthermore, women reported higher levels of distress at work, with cultural and environmental factors emerging

as critical predictors of their health, unlike men, whose well-being was more closely linked to supervisory and management dynamics. Both genders, however, shared a common underlying predictor: their perceived home life (Peterson, 2004).

Similarly, Perugini and Vladisavljević (2019) explored the connection between gender inequality and job satisfaction across 32 countries, revealing that women tend to report higher satisfaction than men, despite lower wages, particularly in more gender-equal environments. They posited that early exposure to gender equality could shape different expectations regarding employment, leading to lower satisfaction levels that align more closely with men's. Conversely, those in less equal environments appear to value flexibility and social connections more, which may contribute to their higher job satisfaction overall (Perugini & Vladisavljević, 2019).

In relation, Linz and Semykina (2013) analyzed data from 9,400 employees in former socialist countries and found that women typically derive job satisfaction from both intrinsic and extrinsic rewards, while men are more focused on extrinsic factors. This distinction highlights a pattern that suggests women's broader approach to job satisfaction encompasses a more holistic view of what constitutes fulfilment at work (Linz & Semykina, 2013).

In contrast, Andrade et al. (2019) revisited the debate on gender and job satisfaction, analyzing survey data that produced mixed results in previous literature. While their findings indicated no significant difference in overall job satisfaction between genders, one country did show women reporting notably higher satisfaction. However, women generally rated extrinsic factors lower, indicating a nuanced view of job satisfaction across genders (Andrade et al., 2019).

Lastly, Pita and Torregrosa (2021) addressed the paradox of gendered job satisfaction, where women report higher satisfaction despite less favourable working conditions. The authors' use of the Balanced Worth Vector[5] and analysis of European Working Conditions

[5] The Balanced Worth Vector is used to evaluate the relative performance of a certain number of groups based on a finite set of characteristics, which are ordered from best to worst (*Calculating the Balanced Worth Vector*, n.d.)

Survey data indicated a decline in gender differences in job satisfaction over time and across various countries, suggesting that the gender-gap paradox may not be as prevalent as previously believed (Pita & Torregrosa, 2021).

Collectively, these studies illuminate a common theme: while gender differences in job satisfaction seem to persist, the factors influencing these differences are multifaceted. Women's inclination toward intrinsic rewards and a broader definition of satisfaction contrasts with men's focus on extrinsic benefits, leading to varied experiences in the workplace. Understanding these differences can inform how organizations address gender dynamics and support employees more effectively.

In conclusion, studies on job satisfaction reveal potential trends regarding what women and men value at work, suggesting that both genders are often constrained by gender-stereotypical roles and perceptions. Generally, women report higher job satisfaction compared to men, although some studies indicate no significant differences (Perugini & Vladisavljević, 2019; Pita & Torregrosa, 2021). What seems clearer, however, is that men and women tend to prioritize different aspects of employment. Women tend to value intrinsic motivators more than men, who appear to be more motivated by extrinsic factors (Peterson, 2004; Andrade et al., 2019; Linz & Semykina, 2013). Although studies have identified trends in satisfaction and the significance of valuing extrinsic or intrinsic factors, they often fail to assess how these values are developed or attributed. It remains uncertain whether intrinsic or extrinsic factors are valued by individuals' experiences in socialization, however, those valuations could potentially stem from the way women and men in society were socialized since through the process of socialization, gendered values and norms can be learned that potentially impact a person's perception of what one values (see Chapter 3.2).

This leads to the societal expectations rooted in gender stereotyping and internalization of such stereotypes that can affect the work environment, which will be explored in more detail for men in the following chapter.

## 3.4 Men at Work – Traditional Views on Masculinity and Its Negative Impact

**Table 8**

*Literature Review on Men and Stereotypical Masculinity at Work*

| Authors and Date | Title | Journal | Method | Citations | Key findings |
|---|---|---|---|---|---|
| Affleck, Carmichael, & Whitley, 2018 | Men's mental health: Social determinants and implications for services | The Canadian Journal of Psychiatry | Literature Overview | 244 | Men and women show differences in mental health risks. |
| Berdahl et al. 2018 | Work as a Masculinity Contest | Journal of Social Issues | Literature Review | 540 | Masculinity contests can harm work environments. |
| Berecki-Gisolf et al., 2015 | Gender differences in occupational injury incidence | American Journal of Industrial Medicine | Quantitative Data Analysis | 67 | Women have higher rates of mental disorders, while injury claims are higher in men. |
| Jackson, 2000 | Men at work | The European Journal of Development Research | Literature Review | 72 | The perception of masculinity needs to change for men. |
| Oliffe et al., 2013 | Masculinities, work, and retirement among older men who experience depression | Qualitative Health Research | Qualitative Descriptive Study | 125 | Working is part of the masculine ideal. |
| Roche et al., 2016 | Men, work, and mental health: a systematic review of depression in male-dominated industries and occupations | Safety and Health at Work | Literature Review | 146 | Male-dominated groups show higher risks for depression. |
| Stergiou-Kita et al., 2015 | Danger zone: Men, masculinity and occupational health and safety in high-risk occupations | Safety Science | Literature Review | 214 | Men are more likely to die from injuries at work. Masculinity norms can normalize work risks. |
| Tucker et al., 2014 | Work-related injury underreporting among young workers: Prevalence, gender differences, and explanations for underreporting | Journal of Safety Research | Quantitative Data Analysis | 130 | Men tend to underreport work-related injuries. |

This section focuses on the perceptions of men and work, specifically addressing the relationship between mental as well as physical health and the concept of masculinity in male employees. The reader will gain an understanding of the potentially detrimental effects that traditional or stereotypical male identification in the context of work can have. The research in this section addresses the changing work reality for men (Jackson, 2000), the role of perceived masculinity (Berdahl et al., 2018) as well as depression risks in male dominated environments (Roche et al., 2016) and the role or risks of injuries (Stergiou-Kita et al., 2015), through internalizing masculine norms and accepting risks (Stergiou-Kita et al., 2015; Tucker et al., 2014). Additionally, it points to the general physical risks in male industries (Berecki-Gisolf et al., 2015). Lastly, the role of employment for men has been studied by Affleck et al. (2018) and Oliffe et al. (2013).

In her introductory essay, Jackson (2000) examines the perception of men and their masculinity in the context of the changing work reality and the potential insecurities arising from the shifting role of men in society. The presence of working women challenges the traditional role of men as the sole provider, leaving behind a void of meaning that requires readjustment. The gendered vulnerability experienced by men, therefore, needs to be studied to comprehend the evolving norms of masculinity and male perception (Jackson, 2000).

The masculinity contest at work is defined as men competing for power and has been studied by Berdahl et al. (2018), who argue that gender equality at work is hindered by the contest between men. Such contests can lead to dysfunctional organizational climates characterized by toxic leadership, bullying, or harassment, resulting in consequences such as burnout, low dedication, and decreased well-being for both men and women. The contests can manifest in a highly competetive environment, where winners take all and others cannot be trusted. Furthermore, tenderness is often seen as a weakness, while overworking is viewed as a sign of strength (Berdahl et al., 2018).

Aspects of mental health in men associated with employment were researched by Roche et al. (2016), who assessed the relationship between male-dominated industries and occupations and depression. The authors state that depression among men is often not only unrecognized but also untreated. Furthermore, they emphasize that men's vulnerability is especially high in male-dominated industries, but necessary measures are missing due to a lack of data. The authors reviewed studies conducted between 1990 and June 2012 in male-

dominated industries (>70% male workforce) and used clinical indicators for depression. The prevalence of depression ranged from 0% to 28%, with five studies showing a significantly lower prevalence of mental disorders among male workers and six studies reporting a significantly higher prevalence. Additionally, eight studies found significantly higher levels of depression in male-dominated industries. In general, depression was found to be higher in male-dominated workforce groups. The authors conclude that tailored strategies are needed to address men in such industries (Roche et al., 2016).

Additionally, Stergiou-Kita et al. (2015) reviewed literature addressing masculinity, men's safety, and health at work. The authors found the stereotypical depiction of men, such as physical strength, in various literatures. These stereotypes play a role in the acceptance and normalization of work-related risks and injuries. Furthermore, the associated stereotypes seem to reduce men's likelihood to accept support in protecting and managing their health, while they tend to value productivity over health and safety. The authors recommend that workplaces assess how gender impacts workers' identities and risk perceptions. Such measures could include identifying situations where masculine behaviour could reduce the acceptance of assistance and heighten risky practices. Understanding how safety and health are perceived within the organization, considering approaches to diversify masculine perceptions, and addressing gendered issues in health and safety interventions are also crucial factors (Stergiou-Kita et al., 2015).

In relation, Berecki-Gisolf et al. (2015) researched potential gender differences in occupational injuries and injury claims. The researchers analysed 254,704 claims in Australia between 2004 and 2011, assessing compensation and employment data. The authors found that mental disorder claims were 1.9 times higher for women, while physical injury claims were 1.4 times higher among men. Finally, physical injuries among men were mostly attributed to their industry of occupation, while rates for mental disorders among women were independent of their field of occupation (Berecki-Gisolf et al., 2015).

Moreover, Tucker et al. (2014) assessed data from 21,345 young Canadian employees and found that 21% reported work-related injuries. Half of the employees reported the injury to both their employer and a doctor, 22% reported only to the employer, and 1% reported only to the doctor. 27% reported the injury to neither. Among the reasons for not reporting were low perception of the injury's severity, negative reactions from employers, and uncertainty about whether the injury was work-related. The authors conclude that from an early age,

male employees, especially, tend to suppress reporting injuries (Tucker et al., 2014).

Furthermore, Affleck et al. (2018) point out the need for research in the field of mental health in men due to an approaching but silent crisis. The authors discuss core topics in men's mental health and its most relevant social determinants. They also aim to provide suggestions for mental health services for men. Epidemiological factors and substance-related disorders were reviewed, followed by a discussion on low reported depression rates in men. Finally, risk factors for men are assessed, including employment, family-related issues, adverse childhood experiences, life transitions, and parenthood. A discussion on traits associated with masculinity follows. The authors found evidence for higher mental health risks of uncertain employment for men, as well as reductions in education and an increase in employment in lower-wage sectors. Moreover, divorces often leave men without custody of their children, along with other stressors. Additionally, suicide rates in men and divorce rates were found to be correlated. Adverse childhood experiences also impact genders differently, with girls more likely to display psychological symptoms and receive treatment, where abused boys exhibit externalizing risk behaviours and do not show symptoms publicly, leading to behaviours such as drinking that do not result in adequate mental health treatment. Other life transitions, such as fatherhood, could further lead to mental health issues due to significant changes in sleep, financial stability, and more. Health providers and society need to change to adequately address men's mental health risks (Affleck et al., 2018).

Depression in men has been further studied by Oliffe et al. (2013), who conducted a qualitative study of 30 older men from Canada with experiences of depression and assessed aspects such as work, masculinity, and retirement. The authors found that depression was linked to paid work and could negatively impact career paths, which could further fuel depression. Moreover, work was associated with masculine ideals, which led men to continue working to avoid the negative loss associated with quitting. Finally, the authors highlight the need for men to reshape and diversify masculine ideals to go beyond the traditional roles of the working man and breadwinner (Oliffe et al., 2013).

In conclusion, the researchers hint towards a change in the work reality based on changing gender roles in society (Jackson, 2000) while masculinity contests at work cause harm for employees and organizations (Berdahl et al., 2018). Men are additionally likely to underreport injuries at work (Tucker et al., 2014), while the mental health crisis in men is

a silent crisis leading further to the role of uncertain employment on mental health in men as well as other life transitions (Affleck et al., 2018). Work seems to be seen as an aspect of masculinity and relates to the risk of developing depression (Oliffe et al., 2013). The research on men at work seems to hint at the struggle of masculine identification in the workplace. This leads to men's decreased tendency to seek help or report injuries. Men tend not to report injuries at work. The reasons for such behavior could lie within the stereotypical view of masculinity, as has been suggested by the researchers (Stergiou-Kita et al., 2015), which has also been shown to impose potential risks at work through the development of a masculinity contest (Berdahl et al., 2018). Perhaps not reporting injuries or seeking help is a potential outcome of this type of contest, with potentially negative consequences for individuals and organizations. This highlights the need for organizations to analyse physiological and psychological gendered threats.

Specific work-related gendered risks on mental health will be explored in Chapter 4 while Chapter 4.3 will propose that establishing psychologically safe work environments could be used to address employee concerns an idea that could be used to sustainably understand and potentially change gendered norms (Chapter 5).

Aside from male-dominated professions, a small number of males seek professions outside of gender norms (see Das & Kotikula, 2019; World Economic Forum, 2023). The potential discrepancies they face will be explored in the following chapter.

### 3.4.1 Men in Non-Stereotypical Professions

***Table 9***

*Literature Review on Men in Non-Stereotypical Professions*

| Authors and Date | Title | Journal | Method | Citations | Key findings |
|---|---|---|---|---|---|
| Adams, 2010 | Gender and Feminization in Health Care Professions | Sociology Compass | Literature Review | 191 | Health care work is mainly occupied by women. Women increasingly participate in male-dominated sectors. |
| Brescoll et al., 2012 | Masculinity, status, and subordination: Why working for a gender stereotype violator causes men to lose status | Journal of Experimental Social Psychology | Literature Review | 87 | Men feel a loss of status working in female-dominated occupations. |

| | | | | | |
|---|---|---|---|---|---|
| Cottingham, 2014 | Recruiting men, constructing manhood: How health care organizations mobilize masculinities as nursing recruitment strategy | Gender & Society | Qualitative | 96 | Recruitment in nursing can redefine masculinity and use it for their recruiting to reduce the entry barrier for men. |
| Rajacich, et al., 2013 | If they do call you a nurse, it is always a "male nurse": Experiences of men in the nursing profession | Nursing Forum | Descriptive Qualitative Study | 242 | Men in nursing report gender-based barriers. |
| Simpson, 2004 | Masculinity at work: The experiences of men in female-dominated occupations. | Work, Employment and Society | Qualitative Interview Analysis | 780 | Men feel the need to compensate for a perceived loss of status and masculinity. |

The healthcare sector presents a potentially interesting case study, as it is heavily dominated by female employees (Das & Kotikula, 2019; World Economic Forum, 2023), meaning men working in this sector are counteracting stereotypical employment patterns. The experiences of men in this female-dominated care sector might offer valuable insights into the challenges and barriers associated with men working outside of stereotypically male sectors. While Adams (2010) hints towards the gender divide in US nursing, Brescoll et al. (2012), Simpson (2004) Rajacich et al. (2013), and Cottingham (2014) researched some of the internal conflicts men in non-stereotypical professions might face.

Historically, the gender distribution in the healthcare sector, as Adams (2010) states, is strongly segregated. While (especially White) men mostly occupy higher-status professions with higher pay in fields such as medicine and dentistry, women in the healthcare sector are primarily in support occupations such as nursing. Women are now taking an increasing share in male-dominated occupations within the sector. In the US, men were also found to be slowly entering nursing and chiropractic work (Adams, 2010).

Additionally, Brescoll et al. (2012) assessed the role of status loss for male employees in employment situations that do not align with gender stereotypes. Among men in female-dominated sectors, there was a reported loss in perceived status as well as lower salaries. The author attributed this to evidence suggesting that male employees feel a loss of masculinity when working in female-dominated sectors (Brescoll et al., 2012; Rajacich et al., 2013).

A further study on men in female-dominated sectors was conducted by Simpson (2004), who interviewed 40 men working as librarians, cabin crew, nurses, or primary school teachers. Men working in female-dominated sectors were classified as seekers (actively seeking the career), finders (found the employment through career decision processes), and settlers (men who previously worked in male-dominated occupations). Within these jobs, men benefited from their minority status, such as assumed leadership skills, special treatment, and a perceived stronger focus on their careers. Men reported feeling comfortable working with women; however, they aimed to maintain a masculine perspective through re-labelling, status enhancement, and distancing themselves from the feminine (Simpson, 2004).

The case of male Canadian nurses has been discussed by Rajacich et al. (2013), who researched recruitment, retention, and life satisfaction in relation to work. Important aspects of work dissatisfaction among the sixteen participants of the qualitative study were stress, lack of full-time opportunities, and gender-based stereotypes. Positive factors included the value of providing care for patients and making a difference. Recruiting at an earlier age might be seen as a method to reduce negative gender bias. The men within the profession reported clear passion, satisfaction, and intrinsic motivators within their profession while also being seen as outsiders due to their gender. Normalizing men in the profession could ultimately help to reduce negative perceptions (Rajacich et al., 2013).

Furthermore, Cottingham (2014) assessed the environment of men in the US nursing sector. The nursing sector, which represents empathy, emotional engagement, and helping others, stands in stark contrast to the image of the tough, detached, and independent man. The author analysed visual, textual, and spoken content in the recruitment process. The results showed that organizations were able to use hegemonic and non-hegemonic aspects of masculinity through idealized gender practices. The study examined the content of recruitment processes in nursing that targeted men and additionally identified three mediating factors: full hegemonic co-option, partial hegemonic co-option, and alternative construction of masculinities. In summary, the study demonstrated how organizations can harness masculinities within their recruiting practices in non-stereotypical sectors for men, as exemplified by the nursing sector (Cottingham, 2014).

In summary, this chapter shows the experiences of men working in non-stereotypical professions, particularly in the healthcare sector, which is traditionally dominated by women. Men in fields such as nursing and primary school teaching face challenges related

to gender norms and self-perception. Studies show that men in female-dominated sectors often experience a perceived loss of masculinity, which can lead to a perceived loss of status (Brescoll et al., 2012). However, men also benefit from their minority status, including assumed leadership qualities and special treatment (Simpson, 2004). The chapter also explores how male nurses in Canada experience gender-based stereotypes but find satisfaction in the care they provide, suggesting that normalizing men in these roles could reduce negative perceptions (Rajacich et al., 2013). Furthermore, it highlights how recruitment processes in sectors like nursing can leverage both hegemonic and non-hegemonic aspects of masculinity to appeal to male applicants (Cottingham, 2014). This chapter underscores the dynamic interplay between gender, profession, and self-identity as men navigate occupations outside traditional male-dominated sectors. Potentially, gender stereotypes and expectations are causing both imbalances, with men feeling potentially alienated in female-dominated sectors while being overrepresented in high-paid positions (Adams, 2010) within the same sectors.

In the past chapters it was assed how socialization could impact gender segregation in employment. As will be shown in the following chapter, there are gender specific risks for stress at work that negatively impact health and potentially performance, factors that potentially hint further towards how men and women perceive work. Hence, it is important to assess the gendered role of stress at work and its potential link to how gender roles are perceived.

# 4 Mental Health and the Role of Stress at Work

**Table 10**

*Literature Review on Mental Health and Stress at Work*

| Authors and Date | Title | Journal | Method | Citations | Key findings |
|---|---|---|---|---|---|
| Barnay, 2016 | Health, work and working conditions: a review of the European economic literature | The European Journal of Health Economics | Literature Review | 215 | Adaptability of working hours can have a positive impact on mental health. |
| Bonde, 2008 | Psychosocial factors at work and risk of depression: a systematic review of the epidemiological evidence | Occupational and environmental medicine | Systematic Review, Medline Search | 1382 | Low decision and high demand were strongly associated with depressive episodes for men.<br>Studies show that work can relate to depressive symptoms. |

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|---|---|---|---|---|---|
| Carmassi et al., 2022 | Gender and occupational role differences in work-related post-traumatic stress symptoms, burnout and global functioning in emergency healthcare workers | Intensive and Critical Care Nursing | Cross-sectional Study | 39 | Women were more prone to develop post-traumatic stress symptoms and burnout in emergency healthcare. |
| Eskildsen et al., 2015 | Work-related stress is associated with impaired neuropsychological test performance: a clinical cross-sectional study | Stress The International Journal on the Biology of Stress | Cross-sectional Study | 78 | Stress was associated with a mildly reduced performance in neuropsychological tests regarding memory, speed and complexity. |
| Hoffman and al'Absi, 2004 | The effect of acute stress on subsequent neuropsychological test performance | Archives of Clinical Neuropsychology | Participant Study, Mixed Methods | 151 | Stress can negatively impact individuals' psychological and physical health. Test performance did not decrease. |
| Innstrand et al., 2011 | Exploring within-and between-gender differences in burnout: 8 different occupational groups | International archives of occupational and environmental health | Study | 211 | Women seem to have higher risks for burnout. Differences across occupations could be found. |
| Matud, 2004 | Gender differences in stress and coping styles | Personality and Individual Differences | Study | 2806 | Women may suffer more from distress. |
| Melchior et al., 2007 | Work stress precipitates depression and anxiety in young, working women and men | Psychological medicine | Longitudinal Birth Cohort Study | 967 | High psychological job demands were associated with depressive and anxiety disorders. |
| Plaisier et al., 2008 | Work and family roles and the association with depressive and anxiety disorders: differences between men and women | Journal of Affective Disorders | Cross-sectional Study, Quantitative | 143 | Family life could protect mental health. Work was a protective factor for men regarding depression and anxiety. No such effect was found for women. Work was positive for women only if they have no children. |
| Purvanova & Muros, 2010 | Gender differences in burnout: A meta-analysis | Journal of vocational behavior | Literature Review | 1645 | Gender differences in the literature on burnout suggests that women have higher risks for emotional exhaustion while men depersonalize. |
| Schmaus et al., 2008 | Gender and stress: Differential psychophysiological reactivity to stress reexposure in the laboratory | International Journal of Psychophysiology | Study | 125 | Women could be more vulnerable regarding repetitive stressors. |

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|---|---|---|---|---|---|
| Shepherd and Barraclough, 1980 | Work and suicide: An empirical investigation. | *The British Journal of Psychiatry* | Mixed Methods | 92 | The analysed suicide histories often relate to job loss, unstable performance and based on risk-related employment sectors. Work can be a protective factor. |
| Siegrist, 2008 | Chronic psychosocial stress at work and risk of depression: evidence from prospective studies | European archives of psychiatry and clinical neuroscience | Systematic Review of Prospective Cohort Studies | 520 | Risks for depression are moderately higher in high-demand and low-control work environments. |
| Skogstad et al., 2013 | Work-related post-traumatic stress disorder | Occupational medicine | Systematic Review with Meta-analysis | 453 | Some professions can come with occurrences that could cause PTSD. |
| Steckler, 2005 | The neuropsychology of stress | Techniques in the Behavioral and Neural Sciences | Literature Review | 63 | Stress can impact an individual's cognition, making it more sensitive for punishment than reward. |
| Twamley, et al., 2004 | Neuropsychological function in college students with and without posttraumatic stress disorder | Psychiatry research | Mixed Methods | 208 | PTSD did not decrease neuropsychological test performance. Might hint at resilience. |
| Wang et al., 2008 | The relationship between work stress and mental disorders in men and women: findings from a population-based study | Journal of Epidemiology & Community Health | Quantitative Data Analysis | 330 | Depression and anxiety are higher for men in work environments with high demand and low control compared to women. Job insecurity was linked to depression in men, not in women. |

This chapter aims to highlight crucial observations regarding mental health both within and outside the workplace. The mental health crisis has gained increased prominence in recent years within discussions on global health initiated by the World Health Organization (WHO). Apart from the health risks associated with mental illness, the economic losses due to factors like decreased work productivity are substantial. Therefore, the WHO emphasizes the relationship between employment and mental health, advocating for awareness and mindfulness in organizations concerning the mental health of their employees. The World Health Organization additionally highlights the significant link between work and mental health. A positive work environment can positively impact mental well-being, while negative factors such as discrimination, excessive workload, and job insecurity can do harm. In 2019, approximately 15% of working-age adults worldwide were diagnosed with a mental disorder. The global economic impact of mental health issues, particularly depression and anxiety, is substantial, with an estimated loss of 12 billion working days and a trillion US dollars in productivity each year (World Health Organization, 2024)

The WHO further states that 60% of the world's population is working and has a right to a safe and healthy workplace. Work supports mental health by providing: "a livelihood; a sense of confidence, purpose, and achievement; an opportunity for positive relationships and inclusion in a community; and a platform for structured routines, among many other benefits" (World Health Organization, 2024). Moreover, for people suffering from mental health issues, "decent work can contribute to recovery and inclusion, improve confidence and social functioning" (World Health Organization, 2024).

Stress is an important factor in mental health since it can impact an individual's well-being and cognitive capacities and potentially increase psychological and even physiological risks for the individual (Van der Kolk, 2014; see appendix). To illustrate the importance of understanding stress at work, several studies have been reviewed to help the reader grasp the significance of coping with distress and creating environments that recognize when stress becomes detrimental to individuals and organizations.

Stress can potentially have negative impacts on an individual’s cognitive performance and health, while work can play an important role in harnessing the negative consequences by fuelling an individual’s distress, as the following studies suggest. Impacts of stress in general were for instance assessed by Steckler (2005) as well as Hoffman and al'Absi (2004), while the relationship between stress and work was assessed by Siegrist (2008), Eskildsen et al. (2015), Melchior et al. (2007), Bonde (2008), Skogstad et al. (2013), and Hoffman and al'Absi (2004). Gender differences in stress and work were researched by Schmaus et al. (2008), Innstrand et al., (2011), Carmassi et al. (2022), Purvanova and Muros, (2010), Wang et al. (2008) and Plaisier et al. (2008). Lastly, Twamley et al. (2004) emphasize the need for individual resilience, while Shepherd and Barraclough (1980) hint at the connection between work and suicide, a connection that will be reviewed in more detail in the following chapter.

Steckler (2005) describes the neuropsychological factors that come into play within an individual's stress response. The author assessed factors such as emotions, cognition, and learning and found that the circumstances in which a stress stimulus is presented and previous experiences significantly influence the individual's cognitive performance. In reverse, an individual's cognitive capacities play a crucial role in managing distress. Important brain regions involved in the stress response include the hippocampal formation, the amygdala, the prefrontal areas, and the cingulate area. Additionally, the basal ganglia,

the periaqueductal gray, hypothalamic areas, and other subcortical structures are also involved (Steckler, 2005).

Similar findings were produced by Hoffman and al'Absi (2004), who also found evidence that mental stressors can significantly impact performance in neuropsychological tests through increased distractibility and decreased working memory function. For instance, public speaking can negatively affect mood, mental stress, and cardiovascular reactivity. This can lead to an increased heart rate, changes in diastolic and systolic blood pressure, and elevated blood pressure overall, suggesting adrenocortical reactivity and cardiovascular stress within the response. However, these measures were not statistically elevated when comparing stress days to rest days (Hoffman & al'Absi, 2004).

The connection between distress as well as other mental health concerns and work was researched, for instance, by Siegrist (2008), Eskildsen et al. (2015), Melchior et al. (2007), Bonde (2008), Skogstad et al. (2013), and Barnay (2016).

Research by Siegrist (2008) reviewed various papers from 1997 to 2007 and found evidence that work-related distress increases the risk of depression in employees. Chronic stress at work, theoretically defined by demand-control and effort-reward imbalance, is a risk factor for mental health. The author found an elevated ratio for depression among men and women who work in high-demand and low-control settings or who expend high effort with low rewards in return (Siegrist, 2008).

Additionally, Eskildsen et al. (2015) investigated the impacts of work-related stressors on neuropsychological test performance. The authors noted that patients on sick leave due to work-related stress often complained about decreased concentration and memory issues. They assessed 59 patients regarding their neurological test performance. Patients showed mildly reduced performance across all measured domains, although only a few variables reached significance, with the most significant impacts on prospective memory, complex working memory, and speed (Eskildsen et al., 2015).

Melchior et al. (2007) further assessed work-related depression and anxiety among men and women. The authors noted the rising rates of work- related stress and depression and found that participants exposed to high psychological job demands, such as excessive workload or extreme time pressures, had a twofold risk for major depressive disorder (MDD) or generalized anxiety disorder (GAD), according to DSM-IV (Diagnostic and

Statistical Manual of Mental Disorders) criteria, compared to those in low-job-demands settings. The analyses ruled out the possibility that work stress and disorders stemmed from socioeconomic status, a personal tendency to report negatively, or a history of psychiatric disorders prior to entering the labour market. The study showed that high-demand jobs were associated with the onset of new anxiety disorders and depression in individuals without a pre-job history of either disorder. The authors highlight the need to help workers with coping mechanisms, which could reduce the prevalence of depression and anxiety (Melchior et al., 2007).

Another study on depression was conducted by Bonde (2008), who also found in a study conducted among 63,000 employees that the risk for depression onset is due to stressors in employment. The association was highest in high-demand and low-decision-latitude jobs for men. The author provided consistent findings that the perception of adverse psychological factors at work is related to higher risks for developing symptoms of depression or depressive episodes (Bonde, 2008).

The relation of work and post-traumatic stress was studied by Skogstad et al. (2013), who assessed the topic of work-related post-traumatic stress disorder (PTSD), pointing to its relevance in the healthcare sector. The authors conducted a literature search and found that employees working as police officers, firefighters, or ambulance personnel often experience events associated with the development of PTSD. Moreover, professionals working in healthcare, train drivers, journalists, sailors, or those working in banks or post offices may also experience work-related traumatic events. The authors conclude that poor health and poor social support can potentially increase the risk of developing PTSD. To counter the risks for developing PTSD among employees, the authors suggest a stable and well-organized psychological work environment, employee training, social support networks among colleagues and managers, and adequate intervention after critical events that could increase the risk of developing symptoms of traumatic stress (Skogstad et al., 2013).

Furthermore, Barnay (2016) assessed the relationship between health, work, and working conditions in a review of European economic literature. The author found that favourable work environments and higher job security were associated with better health conditions, protecting individuals' physical and mental health while reducing the risk of psychiatric disorders. In contrast, non-employment and retirement were associated with worse mental

health, as was overemployment. Additionally, a third of employees would prefer fewer working hours, while long working hours were associated with lower job satisfaction and poor working conditions, increasing negative impacts on mental health (Barnay, 2016).

Men and women might through various factors respond differently to stress causing different gendered vulnerabilities. Authors such as Schmaus et al. (2008), Innstrand et al., (2011), Carmassi et al., (2022), Purvanova and Muros, (2010), Wang et al., (2008) and Plaisier et al. (2008) researched potential gender differences in work related stress and mental illness.

A study to understand potential differences in stress response within genders was conducted by Schmaus et al. (2008). The study participants viewed a video about the Holocaust twice, with two days between the sessions. Negative affect was self-reported, and cardiovascular reactivity was observed and recorded. While there were no differences in men's and women's heart rates during the initial viewing, women's heart rate and negative affect were significantly greater for the second exposure compared to men. Further, after the initial viewing, women reported greater intrusive thoughts and avoidance, which, however, were not found to be significant as mediators. According to the authors, women could be more vulnerable to repeated stress exposure compared to men (Schmaus et al., 2008).

This relates to findings of Matud (2004), who further studied gender differences in coping styles associated with stress among 1566 women and 1250 men aged 18 to 65 with different sociodemographic backgrounds. The author found that women scored significantly higher in chronic stress than men and rated similar life events as more stressful. While women listed health-related events and family more commonly compared to men, men listed finance, relationship, and work-related events more commonly. Women were found to score higher on emotional and avoidance coping and lower on detachment and rational coping, while also scoring significantly higher on somatic symptoms and psychological distress. Men, on the contrary, were found to suppress emotions. The author concluded that women suffer more from distress and have emotion-focused coping styles compared to men, which the author assumes is related to gender socialization (Matud, 2004).

Furthermore, Innstrand et al. (2011) used a quantitative analysis to examine potential gender differences regarding burnout within different occupations. To measure burnout, the authors

used the Oldenburg Burnout Inventory [6](OLBI) to assess exhaustion and disengagement. Four thousand nine hundred sixty-five men and women with an average age of 42, working as lawyers, physicians, teachers, nurses, bus drivers, church ministers, in advertisement, and in information technology were investigated. The results showed that women reported higher exhaustion compared to men, with no increase in disengagement. Overall, men and women displayed similar burnout profiles across occupations. However, the differences, especially for disengagement, varied across occupations. In conclusion, the authors find a slightly higher risk for burnout among women, particularly in relation to certain occupations (Innstrand et al., 2011).

An assessment regarding gender and occupational traumatic stress has been conducted by Carmassi et al. (2022). The cross-sectional study was conducted with 126 healthcare workers in Intensive Care, the Emergency Department, the Emergency Room, and Emergency Medicine at a University Hospital in Italy. Participants were assessed regarding their symptoms of post-traumatic stress, compassion satisfaction, burnout, compassion fatigue, and their global functioning. The researchers found that female employees were more prone to develop symptoms of post-traumatic stress. In contrast, male colleagues showed less compassion fatigue (Carmassi et al., 2022).

In contrast, Purvanova and Muros (2010) conducted a meta-analysis of gender differences in burnout to review the inconsistent results generated within research. The analysis used 409 effect sizes from 183 studies. The results challenge the view that women are more prone to burnout than their male colleagues, although women were found to show slightly more emotional exhaustion. Men, in contrast, are more depersonalized than women, while even in male- and female-typed work, women still showed no significantly higher rates of burnout (Purvanova & Muros, 2010).

In another study, Wang et al. (2008) analysed the relationship between gender-specific associations of stress at work and mental disorders, such as major depression, anxiety disorders, and more, by adjusting for demographics, socioeconomics, and clinical and psychological variables. The researchers used data from the Canadian National Health

[6] The Oldenburg Burnout Inventory is a scale to measure burnout of adults in employment, which includes physical and cognitive parts of exhaustion (Demerouti & Bakker, 2008).

Survey and examined 24,277 datasets for relationships between work stress and mental disorders. Mental health was assessed by a diagnostic interview from the World Health Organization. The data suggest that male employees with high demand and low control at work are more likely to have suffered from major depression and depressive or anxiety disorders in the past year. In women, high demand and low control were related to having depressive or anxiety disorders to a lesser extent. Job insecurity was associated with major depression in men but not in women. Imbalances between work and family life were the strongest factor associated with mental disorders for both genders. In conclusion, workers' mental health could be positively impacted through policies, but the relationship between private and professional life might be the greatest risk factor for mental health (Wang et al., 2008).

The role of family life was also researched by Plaisier et al. (2008), who assessed the relationship between family roles, depression, and anxiety disorders in men and women. The authors found that work was associated with a lower prevalence of anxiety disorders and depression in men. However, no such correlation was found for women. Additionally, the authors suggested that partnership acted as a protective mediator for mental health, whereas parenting roles did not have such an effect. Increased anxiety and depression risks were found among women with children who had no partner, while work protected mental health among women without children. For men, total work hours were associated with a greater prevalence of depression, whereas no such effect was observed for women, where part-time employment or unemployment had a greater negative impact on mental health in men compared to women (Plaisier et al., 2008).

Individual resilience can, however, decrease the risks for negative responses to potential stressors, as one could argue based on the paper by Twamley et al. (2004), who further studied neuropsychological functioning in college students with and without post-traumatic stress disorder (PTSD). The authors studied 235 college undergraduate students, of which 146 had been exposed to traumatic experiences. The subjects were assessed regarding working memory, psychomotor speed, attention, word generation, and executive functioning. The authors found no significant difference between the two groups and hypothesize that this lack of difference suggests that the students with trauma exposure have strong cognitive resilience (Twamley et al., 2004). Hence, when stress is imposed, individual resistance plays a crucial role.

Lastly, Shepherd and Barraclough (1980) analyzed the work histories of 75 individuals who committed suicide and tested a theory created by Durkheim, which posits that work protects an individual's mental health. According to the study, people who committed suicide were more likely to be unemployed, had more absences due to illness, and changed jobs more frequently. Additionally, risks for suicide were different across sectors (Shepherd & Barraclough, 1980).

In conclusion, stress could have negative impacts on cognitive performance (Steckler, 2005; Hoffman & al'Absi, 2004) (see also appendix), while work can be a potentially significant contributor to individual distress (Siegrist, 2008; Eskildsen et al., 2015; Melchior et al., 2007; Bonde, 2008; Skogstad et al., 2013; Barnay, 2016), for instance through low control or decision environments that also put high demands on individuals. Women seem to have higher risks for burnout and depression, especially when they work and have children. The gender specific differences were further studied by Schmaus et al. (2008), Matud (2004), Innstrand et al. (2011), Carmassi et al. (2022), Purvanova and Muros, (2010), Wang et al. (2008) and Plaisier et al. (2008). The authors showed that while women show higher risks of depression based on the work environment, men seem to generally value work itself more highly; for instance, job security was a stronger protective factor for men compared to women. Lastly, individual resilience is an important factor of how an individual reacts to stress and hence can protect the cognitive abilities (Twamley et al., 2004), however if resilience doesn't persist, the risk for work-related suicide could emerge, whereas it was suggested that unemployment, and absences could potentially predict the individual risk (Shepherd & Barraclough, 1980). Overall, these findings underscore the complex interplay between gendered work-related stress and mental health, highlighting the necessity for supportive environments, effective coping mechanisms, and gender-sensitive approaches to manage stress in the workplace. Working in a stressful environment increases the risk of mental health issues and can lead to depressive symptoms. The majority of the studies suggest gender differences in mental health risks, with women being more likely to suffer from work distress while for men, factors such as uncertainty of work or low control environments pose more distress. Studies seem to suggest that men need a sense of agency based on control and decision-making environments. High demand and low control of factors that influence the individual's work environment, in particular, could be significant factors in the development of psychological illnesses.

To further understand the potential risks at work, one could assess the extreme case of

work-related risks for suicides, which will be following in the next chapter to understand in more detail what potential factors can cause suicidal ideation and in which sectors such risks are the highest.

## 4.1 Suicide and Its Potential Relation to Work

***Table 11***

*Literature Review on Suicide and Its Potential Relation to Work*

| Authors and Date | Title | Journal | Method | Citations | Key findings |
|---|---|---|---|---|---|
| Germain, 2013 | Work-related suicide: An analysis of US government reports and recommendations for human resources | Employee Relations | Case study | 30 | There is a relationship between employment and suicide; organizations have a duty of care for their employees. |
| Greiner & Arensman, 2022 | The role of work in suicidal behavior–uncovering priorities for research and prevention | Scandinavian Journal of Work, Environment & Health | Literature Review | 20 | Work-related suicide risks are different for men and women. |
| Milner & King, 2019 | Men's work, women's work and suicide: a retrospective mortality study in Australia | Australian and New Zealand journal of public health | Population-level Retrospective Mortality Study | 23 | Suicide mortality varies across sectors and gendered homogeneity for men and women. |
| Vijayakumar, 2015 | Suicide in women | Indian journal of psychiatry | Literature Review | 338 | Women are more likely to develop suicidal ideation and attempts, hence have overall a greater burden than men. The vulnerability could be through gender related vulnerabilities. |
| Windsor-Shellard & Gunnell, 2019 | Occupation-specific suicide risk in England: 2011–2015 | The British Journal of Psychiatry | Quantitative Data Survey | 110 | Certain industries have higher gendered rates for suicide. |
| Zimmerman et al., 2023 | Suicide mortality among physicians, dentists, veterinarians, and pharmacists as well as other high-skilled occupations in Austria from 1986 through 2020 | Psychiatry Research | Quantitative Data Analysis | 20 | Suicide risks for female health professions are higher than the general population. |

To understand potential mental health risks for men in employment, this thesis aims to look further into the topic of gender differences in suicide and the debate on the relation between work and suicide ideation.

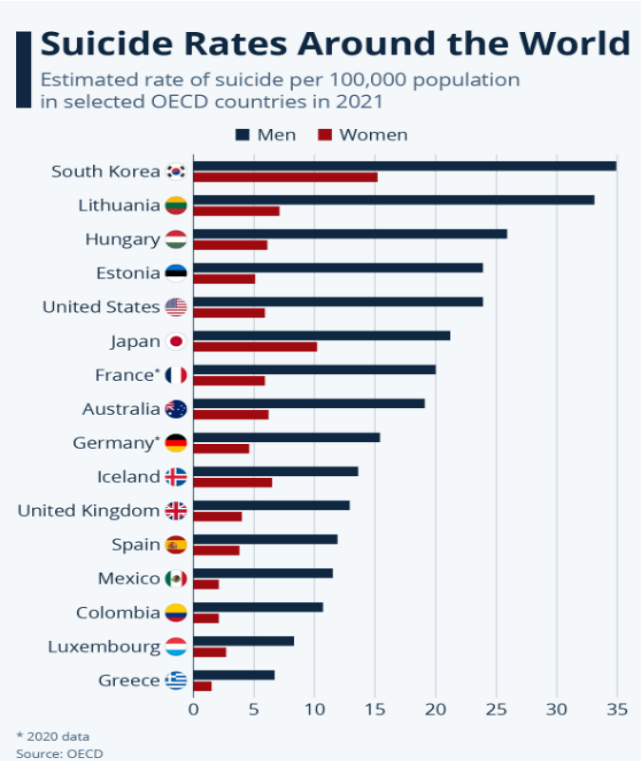
Firstly, general suicide statistics will be introduced, for instance, by the Centers for Disease Control and Prevention (2020), the World Health Organization (2024), and Statista (2024). While men die more often by suicide, women have higher risks of suicidal ideation, as described by Vijayakumar (2015). The topic will be introduced by Germain (2013) and Greiner and Arensman (2022), who point toward the role of organizations and managers in understanding the risks of work-related suicides. In addition, Milner and King (2019) and Windsor-Shellard and Gunnell (2019) show how suicide in employment could be gender segregated. Zimmerman et al. (2023), Wide et al. (2011), Straiton et al. (2012), and Coleman (2015) relate potential risks of suicide ideation based on gender norms to further understand how professions and gender values can impact the risks for ideation.

A study conducted in 2016 by the Centers for Disease Control and Prevention (2020) summarizes suicide rates per 100,000 US American civilians, non-institutionalized working persons aged 16–64 years. The depicted table of the study's findings shows that mostly men commit suicide, while some sectors and occupations have higher rates. In general, the table shows that by the time the study was conducted, out of 100,000 civilians, 27.4 male and 7.7 female employees took their own lives. In percentage, this means that from all suicides collected, 78% were committed by men and around 22% by women. In summary, the data show a sobering number of male suicides in various fields of employment (Centers for Disease Control and Prevention, 2020).

Additionally, the WHO states that every year, approximately 720,000 people die by suicide, and especially among 15- to 29-year-olds, it is the third leading cause of death. The reasons can be multifaceted and stem from cultural, social, environmental, biological, and psychological factors (World Health Organization, 2024).

**Figure 4**

*Suicide Rates Around the World*




*Note. (Statista, 2024).*

Data released on Statista on suicide in the OECD (Organization for Economic Cooperation and Development)[7] countries show the global distributions of suicides by gender. While there are clear differences across countries in the general percentage by gender, the global trend clearly shows that men are more likely to die by suicide (Statista, 2024).

Although men surpass women in deaths related to suicide, it is crucial to mention that, on average, more women commit suicidal attempts, as stated by Vijayakumar (2015), stressing the importance of understanding gender related vulnerabilities to stressors. Women-specific strategies should be implemented in suicide prevention programmes (Vijayakumar, 2015).

On an organizational level, Germain (2013) and Greiner and Arensman (2022) hint at the organization's roles and risks regarding work-related suicide. Milner and King (2019), Windsor-Shellard and Gunnell (2019), and Zimmerman et al. (2023) hint at potential occupational risks. Lastly, Straiton et al. (2012) as well as Coleman (2015) hint at the role of gender roles and perception of traditional masculinity in suicidal ideation.

[7] The OECD has 38 Member countries around the world, from North America and South America to Europe and Asia-Pacific (OECD, n.d.)

Within her research, Germain (2013) emphasizes the need for employers and human resource management teams to develop an understanding of factors associated with suicidal tendencies in times where work can become a "life-threatening stressor" (p. 148). Occupational accident is the legal term for work-related suicides, which, according to the author, is a superficial recognition. Germain (2013) points out that organizations have a physiological and psychological duty of care towards their employees, and human resource management is obligated to create policies to prevent and minimize work-related suicides, as well as crisis management systems for employees who are on the brink of committing a suicidal attempt. The author's paper aims to give HR professionals insights into the underrepresented field of work-related suicide and prevention based on US governmental reports. Germain (2013) also points out that psychological factors can tremendously impact an employee's productivity at work, resulting in economic losses for the organization, where, for instance, establishing Employment Assistance programmes to provide employees with assistance in times of crisis could reduce such risks (Germain, 2013).

Within her research, the author was able to identify a general profile of a suicide victim (see Table 3) (Germain, 2013, p. 154).

**Table 12**

*Profile of Occupational Suicide Victims in the USA*

**Table II.**
Profile of occupational suicide victims in the USA

| Descriptors | Comments |
|---|---|
| Gender | Overwhelming majority of males |
| Race | Overwhelmingly non-Hispanic white |
| Age | Mostly between the age of 35 and 44 (between 1995-2002) and 45 and 54 (2003-2010). Also high risk for white males over 55 |
| Occupation | On wage or salary. Most are in managerial and professional specialty occupations in the service industry (technical, sales, administrative support) and police and detectives in the public service |
| *Nature of fatal self-inflicted injury* | |
| | Most resulted from gunshot wounds followed by asphyxiations, strangulations or suffocations (mostly by hanging) |

In addition, Greiner and Arensman (2022) conducted research that assessed the role of employment in suicidal behavior. The authors found that a poor psychosocial work environment increases the risks for employees, especially in combination with a lack of interventions for which adequate workplace interventions should be implemented (Greiner & Arensman, 2022).

Research on suicide in Australia by Milner and King (2019) investigated the influence of male-dominated occupations on suicide. The data show that male suicides appear to increase as the occupation becomes increasingly male-dominated. Additionally, the data reveal that suicides in men dramatically decrease in sectors dominated by women, while women's suicide rates further decrease in male-dominated employment sectors (See Tables 13 and 14) ( Milner & King, 2019, p. 29).

**Table 13**

*Suicide and Population Counts, with Age-Standardized Rates, by the Occupational Gender Ratio*

**Table 3: Effect measure modification by gender, results from negative binomial model, the relationship between employment in a male-dominated occupation and risk of suicide, by gender, 2001 to 2015, Australia.**

| | Female-dominated RR (95% CI) | Gender neutral RR (95% CI) | Moderately male-dominated RR (95% CI) | Heavily male-dominated RR (95% CI) | Within gender strata, gender neutral RR (95% CI) | Within gender strata, moderately male-dominated RR (95% CI) | Within gender strata, heavily male-dominated RR (95% CI) |
|---|---|---|---|---|---|---|---|
| Gender | | | | | | | |
| Female | 1 | 0.78 (0.58–1.04) | 0.44 (0.30–0.64) | 0.13 (0.07–0.26) | 0.78 (0.58–1.04) | 0.44 (0.30–0.64) | 0.13 (0.06–0.26) |
| Male | 1.01 (0.77–1.32) | 2.11 (1.67–2.66) | 3.89 (3.11–4.86) | 7.57 (6.12–9.35) | 2.09 (1.65–2.64) | 3.86 (3.09, 4.81) | 7.50 (6.07–9.25) |
| RR for gender within strata of occupational gender ratio | 1.01 (0.77–1.32 | 2.72 (2.11–3.50) | 8.82 (6.25–12.44) | 57.99 (30.22–111.27) | | | |
| Interaction on the additive scale | | 1.33 (0.94–1.71) | 3.44 (2.76–4.12) | 7.43 (6.01–8.84) | | | |
| Interaction on multiplicative scale | | 2.69 (1.85–3.90) | 8.73 (5.63–13.55) | 57.43 (28.33–116.40) | | | |

*Notes:*

*Adjusted for SES (IRSD), age-group, and year; RR= relative risk; Lower and Upper 95% CI= Lower and upper confidence intervals at 95% Significance; Measure of interaction on additive scale: Synergy index (95%CI); Measure of interaction on multiplicative scale: Ratio of RRs (95%CI)*

The authors conclude that the gender composition of an occupation has differing effects on rates among men and women in the workforce. The study highlights the need for further research into how gendered work environments impact suicide, suggesting that societal norms, attitudes toward suicide, mental health, and help-seeking behaviours may play a role. They emphasize that suicide prevention efforts should consider the potential influence of gender dynamics in the workplace (Milner & King, 2019).

**Table 14**

*Effect Measure Modification by Gender, Results from Negative Binomial Model, The Relationship Between Employment in a Male-Dominated Occupation and Risk of Suicide by Gender 2001 to 2015, Australia*

**Table 1: Suicide and population counts, with age-standardised rates, by the occupational gender ratio, 2001 to 2015, Australia.**

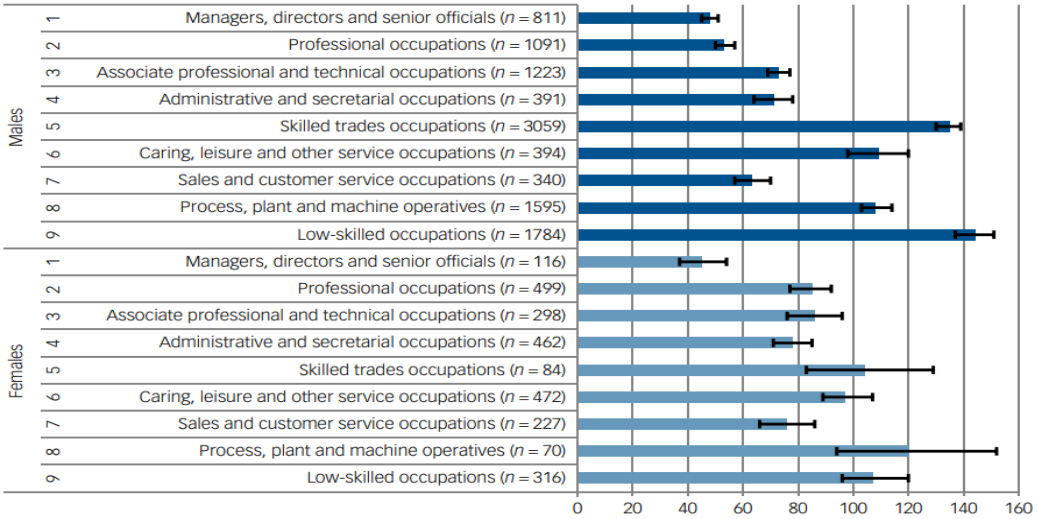
| Occupational gender ratio | Gender | Suicides | Pop (000) | ASR | Lower 95% CI | Upper 95% CI |
|---|---|---|---|---|---|---|
| Female-dominated (0.01 to 0.45 M to 1 F) | Females | 945 | 12,392 | 6.2 | 2.5 | 10 |
| Female-dominated (0.01 to 0.45 M to 1 F) | Males | 988 | 12,562 | 6.6 | 3.9 | 9.3 |
| Gender neutral (0.46 to 1.59 M to 1 F) | Females | 559 | 9,627 | 4.1 | 3.3 | 4.9 |
| Gender neutral (0.46 to 1.59 M to 1 F) | Males | 1,672 | 13,845 | 7.2 | 6.4 | 8 |
| Moderately male-dominated (1.59 to 4.15 M to 1 F) | Females | 326 | 5,613 | 4.2 | 3.1 | 5.3 |
| Moderately male-dominated (1.59 to 4.15 M to 1 F) | Males | 2,719 | 12,099 | 11.9 | 11.3 | 12.5 |
| Heavily male-dominated (4.16 and over M to 1 F) | Females | 87 | 1,338 | 4.2 | 2.9 | 5.5 |
| Heavily male-dominated (4.16 and over M to 1 F) | Males | 4,757 | 12,136 | 20.7 | 19.9 | 21.4 |

*Notes:*
*ASR= age standardised rates; Lower 95% CI= Lower confidence intervals at 95% significance; Upper 95% CI= Upper confidence intervals at 95% significance; M to F= Males to females*

Regarding occupation-specific risks for suicide in England, Windsor-Shellard and Gunnell (2019) investigated suicide mortality between 2011 and 2015. The collected data can be found in Figure 4.

**Table 15**

*Suicide Standardised Mortality Ratios for Major Occupation Groups*




*Note.* Error Bars Show 95% Confidence Intervals (Windsor-Shellard & Gunnell, 2019, p. 595)

The data show that men, especially in the fields of skilled trades occupations and low-skilled occupations, were found to have a higher risk. For women, the highest risks were found in the groups process, plant and machine operatives and low-skilled occupations. The authors found higher risks among male employees. However, the study could not

provide an explanation for the potential causality between employment and suicide (Windsor-Shellard & Gunnell, 2019).

Suicide data among high-skilled professionals (physicians, dentists, veterinarians, pharmacists, notaries, lawyers, tax advisors/public accountants) in Austria between 1986 and 2020 was assessed by Zimmerman et al. (2023). The study found that among male health professionals, only veterinarians had elevated suicide risks compared to the general male population. There was no trend found that suggests elevated risks of male suicides, which were naturally higher, among the reviewed male professionals. Women working as veterinarians, physicians, or pharmacists showed a significantly higher risk for suicide compared to the general female population. Hence, female health professionals were found to have higher suicide risks (Zimmerman et al., 2023).

Additionally, Straiton et al. (2012) conducted a study to understand the gender divide in which women conduct more suicidal attempts than men and men die more often from suicides with 321 Australian women, 201 men, and 11 people that did not disclose their gender with a mean age of 25.5 years. The authors used the participant's demographics, the Beck Depression Inventory, and their self-reported self-harm. Forty respondents were excluded due to a lag in their response's quality. Of the respondents, 28% reported lifetime self-harm, of which 36% reported self-harm within the last year. 76.5% reported self-harm on several occasions, and 30.9% were never treated after harming themselves. Cutting (64.7) and overdosing (25.7) were the most common methods reported by the respondents. In total, suicidal ideation was reported by 23.1% within the past two weeks, with 55% having harmed themselves at some point. The analysis showed that conventional feminine gender roles were not associated with self-harming but with aspects that relate to insecurity, while conventional male gender roles were negatively related to suicidal ideation. Finally, different aspects of conventional femininity or masculinity could contribute different implications on self-harm and suicidal ideation while viewing gender as a multivariate construct instead of a binary system, which could help to understand the gender suicidal behavior (Straiton et al., 2012).

Additionally, Coleman (2015) conducted a data analysis using data from a study that included 2,431 young adults between 18 and 19 years of age (1,580 women and 851 men) from the United States. The author defined traditional masculinity with theorized constructs such as domineering, distrustful, self-centred, and competitive while excluding, for

instance, a lack of empathy or concern for others as well as emotional constriction. The preliminary results showed that traditional masculinity could be an important risk regarding male suicides and potentially has a role in female suicidal behaviour (Coleman, 2015).

In conclusion, the statistics show that men have a higher risk of dying by suicide (World Health Organization, 2024; Statista, 2024), while women have a higher risk for suicidal ideation (Vijayakumar, 2015). There are hints that the risks for suicide differ between employment sectors and the homogeneity of the gender segregated workforce (Milner & King, 2019; Windsor-Shellard & Gunnell, 2019; Zimmerman et al., 2023). Lastly, for men, it was found that masculine norms can potentially increase the risks for men (Straiton et al., 2012; Coleman, 2015). It appears that, especially in male-dominated work environments, the vulnerability of men is higher, potentially linked to the perception of masculinity and the role of work within it, as was suggested in the previous chapters 3 to 4.

The following chapters will assess the vulnerability of men at work to further understand in more detail why males might be especially vulnerable, especially in the work context.

## 4.2 Mental Health Vulnerability of Men

**Table 16**

*Literature Review on Vulnerability of Men*

| Authors and Date | Title | Journal | Method | Citations | Key Findings |
|---|---|---|---|---|---|
| Afifi, 2007 | Gender differences in mental health | Singapore medical journal | Literature Review | 795 | Strategies to reduce mental health risks cannot be gender neutral. |
| Coleman, 2015 | Traditional masculinity as a risk factor for suicidal ideation: cross-sectional and prospective evidence from a study of young adults | Archives of Suicide Research | Quantitative Data Analysis | 132 | Preliminary studies suggest that traditional masculinity is positively associated with suicidal ideation. |
| Galdas, Cheater, & Marshall, 2005 | Men and health help-seeking behaviour: literature review | Journal of Advanced Nursing | Literature Review | 2357 | Traditional masculinity could cause a delay in help-seeking. |

| | | | | | |
|---|---|---|---|---|---|
| Lindquist, Beilin, & Knuiman, 1997 | Influence of lifestyle, coping, and job stress on blood pressure in men and women | Hypertension | Study | 284 | Related to job stress, women showed healthier coping strategies compared to men. |
| Möller-Leimkühler, 2003 | The gender gap in suicide and premature death or: why are men so vulnerable? | European Archives of Psychiatry and Clinical Neuroscience | Literature Review | 856 | Traditional masculinity is a risk factor for male mortality. |
| Ridge, Emslie, & White, 2011 | Understanding how men experience, express and cope with mental distress: where next? | Sociology of Health and Illness | Literature Review | 199 | Men may suffer differently; more research is needed. |
| Scambor et al., 2014 | Men and gender equality: Europea n insights | Men and masculinities | Literature Review | 230 | A caring masculinity could provide a healthy masculinity. |
| Straiton, M. L., Roen, K., & Hjelmeland, H. (2012) | Gender roles, suicidal ideation, and self-harming in young adults | Archives of Suicide Research | Study, Participants | 37 | Male gender roles were linked to suicidal ideation. |
| Wide, J., Mok, H., McKenna, M., & Ogrodniczuk, J. S. (2011). | Effect of gender socialization on the presentation of depression among men | *Canadian Family Physician* | Pilot study | 90 | Traditional perceptions of masculinity were linked to depression in males. |

The chapter on men at work has already highlighted potential work-related risks to physical and mental health. These factors will now be explored in a more general by research on the vulnerability of men.

While the strong emphasis on work for men was covered previously (within chapters 3.4 and 4), now the vulnerability, especially regarding male gender norms or traditional masculinity, will be reviewed.

The role of masculine and feminine roles based on suicide was studied by Straiton et al. (2012) and Coleman (2015). While according to further research, men have a tendency to develop poor coping strategies as well as decreased help-seeking behaviour, potentially rooted in their perception of masculinity and socialization, for distress that further harm their health as suggested by Möller-Leimkühler (2003), Lindquist et al. (1997), Afifi (2007), Ridge et al. (2011), Scambor et al., (2014), Galdas et al. (2005) as well as Wide et al. (2011).

Straiton et al. (2012) conducted a study to understand the gender divide in which women conduct more suicidal attempts than men and men die more often from suicides with 321 Australian women, 201 men, and 11 people that did not disclose their gender with a mean age of 25.5 years. The authors used the participant's demographics, the Beck Depression Inventory, and their self-reported self-harm. Forty respondents were excluded due to a lag in their response's quality. Of the respondents, 28% reported lifetime self-harm, of which 36% reported self-harm within the last year. 76.5% reported self-harm on several occasions, and 30.9% were never treated after harming themselves. Cutting (64.7) and overdosing (25.7) were the most common methods reported by the respondents. In total, suicidal ideation was reported by 23.1% within the past two weeks, with 55% having harmed themselves at some point. The analysis showed that conventional feminine gender roles were not associated with self-harming but with aspects that relate to insecurity, while conventional male gender roles were negatively related to suicidal ideation. Finally, different aspects of conventional femininity or masculinity could contribute different implications on self-harm and suicidal ideation while viewing gender as a multivariate construct instead of a binary system, which could help to understand the gender suicidal behavior (Straiton et al., 2012).

In relation, Coleman (2015) conducted a data analysis with data from a study that included 2,431 young adults between 18 and 19 years of age (1,580 women and 851 men) from the United States. The author defined traditional masculinity with theorized constructs such as domineering, distrustful, self-centred, and competitive while excluding for instance lack of empathy or concern for others as well as emotional constriction. The preliminary results showed that traditional masculinity could be an important risk regarding male suicides and potentially has a role in female suicidal behaviour (Coleman, 2015).

One indicator to assess vulnerability of men regarding mental health could be by understanding what coping strategies men tend to use, that are as will be shown often harmful posing further risks on an individual's physical health. Such strategies could be rooted back to how men were socialized (see Chapter 3.2), potentially leading to strategies that fit their stereotypical gender perception (see Möller- Leimkühler, 2003).

Möller-Leimkühler (2003) assessed the gender gap in premature death, focusing on coronary heart disease, accidents, drug abuse (including alcohol), and violence. The author observed rising trends in conduct disorders, offending behaviours, suicide, and depression,

for which young men seem particularly vulnerable. Viewing this epidemic through a gender lens provides an opportunity to analyse and utilize structural and cultural factors for explanatory purposes. Traditional masculinity is a key factor in male vulnerability, promoting maladaptive coping mechanisms such as emotional inexpressiveness, decreased help-seeking, and drug abuse. These factors increase psychological stress in men. The author proposes a gendered model for male vulnerability, concluding that suicide and premature deaths among men are most likely caused by a perceived reduction in social role opportunities, leading to social exclusion (Möller-Leimkühler, 2003).

Lindquist et al. (1997) designed a study to analyze the role of work-related stress on blood pressure and whether perceived stress at work is associated with affecting resting blood pressure or if indirect effects, such as coping and lifestyle, impact it. The researchers assessed 337 men and 317 women employed in a government tax office. The employees completed questionnaires to assess work-related stress, coping strategies, and lifestyle. Men were found to have higher blood pressure and used more risky coping strategies, such as drinking more alcohol and eating more unhealthy food, while also exercising more compared to women. Women used healthier coping strategies than men. In summary, the authors found that stress at work was not necessarily linked to higher blood pressure, while coping mechanisms were. The authors suggest addressing individual coping mechanisms and lifestyle-relevant strategies at work, as well as cardiovascular health (Lindquis et al., 1997).

In addition, Afifi (2007), too, argued that prevention for mental disorders cannot be gender-neutral, as the risks seem to be gender-specific. The paper discusses differences in gender regarding mental health and help-seeking behaviour, especially concerning depression, anxiety, eating disorders, schizophrenia, and domestic violence. The author points out that, for instance, while girls are more prone to depression and eating disorders, boys are more prone to risky behaviours and committing suicide. In adulthood, men are more likely to adopt harmful coping techniques such as substance abuse, whereas women have been socialized to express their distress. The author states that low status comes with risks to mental health, and women's possibilities are particularly undermined by society, such as through violations of women's rights (Afifi, 2007).

Additionally, Ridge et al. (2011) address the issue of the subjective internal meaning of mental illness for men. Men might express and process suffering differently compared to

women. The paper argues that social institutions, such as health institutions (doctors), may support and promote stoical masculinity, contrary to acknowledging distress in men. Individual and institutional pressures could contribute to the invisibility of distress in men. This potentially leads to men struggling to find words, open up publicly, self-manage, and seek help for their issues. Finally, the authors state that directly comparing men's and women's responses might not be the best method to understand stress and coping due to the underlying social constructions of gender that could distort results (Ridge et al., 2011).

Help-seeking behavior in men has also been further researched by Galdas et al. (2005), who reviewed the research literature on men's health help-seeking behavior. Studies previously found that men seek less professional help regarding psychological and physiological health issues, which further increases risks to their health. Studies were also found to inadequately assess men's help-seeking behaviour; however, a tendency of men to delay help-seeking was found. Among White middle-class men, the traditional masculine role might explain this delay (Galdas et al., 2005).

Another study assessing health risks for men was conducted by Scambor et al. (2014). The research examined gender equality for men in education, paid labour, care work, domestic work, health, gender-based violence, and men's participation in gender equality policy. The authors found that men's shorter lifespan is linked to dangerous and risky behaviours, such as drug consumption, which are related to the socialization of boys and men. The emergence of a caring masculinity, coupled with the education and independence of women, could positively shape society towards gender equality (Scambor et al., 2014).

Assessing male depression risks might further be difficult due to inadequate measurement tools, as Wide et al. (2011) tested in a pilot study that involved 97 Canadian males from the age of 19 and older on the role of masculine norms on the depression symptoms of men. The author used a depression scale for men and assessed it in relation to conformity for masculine roles. The authors found that conformist with masculine norms was found to be significantly linked to male depression screenings but could not be detected in typical depression screenings. Further, males did not disclose suicidal ideation to their physicians. In summary, male depression screenings might capture gender specific risks compared to standardized tests. The lag of disclosure could lead to serious cases of ideation remaining undetected and untreated. Hence, understanding male-specific symptoms and assessment tools is necessary to detect depression risks in males (Wide et al., 2011).

In summary, Traditional views on masculinity could be related to suicide (Straiton et al., 2012; Coleman, 2015) as well as to poor coping strategies that potentially lead to further health risks (Möller-Leimkühler, 2003). Poor coping strategies and the associated health risks for males were especially assessed by Lindquist et al. (1997) and Afifi (2007), who also point toward the potential impact socialization could have on developing coping techniques. Those techniques potentially stem from the inability of men to express their suffering accordingly (Ridge et al., 2011), while help-seeking is often delayed amongst men (Galdas et al., 2005). Lastly, the shorter lifespan of men could also potentially be linked to the behaviors learned through socialization (Scambor et al., 2014), while masculine norms could be linked to depression in males, which seems to require gender specific screenings (Wide et al., 2011).

In Chapter 3, it was pointed out that socialization could potentially lead to gender segregation in the occupational sectors of men and women. While careers are potentially valued differently, it seems that men especially relate their employment to norms associated with masculinity. This chapter showed that men, through socialization, might face different risks for mental health. Vulnerability and mental health solutions for men and women can not necessarily be gender neutral, with women, for instance, depicting higher risks of work-related stress, while men lastly show higher risks due to their coping strategies.

One potential solution to face gender norms on an organizational level and to promote employees' (mental) health, where needs are heard and valued, could be through the implementation of psychologically safe environments in which employee concerns, whether they be regarding organizational concerns or mental health or gender related, are heard. The concept will be introduced in the next chapter while its potential implementation relating to gender specific risks will be explored in the discussion (Chapter 5).

## 4.3 Psychological Safety and Mental Health

**Table 17**

*Literature Review on Psychological Safety and Mental Health*

| Authors and Date | Title | Journal | Method | Citations | Key Findings |
|---|---|---|---|---|---|
| Carmeli & Gittell, 2009 | High-quality relationships, psychological safety, and learning from failures in work organizations | Journal of Organizational Behavior | Study Review | 1307 | Organizations can foster relationships that promote learning from failures. |
| Carmeli, Reiter-Palmon, & Ziv, 2010 | Inclusive leadership and employee involvement in creative tasks in the workplace: The mediating role of psychological safety | Creativity Research Journal | Study | 1644 | Inclusive leadership can promote psychological safety, which can be linked to employees' involvement in creative work. |
| Cohen & Sherman, 2014 | The psychology of change: Self-affirmation and social psychological intervention | Annual review of psychology | Literature Review | 1640 | Change can be a stressor for individuals, while self-affirmation can protect an individual from the negative outcomes of prolonged stress. |
| Edmondson, 2003 | Psychological Safety, Trust, and Learning in Organizations: A Group-level Lens | Book Chapter: in Trust and distrust in organizations: Dilemmas and approaches | Mixed Methods | 1599 | Organizations and employees can benefit from a work environment that is perceived as psychologically safe. Meeting, employees can for instance speak up without fear. |
| Lee, Choi, and Kim, 2018 | Does gender diversity help teams constructively manage status conflict? An evolutionary perspective of status conflict, team psychological safety, and team creativity | Organizational Behavior and Human Decision Processes | Field Study | 182 | Status conflict in teams can damage the team creativity and cause a psychologically unsafe work environment. Gender diverse teams are better at overcoming status conflicts. |
| McEwen, 1998 | Protective and da maging effects of stress mediators | New England journal of medicine | Literature Review | 9251 | Stress at work can be mediated through fostering individual resilience and healthy coping mechanisms. |

| | | | | | |
|---|---|---|---|---|---|
| McEwen, 2012 | Brain on stress: how the social environment gets under the skin | Proceedings of the National Academy of Sciences | Literature Review | 1579 | The brain and body adaptability to stress is an important skill in the modern world. The brain is the main organ to perceive stress and early experiences can shape the way the brain develops. |
| Newman, Donohue, & Eva, 2017 | Psychological safety: A systematic review of the literature | Human resource managemen t review | Literature Review | 1516 | Psychologically safe work environments could benefit cognition for learning, for which leaders play a crucial role. |
| Rafferty & Griffin, 2006 | Perceptions of organizational change: a stress and coping perspective. | Journal of applied psychology | Cross-sectional Study | 1200 | Individuals who face change can be impacted not only their job-satisfaction but further their turnover rate. Change needs to be guided and communicated to counter potential negative impacts. |
| Sherf, Parke & Isaakyan, 2018 | Distinguishing voice and silence at work: Unique relationships with perceived impact, psychological safety, and burnout | Academy of Managemen t Journal | Meta-Analysis | 311 | Work environments can foster voice or silence amongst employees regarding concerns. Psychological safety increases the chance of employees speaking up. |

This section delves into research that explores the topic of psychological safety in the work environment, highlighting its significance for both individuals and organizations. Readers will gain insights into how relationships, mental health, creativity, burnout, and diversity can all be positively impacted and sustainably fostered within a psychologically safe environment. The section introduces the concept of psychological safety by explaining the core functions of individual perception, leading to the potential application of psychological safety within teams and organizations.

Through socialization, men might struggle to find healthy coping strategies. Male coping puts a threat to their life expectancy since harmful coping can further fuel physical and mental risks, potentially leading to a vicious circle for which institutions and interventions are needed (chapters 3.4 to 4.2). Psychologically safe environments could help to mitigate mental and physical health risks for men and women. How psychological safety might mitigate these and other risks will be elaborated on by first explaining the idea behind the approach and then addressing some research findings for psychologically safe environments. In the final discussion (Chapter 5, especially 5.3), concrete steps for organizations will be elaborated on how psychologically safe environments can be

implemented to address gender specific mental health needs.

According to Edmondson (2003), psychological safety describes a climate or environment in which people are comfortable being (and expressing) themselves. Psychological safety is centrally tied to learning behaviour, the ability to be vulnerable and trusting the individuals in one's environment, while trust lowers transaction costs and reduces the need to monitor behaviour. As stated by Edmondson (2003), trust and psychological safety are intertwined with interpersonal experiences. She further describes that psychological safety is depicted as an "individuals' perceptions about the consequences of interpersonal risks in their work environment. It consists of taken-for-granted beliefs about how others will respond when one puts oneself on the line, such as by asking a question, seeking feedback, reporting a mistake, or proposing a new idea" (Edmondson, 2003, p.4). Additionally, she argues that individuals strategically calculate the potential consequences of their behaviour. Edmondson's research further revealed that psychological safety fosters engagement at work, while it can also boost productivity by reducing the need for individuals to engage in self-protective behaviours. Within teams, psychological safety can create an environment where employees feel comfortable admitting mistakes without fear of reprisal. Edmondson emphasizes the significance of vulnerability, which can lead to increased confidence and decreased behavioral uncertainty. To clarify the distinction between trust and psychological safety, Edmondson explains that while trust focuses on one's perception of others, psychological safety centres on the self, hence how individuals feel within a particular environment (Edmondson, 2003).

Psychological safety, therefore, is a tool that promotes individual and organizational health by providing a safe environment for employees to perform their best work. The following sections will complement the idea of Edmondson by addressing leadership (Carmeli & Gittell, 2009; Carmeli et al., 2010; Newman et al., 2017), mental health (Sherf et al., 2018), gender roles (Lee et al., 2018) and dealing with organizational changes (Cohen & Sherman, 2014; Rafferty & Griffin, 2006), while the neuropsychological mechanics behind stress and change will be introduced by McEwen (1998, 2012). The subsequent research will delve deeper into the extent to which psychological safety plays a crucial role in a well-functioning work environment.

Leadership, as previously stated, plays a crucial role in establishing psychologically safe work environments. The following research further elucidates how this dynamic operates.

In their paper, Carmeli and Gittell (2009) assess the connection between the quality of relationships and psychological safety within the context of learning in organizations, with the overall goal of contributing to the understanding of organizations' desire to optimize processes and performance. The authors hypothesize that high-quality relationships, defined by shared goals, shared knowledge, and mutual respect, improve overall psychological safety and, consequently, the capacity for learning from failures within the organization. Their study tested the hypothesis that psychological safety positively affects learning from failures (Carmeli & Gittell, 2009).

Additionally, Carmeli et al. (2010) studied the impact of inclusive leadership, defined by openness, accessibility, and availability of the leader, on employee creativity in the workplace. With a sample of 150 employees, the authors investigated the relationship between psychological safety, involvement in creativity, and inclusive leadership. The authors found that inclusive leadership was positively associated with psychological safety, which in turn increased employees' involvement in creative work, thus positively impacting creativity. Creativity is especially crucial in complex, knowledge-intensive, and uncertain environments, requiring leadership that promotes creative thinking (Carmeli et al., 2010).

On the other hand, Newman et al. (2017) reviewed the literature on psychological safety. The authors found evidence that good and supportive leadership, positive relationships with colleagues and team members, and leveraging supportive organizational practices from managers improve psychological safety in organizations. They argue that psychological safety allows individuals to reach a cognitive state that promotes learning and enhances work outcomes (Newman et al., 2017).

Regarding mental health, psychological safety might further reduce the risk of burnout and, consequently, improve organizational stability, particularly when it comes to investing in employees. Sherf et al. (2018) dedicated their paper to the relationship between psychological safety and burnout in the context of organizations by observing whether they have an environment in which employees can raise concerns or are systematically silenced. The authors found that "perceived impact (psychological safety) relates more strongly to voice (silence) than to silence (voice)" (Sherf et al., 2018, p. 114). They also found that "silence has a significantly stronger association with burnout compared to voice" (Sherf et al., 2018, p. 114). The findings were replicated in a second study, an interval-contingent panel study lasting six months, to support a discussion on the differences between silence

and voice. The authors distinguish voice as the employees' ability to speak up, for example, regarding organizational concerns that could help leaders and organizations address important issues. Silence, on the other hand, refers to employees consciously withholding opinions, which could cause teams to miss relevant information and potentially threaten organizational or team performance. Both silence and voice are seen as opposing behavioural choices. However, choice or consciousness, as seen from the field of neuropsychology, is not as static as perhaps depicted in this paper. For instance, strong emotions like fear, through the amygdala's response, could undermine the frontal cortex, leading to an unconscious choice (Sherf et al., 2018).

Societally imposed gender roles can negatively impact team dynamics, but psychological safety could act as a mediator, as discovered by the following authors. For example, Lee et al. (2018) discussed the role of gender diversity and psychological safety in status conflict and creativity. Specifically, the authors developed a theory to understand when conflict arises and the underlying reasons for it. The authors found that status conflict hinders team creativity through its negative impact on the team's psychological safety, thus creating an unsafe environment. However, the negative effects of such conflicts seemed to be diminished in gender-diverse teams. Gender-diverse teams, therefore, appear to positively impact the psychological safety of the work environment (Lee et al., 2018).

Dealing with change, for instance, within organizations, is another important aspect of organizations. Cohen and Sherman (2014) assessed the relationship of individuals to change in their environment. They noted that events related to an individual's self-perception can cause distress, while positive feedback and affirmation can improve an individual's reaction and learning process. Their research specifically focuses on individuals' tendencies towards self-affirmation. According to the authors, individuals have a natural inclination to protect their self-image and guard against events that threaten this image. The authors state that:

> Affirmations help people to maintain a narrative of personal adequacy in threatening circumstances. They thus buffer individuals against threats and reduce defensive responses to it. The effect is catalytic. Forces that would otherwise be suppressed by psychological threat—such as cognitive aptitude or persuasive evidence—are unleashed. (Cohen & Sherman, 2014, p. 340)

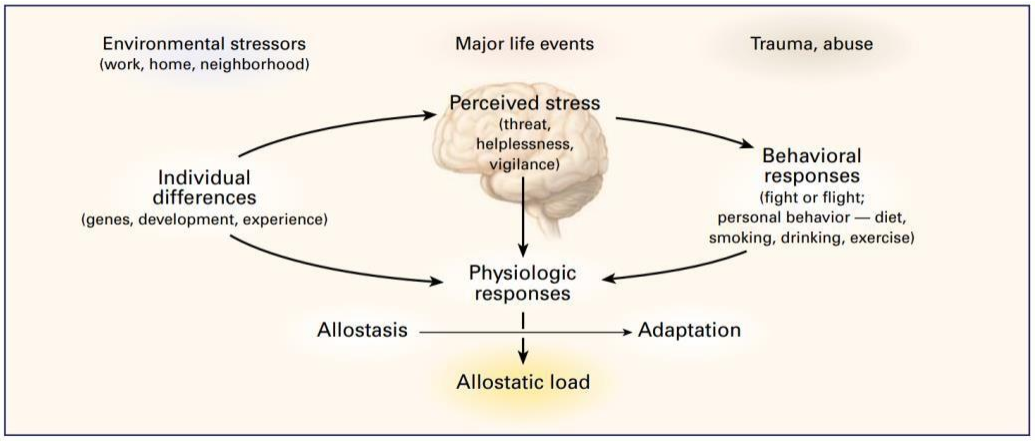
Stress plays a significant role in dealing with change. To achieve an improvement in individual affirmation, the perceived threat of change must be reduced (Cohen & Sherman, 2014).

The role of distress and coping mechanisms was assessed by Rafferty and Griffin (2006). The authors emphasized the impact of organizational change on individuals' well-being, as well as employees' subjective perception and experience of the change process. For their quantitative study, the authors utilized a large organization within the Australian public sector. The authors employed an organizational change survey and an attitude survey after the change process was implemented. The authors found indications that planning for change had a positive impact on reducing uncertainty, while frequent changes seemed to increase uncertainty. Moreover, the results suggest that uncertainty leads to lower satisfaction and increased turnover rates among employees. It was also found that poor planning could directly impact employee turnover intentions. Further, the frequency of change was indirectly related to satisfaction and turnover. In addition, the authors emphasize the significance of an individual's perception of the change process, highlighting its impact on job satisfaction. Planning the change was shown to positively affect satisfaction and decrease turnover intentions by reducing psychological uncertainty. The authors suggest that change can potentially lead employees to re-evaluate their position within the organization, and therefore, leaders should understand and support individual employee needs, which can help reduce uncertainty and foster a positive change experience (Rafferty & Griffin, 2006).

An explanation for how change impacts a person’s stress response was given by McEwen (1998 and 2012) who assessed the brain-body stress response within his articles.

**Figure 5**

*The Stress Response and Development of Allostatic Load*




*Note.* (McEwen, 1998, p.172)

The author found that the way stress is perceived depends on an individual's experiences, genetic makeup, and behaviours. When the brain interprets an experience as stressful, it triggers physiological and behavioural responses aimed at achieving allostasis and adaptation. However, prolonged exposure to stress mediators affecting the nervous, endocrine, and immune systems can result in an accumulation of allostatic load. This overexposure can negatively impact multiple organ systems, ultimately contributing to the development of disease. McEwen emphasizes that the brain is the central organ in perceiving and responding to stressors, subsequently transferring this arousal to the body (McEwen, 2012).

As the findings of Van der Kolk (2014) and Perry and Szalavitz (2006) suggest (see appendix), the brain, particularly the amygdala (emotions) and the brainstem (heart rate), regulates bodily reactions to arousal. However, this response does not remain solely physiological, as it is interconnected with cognitive function. Consequently, unhealthy arousal or distress can impair cognitive abilities such as logical thinking and creativity.

This chapter explored the importance of psychological safety in the workplace, emphasizing its impact on individual and organizational well-being. As defined by Edmondson et al. (2003), psychological safety refers to an environment where individuals feel comfortable expressing themselves without fear of negative consequences. It fosters learning, vulnerability, and trust, which are essential for enhancing team performance and

engagement. The chapter also highlighted how psychological safety can reduce stress, increase creativity, and mitigate burnout, as discussed by several scholars, including Carmeli and Gittell (2009) and Carmeli et al. (2010). Furthermore, it examined the role of inclusive leadership in promoting psychological safety, with findings suggesting that inclusive leadership positively impacts creativity and engagement. The chapter also delved into how psychological safety can alleviate stress related to organizational changes and societal gender roles, as shown in studies by Lee et al. (2018). Finally, the chapter integrated research on the brain's response to stress and its influence on cognitive function, citing McEwen's (1998) work on stress and allostatic load, as well as other studies on emotional regulation and cognitive performance.

In the final discussion follows the synthesis of the previous chapters. The findings will be clustered and potential measures for organizations will be outlined.

# 5 Discussion - Clustering and Applying the Research to the Organizational Context

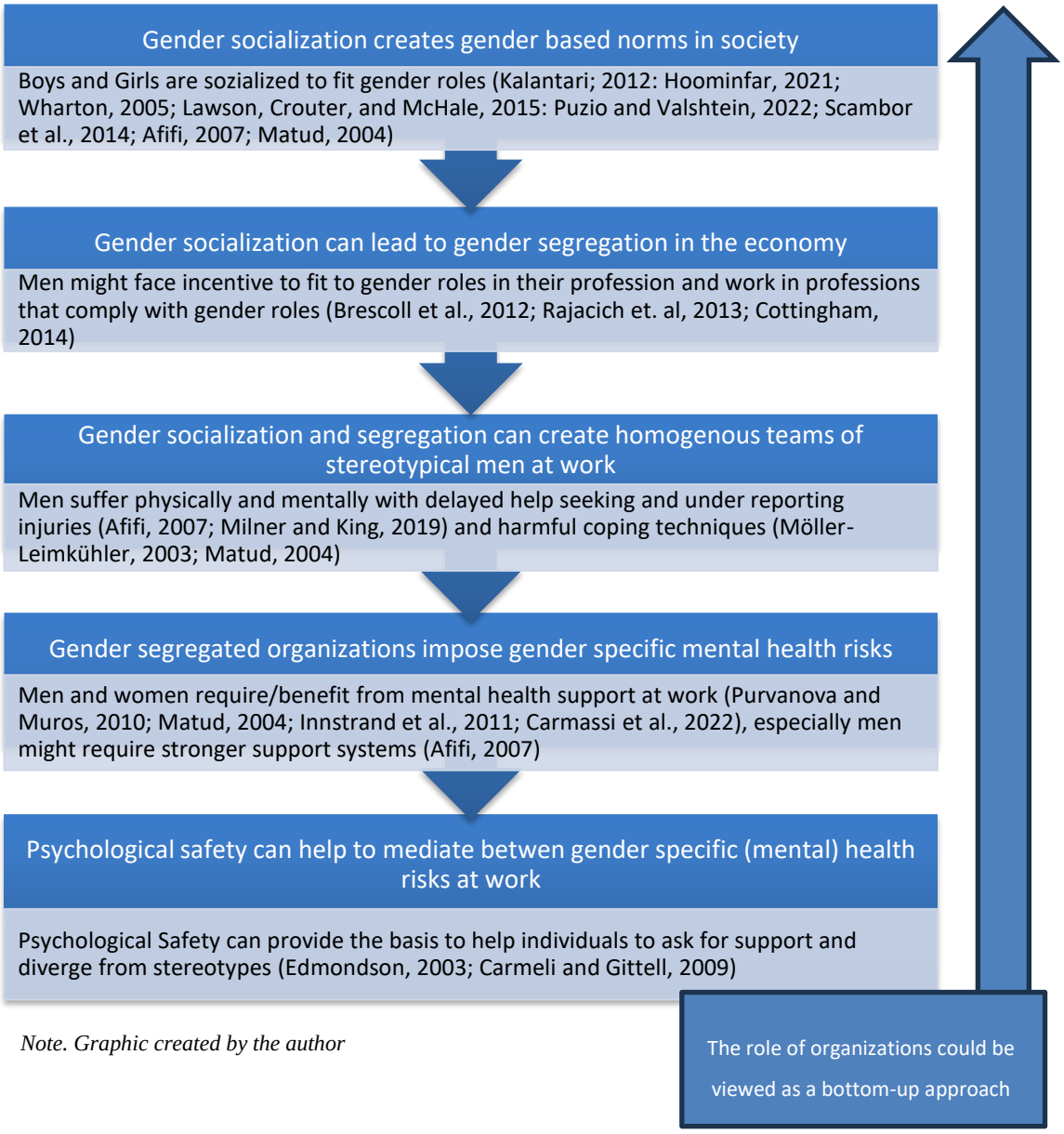
This integrative literature review explores the interplay of gender roles, mental health, and expressions of masculinity within the workplace. By synthesizing data from diverse sources, it highlights the significant challenges individuals, particularly men, face due to gender disparities, psychological pressures, and societal expectations. The findings can be grouped into several key categories based on the academic fields reviewed. The clusters were created based on the relationship between the researched topics, with the goal of clarifying the narrative on how gender segregation in socialization and the economy can create gender specific risks through promoting, for instance, a traditional masculinity.

This leads to an exploration of the role organizations play in supporting gender-related topics and measures that could promote a work environment designed to reduce the negative impacts of early socialization and segregation. The clusters also help to organize the findings of research that relate to different aspects, as often the research itself is a combination of topics that might otherwise be lost in the argumentation. For instance, research relating to gender segregation in employment may lead to specific gender-related risks. Hence, combining the arguments into clusters helps clarify the relationships between the topics.

The discussion will synthesize the research and first address the role of gender socialization and its potential impact on economic gender segregation through the development of gender norms that were learned in childhood and can manifest in adulthood through career choice. Then, the role of traditional masculinity in mental health for men will be assessed while further elaborating gender specific health risks. Afterwards, organizational measures will be summarized that could promote psychologically safe work environments that also address gender related risks. Lastly, the role of public institutions, such as policymakers, in addressing gender socialization will be summarized.

**Figure 6**

*The Relationship Between Socialization, Gender Segregation in the Economy and the Male Work Environment*




*Note. Graphic created by the author*

## 5.1 Gendered Socialization and the Gender Segregated Economy

The first segment of the final discussion addresses the role of socialization and its potential impact on career choice by narrating gender stereotypical norms through different agents from childhood to adulthood. This could potentially contribute to gender segregation within the economy through adults following gender-typical career paths.

Socialization impacts the perception of what is expected from women and men in society, potentially leading boys and girls to seek gender-stereotypical roles, which contributes to segregation in employment (Kalantari, 2012; Hoominfar, 2021; Wharton, 2005; Lawson et al., 2015; Puzio & Valshtein, 2022). As shown, stereotypes are extreme attributions that can lead to false predictions (Bordalo et al., 2016) and social penalties (Heilman, 2012), which could result in self-fulfilling prophecies (Hilton & Von Hippel, 1996). Conventions aim to address the problem of stereotypes (OHCHR, 1979; OHCHR, n.d.), seeking to reduce the risks of negative stereotyping of women and men based on their gender or other attributes.

In early childhood, children are taught gendered norms and skills that are perceived as useful in adulthood (Kalantari, 2012). Different agents, such as schools and family, impact a child's socialization (Hoominfar, 2021). With this socialization, a feminization of work-relevant skills gets through, which encourages boys to potentially seek employment in adulthood that contradicts those skills (Puzio & Valshtein, 2022). Additionally, it could be found that the time parents spend with their children can impact their later probability seeking out gender-conforming careers where time spend with the father decreased the chance for conformity in employment while it increased the chance for boys to seek later careers that are gender-conforming suggesting that mothers and fathers can contribute to their children's career preferences (Lawson et al., 2015). Gender stereotypical descriptions were further found in children's literature (Wharton, 2005). If the environment of a child is in such a tremendous way surrounding it with stereotypical gender roles and descriptions of what is expected of one's gender, diverging from the perceived norm could be very difficult.

Boys and girls face different stereotypes as children, for instance, by being pushed toward

activities based on their gender, as exemplified through sports and dancing (Jakubowska & Byczkowska-Owczarek, 2018). Educating boys and girls in this way, regarding what is expected of men and women (Heilman, 2012), might push them toward certain segregated types of education and employment (Kalantari, 2012). When, for instance, boys are socialized toward emotional inexpressiveness or externalization (Affleck et al., 2018), later career paths can be negatively impacted, such as men failing to seek assistance or support (Stergiou-Kita et al., 2015; Galdas et al., 2005). Furthermore, girls were found to be more prone to depression and eating disorders, while boys are more likely to engage in risky behaviours and suicide (Afifi, 2007). This could lead boys to grow into men who adopt harmful coping strategies in adult life (Möller- Leimkühler, 2003; Afifi, 2007; Lindquist et al, 1997) and girls to grow into women that continue to be vulnerable and suffer from distress, depression and suicidal ideation (Peterson, 2004; Vijayakumar, 2015). Girls and boys, hence, go through socialization, which can cause potentially gender specific risks later in adulthood.

When boys grow into men accepting traditional or stereotypical views of masculinity for instance by being pulled away from feminized skills (Puzio & Valshtein, 2022) as the societal norm, this perception can increase health risks in adulthood (Scambor et al., 2014) and further lead to segregation in education, with girls pursuing careers involving work with other people and boys focusing on STEM fields (Kalantari, 2012; Milner & King, 2019; Das & Kotikula, 2019), while countries that empower women still experience segregation (Blackburn et al., 2002), with women being twice as likely to work unpaid family labour (Morrison et al., 2007).

There are signs that women are slowly entering STEM fields (Fatourou et al., 2019) and other traditionally male-dominated occupations (Adams, 2010), which could be linked to the global effort to achieve gender equality outlined by the SDGs (UN, n.d.) and supported through national financing (Fatourou et al., 2019). Lastly, societies' agents, such as institutions and schools (Hoominfar, 2021), as well as socialization through gender roles at home (Lawson et al., 2015), can impact the career choices of girls and boys.

Perhaps gender socialization and gender-based norms (Kalantari, 2012) that potentially lead to gender segregation in different sectors of the economy could also explain why women seem to report higher job satisfaction (Perugini & Vladisavljević, 2019) and place more value on intrinsic factors at work (Peterson, 2004; Linz & Semykina, 2013; Andrade

et al., 2019).

To summarize, boys and girls grow up in a society that seems to dictate what is expected of children based on their gender. Such norms potentially impact a child's expectation of her or his future career choices. Such narratives are potentially hard to overcome in adulthood, predefining career paths and leading to the need for gendered interventions to counteract the potentially emerging economic segregation and further leading to the potential health risks for men associated with socialization as the following cluster aims to point out.

## 5.2 Mental Health and the Role of Work for Men

The traditional perception or norms in a society of what a man or woman should be, as well as gender segregation in the economy, highlight how the work realities of men and women differ in various ways. As this section aims to clarify, men may face potential risks due to the persistent stagnation of the male gender role in society.

With women entering the labour market, men might lose their sense of purpose as the role of the sole provider changes (Jackson, 2000). The loss of this social role could further contribute to male suicides, such as through social exclusion (Möller-Leimkühler, 2003). A caring masculinity could positively impact the role of men (Scambor et al., 2014). As women enter male-dominated sectors (Adams, 2010), there may emerge a need for men's roles in the economy to become more diversified, potentially including more men in female-dominated sectors of employment by overcoming a potential dislike of feminized skills through socialization (Puzio & Valshtein, 2022) and despite the perceived loss of masculinity associated with care work (Brescoll et al., 2012; Rajacich et al., 2013).

As noted, men tend to value extrinsic factors as motivators at work more highly compared to women (Peterson, 2004; Linz & Semykina, 2013; Andrade et al., 2019), however male job satisfaction seems to adjust to the job satisfaction of women with time (Pita & Torregrosa 2021). However, the shift toward intrinsically motivated work may be hindered by traditional views and stereotypes of masculinity. For instance, work is highly valued and associated with masculinity by men themselves (Wang et al., 2008; Affleck et al., 2018; Oliffe et al., 2013), which seems linked to depression (Oliffe et al., 2013) and suicide in men (Windsor-Shellard & Gunnell, 2019). From this lens, if work with people seems an

alternative, as exemplified by the case of men in nursing (Rajacich et al., 2013) where satisfaction from the profession was derived by male subjects.

Researchers have pointed to gender differences in stress management, with women found to suffer more from distress (Schmaus et al., 2008; Innstrand et al., 2011; Carmassi et al., 2022; Purvanova & Muros, 2010), while employment is also linked with depression in males especially in male-dominated environments (Roche et al., 2016) while having children can increase the risk of anxiety and burnout for women (Plaisier et al., 2008). Unemployment or part-time employment appears to be mentally more difficult for men to manage (Wang et al., 2008; Plaisier et al., 2008).

Men generally tend to use harmful coping strategies (Möller- Leimkühler, 2003; Lindquist et al., 1997) that could stem from socialization (Kalantari, 2012; Matud, 2004; Scambor et al., 2014) that harm their mental and physical health, as was shown (for instance by Möller-Leimkühler, 2003). The negative consequences of stereotypical masculinity are critical for men's health and further elaborate the difficulties men face in expressing distress, which, in turn, leads to lower help-seeking behaviors, reaching its peak potentially in suicidal tendencies (Möller-Leimkühler, 2003; Ridge et al., 2011). In terms of coping, men are more likely to depersonalize from work (Purvanova & Muros, 2010) and suppress emotions, whereas women are more emotion-focused in their coping strategies (Matud, 2004). These coping strategies, as well as the delay in help-seeking, may explain why depression in men often goes unrecognized and untreated, a situation exacerbated in male-dominated industries (Roche et al., 2016), where men potentially express their suffering differently (Ridge et al., 2011).

Traditional views on masculinity can lead to underreporting injuries, depersonalization, poor coping strategies, and delayed help-seeking (Möller-Leimkühler, 2003; Galdas et al., 2005; Lindquist et al., 1997; Tucker et al., 2014). Dangerous coping strategies, such as alcohol consumption, are linked to increased male mortality (Möller-Leimkühler, 2003; Lindquist et al., 1997). Traditional views on masculinity can be learned from an early age (Tucker et al., 2014) while at work they may promote the acceptance of work-related risks (Stergiou-Kita et al., 2015) and injuries while reducing the acceptance of support (Stergiou-Kita et al., 2015), as well as fostering a toxic work environment through a masculinity contest (Berdahl et al., 2018). In general, men's injuries are highly related to their industry of occupation (Berecki-Gisolf et al., 2015), so it is important to establish work

environments where men can report injuries and risks without fearing social punishment.

The socialization of boys and the work reality of men might be linked to the sobering statistics of male suicides (Coleman, 2015), further amplified by dangerous traditional perceptions of gender roles.

The risk of suicide is globally higher for men (Centers for Disease Control and Prevention, 2020; World Health Organization, 2022; Milner & King, 2019), a trend that persists across male-dominated sectors (Milner & King, 2019; Windsor-Shellard & Gunnell, 2019). One could suggest a relationship between suicide and work for men (Milner & King, 2019; Windsor-Shellard & Gunnell, 2019) through the potentially strong emphasis of work in traditional masculinity (Wang et al., 2008; Affleck et al., 2018; Oliffe et al., 2013) as well as male gender roles (Straiton et al., 2012), while traditional masculinity is potentially also related with suicidal ideation (Coleman, 2015) and depression in males (Wide et al., 2011). Traditional masculinity can also be linked to delayed help-seeking (Galdas et al., 2005) or the failure to express their suffering (Ridge et al., 2011; Galdas et al., 2005). While suicide is more common in men, there is also the risk of occupational suicides for women in certain occupations (Zimmerman et al., 2023). Finally, unemployment increases the risk of suicide (Shepherd & Barraclough, 1980). Despite work-related risks, suicides remain common among the working population, and since work-related suicides may increase (Greiner & Arensman, 2022), it is important for organizations, HR professionals, and managers to understand gender-related issues in coping, emotional expression, and mental health.

In conclusion, work seems to be highly important for men in a society that potentially socializes them towards the role of the breadwinner (Oliffe et al., 2013). Traditional masculinity, however, aside from potentially fostering inequality in the economy, comes with various health threats for men, especially in male-dominated occupations, for which various authors have proposed measures to improve organizations with respect to these topics, which will be clustered in the following section. The risks for women, especially regarding mental health, were also pointed out. Hence, strategies to improve the risks of mental health and traditional masculinity could also benefit women by decreasing, for instance, internal conflicts such as masculinity contests (Berdahl et al., 2018) that were found to harm organizations and employees.

## 5.3 Organizational Risks and Strategies

Organizations and employees may suffer from the manifestation of (male) gender norms and stereotypes in the workplace that were potentially rooted in socialization, however psychological safety can create an environment where organizations and employees build resilience to overcome and potentially change these negative stereotypes by crafting an environment that supports employees towards a healthier perception of masculinity through an environment in which (health) concerns are known by organizations, managers and can safely be raised by employees.

While work can protect mental health, it can also pose a threat to employees' well-being (Barnay, 2016; Eskildsen et al., 2015). The negative consequences of poor mental health for organizations can be seen in potentially reduced productivity (World Health Organization, 2024), which can potentially only be countered by individual resilience (Twamley et al., 2004; McEwen, 2012). Additional negative impacts include diminished cognitive abilities, which can negatively affect stress management (Steckler, 2005) and general performance (Hoffman & al'Absi, 2004). Employers should address gendered mental health issues in their organizations, in line with their duty of care toward employees' mental and physical health (Germain, 2013).

By fostering a psychologically safe environment where concerns can be openly shared and addressed (Edmondson, 2003; Sherf et al., 2018), employers can ensure that both physical and mental health risks are acknowledged and managed. Research shows that psychologically safe workplaces can improve employees' mental health (Skogstad et al., 2013). For instance, organizations and managers can discuss and address the conflicts that arise through a potential masculinity contest (Berdahl et al., 2018) within their organizations and provide contact persons, caring leaders, or employees (Edmondson, 2003; Sherf et al., 2018) to whom they can turn in case of problems with internal conflicts.

Regarding organizational changes, organizations and managers can ensure consistency in employees' work environments through clear communication, especially during times of change (Cohen & Sherman, 2014). This can be achieved by affirming and addressing employees' needs. Surveys assessing employees' emotional experiences regarding organizational changes can provide valuable insights into the internal processes from an employee's perspective. Well-planned changes can reduce the risk of employee turnover

(Rafferty & Griffin, 2006), and giving and receiving feedback during organizational processes can ensure that employee needs are met. Hence, organizational changes should be advertised and communicated clearly, for instance, by specifically addressing the reasons behind the changes that will be implemented. Additionally, low control, low decision and high demand environments can harm employees' mental health (Siegrist, 2008; Melchior et al., 2007; Bonde, 2008) as well as long working hours (Barnay, 2016). Organizations should ensure that work environments can be adjusted, for instance, by implementing flexible hours (Carmeli & Gittell, 2009) or increasing employees' participation in defining their roles (Perugini & Vladisavljević, 2019).

While it is important to recognize that women and men tend to value different aspects of work (Peterson, 2004), stereotypical recruitment (Bertogg et al., 2020; Cottingham, 2014) can lead to a homogenous group of employees, limiting diversity and innovation. Diversifying teams (Lee et al., 2018) could have tremendous benefits for male and female employees.

Work environments that are highly male dominated, could for instance transition towards more gender diversity and implementing processes for instance in recruiting that ensure a more diverse workforce, which seems to have the potential of protecting men from the risks of male-dominated environments (Milner & King, 2019; Roche et al., 2016), since research shows that men experience lower suicide rates when working in diversified environments (Milner & King, 2019), while mental health risks in male-dominated sectors are higher (Roche et al., 2016) suggesting the importance of team diversification. Negative status conflicts could also be mitigated by promoting psychological safety, and diversifying teams can strengthen this safety, reducing negative aspects of gendered role perceptions, as was found by Lee et al. (2018). Additionally, organizations can advertise positive and caring narratives for men within their organizations (Cottingham, 2014) and even implement such in their recruiting processes in, for instance, female-dominated sectors such as nursing.

Since men tend to have lower intrinsic motivation for work (Peterson, 2004; Linz & Semykina, 2013), organizations can aim to establish intrinsic motivators for men by emphasizing the purpose of their work while advertising positive characteristics of men could, in relation, further strengthen intrinsic motivators. While crafting intrinsic motivators, perhaps especially in sectors that are historically female dominated such as nursing or teaching (Das & Kotikula, 2019) could increase the share of men attracted to the

sector with increasing extrinsic motivators such as wages through a non-gender-based wage system (Kalantari. 2012) as a potential extrinsic motivator pulling more men in the sector while this additionally could support women that often work in employment with lower wages (Perugini & Vladisavljević, 2019).

Additionally, organizations and HR managers should establish policies to protect employees. These policies could include Employee Assistance Programs (EAPs) to assist employees during challenging times and provide alternative coping strategies or lifestyle interventions (Lindquist et al., 1997; Germain, 2013) along with a system to voice ideas and concerns (Sherf et al., 2018), since having points of contact for employees in crisis can help reduce the lack of awareness regarding employee well-being, both physically and mentally while providing support to overcome the potential crisis through adequately trained counsellors. Such policies are especially important for acknowledging and addressing how major life events, like divorce, can increase the risk of suicide, particularly among men (Affleck et al., 2018). Additionally, since men often struggle to express their suffering verbally (Ridge et al., 2011), providing a safe environment with caring management for confidential conversations, such as through EAPs, can help ensure their well-being, as well as training and social support networks could (Skogstad et al., 2013). For instance, it was suggested that positive relationships at work can further foster a feeling of psychological safety (Carmeli & Gittell, 2009).

Especially in male-dominated industries, which leave men vulnerable (Roche et al., 2016), organizations should be aware of gender-related risks such as poor coping mechanisms and delayed help-seeking behaviors (Möller-Leimkühler, 2003; Galdas et al., 2005; Lindquist et al., 1997; Tucker et al., 2014). By fostering an open dialogue about men's health, organizations can better address these risks. One could suggest that organizations inform employees on gender specific risks such as male status conflicts, coping, and injury underreporting while providing and implementing contact persons or suggesting alternative and healthy coping strategies (Matud, 2004; Lindquist et al., 1997).

Masculinity contests or status conflicts that negatively affect the work environment (Berdahl et al., 2018), such as provoking unnecessary competitions, can further perpetuate these issues. Stereotypical gender views may also contribute to discrimination in recruitment (Bertogg et al., 2020), reinforcing negative perceptions of male stereotypes or traditional masculinity within organizations. Another important consideration for

organizations is the underreporting and acceptance of injuries and risks (Stergiou-Kita et al., 2015), which can lead to a rise in work-related accidents. Organizations should encourage employees to report risks and establish an environment where risk-reporting is not met with rejection (Edmondson, 2003; Sherf et al., 2018), while employees should be taught that accepting injuries (Stergiou-Kita et al., 2015; Tucker et al., 2014) has nothing to do with masculinity.

It is essential to create a culture that encourages men to seek and accept support (Stergiou-Kita et al., 2015), perhaps by educating men about how stereotypical masculinity increases the risks to their mental and physical health. Employers, HR professionals, and managers should ensure that employees have a degree of control over their work. Low control is associated with increased stress and other negative impacts on mental health (Wang et al., 2008; Siegrist, 2008; Bonde, 2008; Melchior et al., 2007). Organizations can support employees' independence by allowing them to pursue tasks with a focus on outcomes rather than strictly monitoring processes. Men seem to struggle often to find the right words to express concerns (Ridge et al., 2011; Galdas et al., 2005). Hence, organizations should aim for strategies with which men are comfortable, perhaps by implementing systems that provide support while protecting anonymity.

Another important step is to educate HR professionals and managers about gender-specific risks related to employment and mental health (Germain, 2013) and biases in the recruitment process. Organizations should create a culture of positive relationships, shared goals, and knowledge (Carmeli & Gittell, 2009; Newman et al., 2017). In a culture with positive relationships, employees are more likely to open up, helping to mitigate the negative cognitive effects of stress and improve learning (Newman et al., 2017).

Training employees in leadership is another crucial aspect (Carmeli et al., 2010). Leaders should be approachable and ensure that employees do not fear social punishment. Particularly in non-stereotypical employment roles, men should be supported by normalizing their presence in female-dominated occupations (Cottingham, 2014), which could reduce risks related to status conflicts.

Lastly organizations should also address and value family life, as it protects employees' mental health (Wang et al., 2008). Strategies could include offering flexible working hours or fostering a culture where employees are not socially punished for leaving early, as

opposed to idealizing overtime.

In summary, work can protect or harm mental health, as shown, for instance, by Barnay (2016). Aspects for which organizations can implement the suggested measures deal with gendered physical and mental health risks (see for instance Skogstad et al., 2013), dealing with change and providing a sense of control (see for instance Rafferty & Griffin, 2006 and Siegrist, 2008), addressing homogenous teams through adequate recruitment (see for instance Bertogg et al., 2020) to hire employees for more diverse teams (Roche et al., 2016) to counteract mental health risks associated with homogenous teams and status conflict (see for instance Lee et al. 2018). Leveraging or changing gendered motivators could additionally promote more diversity in the workforce (see for instance Kalantari, 2012), Providing programmes such as EAPs (Germain, 2013) could further reduce risks associated with poor coping strategies by providing a point of contact for employees in times of crisis (Lindquist et al., 1997). Addressing gender related risks (Möller-Leimkühler, 2003) that potentially lead to such masculinity contests (Berdahl et al., 2018) may further increase organizational awareness and encourage employees to seek support (Stergiou-Kita et al., 2015). Fostering healthy relationships (Newman et al., 2017), training leadership (Carmeli et al., 2010) and valuing family life (Wang et al., 2008) might further provide a path towards organizations that are aware of gender related risks on employees health.

Aside from organizations, other social factors and public institutions can play a significant role in shifting the paradigm of gender segregation in socialization and the economy and, hence, decrease the negative impacts of stereotyping.

## 5.4 The Role of Societies' Institutions in Changing Male Norms

In addition to challenging gender stereotypical socialization, there are broader societal factors that need to be addressed.

Gender equality requires the active cooperation of both men and women (Farré, 2012). While measures have been taken to liberate women from traditional roles (Fatourou et al., 2019), similar initiatives should also support men in defining themselves beyond traditional

stereotypes. Men should be more engaged in unpaid work, which is often led by women (Morrison et al., 2007). However, as long as men continue to overvalue extrinsic factors (Linz & Semykina, 2013; Andrade et al., 2019) such as wages regarding work, closing this gap may remain difficult. Institutions and organizations can play a crucial role in encouraging men to share in unpaid work responsibilities.

To achieve gender equality, national governments, health institutions, civil society, academia, and corporations must adopt specific agendas addressing equality comprehensively (Gupta et al., 2019). This includes addressing gender-specific risks, such as mental health issues, through gender-segregated data. Understanding these differences can help establish targeted approaches to support men and women. Health providers and society should actively address men's mental health needs (Affleck et al., 2018).

It is also important to challenge the stigma around men working in traditionally female-dominated fields, such as nursing. Working in nursing does not equate to losing status (Brescoll et al., 2012; Simpson, 2004). Organizations and society should work to eradicate the misconception that men in nursing are less masculine than their peers in STEM fields or that they lose status due to their work. There are potential benefits to male nurses, such as showing less compassion fatigue (Carmassi et al., 2022), and overcoming these stereotypical views could lead to even more benefits.

Social institutions often support or promote stoic masculinity, which can suppress the acknowledgment of distress in men (Ridge et al., 2011). Therefore, institutions such as schools, universities, employers, and other societal structures should engage in open debates about gender-related topics to help diversify gendered ideals (Oliffe et al., 2013). It is important to ensure that boys are aware of a broad range of career options beyond STEM fields and understand that there are many ways to contribute to society. Social institutions could also incentivize employers to hire men for roles that fall outside traditional gender norms, helping to shift stereotypes and broaden the concept of masculinity (Ridge et al., 2011).

The perceived status loss among male nurses and the sense of lost masculinity in nursing (Brescoll et al., 2012; Simpson, 2004) potentially highlights how deeply ingrained traditional male norms are in the economy and employees. However, it is becoming clearer that professions such as nursing can provide profound satisfaction to employees (Rajacich

et al., 2013). Men working in roles that challenge traditional norms enrich the societal role of men and should be supported as they contribute to the emergence of a new caring masculinity (Scambor et al., 2014).

Furthermore, it is high time to increase the role and share of men in unpaid labour (Morrison et al., 2007). Since care duties are often part especially in family life, which was found an important aspect in individual resilience (Wang et al., 2008), this could not only heighten the sense of men for the importance of unpaid care work, but also further helps men to seek different roles in society and redefine masculinity sustainably, improve gender equality and decrease the burden on women in care while supporting them in their economic independence. Organizations should encourage men especially to take on more responsibility in their family life, for instance, through flexible working hours (Carmeli & Gittell, 2009). Protecting the employees' engagement with family and private life (Affleck et al., 2018; Matud, 2004; Plaisier et al., 2008) could protect their mental health. Legally embedding parental leave for new fathers could not only ensure the family engagement of men but also further help to decrease the pressure of care work on their spouses.

To address the gender specific needs in a potential mental health crisis, it is crucial to redefine traditional masculinity by emphasizing positive traits such as empathy and care. This involves normalizing male participation in caregiving roles and other non-stereotypical sectors, where intrinsic motivations can drive fulfilment and societal contributions. Programs aimed at breaking down these barriers could help bridge the gender divide in the workforce, creating healthier and more equitable work environments. Ultimately, the thesis posits that gender socialization encourages values in boys and girls that impact their later careers in adulthood. Gender specific risks on mental health can emerge, while organizations with their duty of care can position themselves with psychologically safe environments between socialization and gendered health risks to protect their employees and with them their contributions to the organization.

Through targeted interventions, education, and policy reforms, organizations can create workplaces where all employees, regardless of gender, are empowered to thrive under the safety net that safe and open conversations provide. These changes can not only enhance individual well-being and productivity but also contribute to broader societal shifts toward equality and diversity.

# 6 Conclusion

This integrative literature review has examined the multifaceted dynamics surrounding gender roles, mental health, and workplace structures, providing insights into their interconnectedness and impact on individuals and organizations. The research questions guiding this inquiry have highlighted key explanations from management, organizational studies, and sociology concerning gender segregation, its roots, consequences, and their overlap across different research domains.

Researchers converge on several explanations for gender inequality, particularly its economic impacts and mental health implications. Economic structures often reinforce gender roles, undervaluing work traditionally associated with women (World Economic Forum, 2023). This disparity mirrors mental health challenges, as women may face increased stress navigating these undervalued roles (Plaisier et al., 2008). The cultural valuation of roles perpetuates a cycle where women tackle both professional undervaluation and societal pressures, adversely impacting their mental health. This devaluation also traps men in roles that align with gender norms (Puzio & Valshtein, 2022)

The roots of gender inequality in organizations often stem from entrenched societal biases and structural barriers (Heilman, 2012). These biases manifest as underrepresentation in leadership, gender pay gaps, and limited career advancement for women, particularly in male-dominated fields (Fatourou et al., 2019), where the consequences could be profound for organizations that might suffer from a lack of diversity, restricting creativity and innovation.

Key factors explaining gender inequality include organizational policies and practices, such as inflexible work schedules and biased recruitment (Carmeli & Gittell, 2009). Culturally, gender stereotypes and societal norms define roles, limiting potential and enforcing a rigid division of labor. These factors affect individual experiences and organizational effectiveness by maintaining homogeneity within leadership (Lee et al., 2018).

Masculinity norms or traditional masculinity affect men's mental health, with emotional suppression and reluctance to seek help highlighting the need for organizational cultures fostering openness and vulnerability (Möller-Leimkühler, 2003; Galdas et al., 2005). Psychological safety helps both men and women overcome gender-role pressures and

emotional barriers, promoting resilience (Newman et al., 2017).

Finally, this thesis elucidates the profound impact of gender stereotyping in social, economic, and organizational contexts and its broader societal repercussions. Addressing these challenges requires an integrated approach combining systemic policy changes and cultural transformation. Only through concerted efforts that challenge traditional norms and foster inclusive environments can equality and organizational success be realized. Developing such environments promotes individual health and job satisfaction and leverages the full spectrum of talents within the workforce, benefiting both organizations and society.

Society needs to understand that gendered socialization might lead to a gender segregated economy, an economy that leads to homogenised organizations and teams in which potentially harmful behaviours emerge, which in reverse potentially foster negative gender stereotypical behaviours. The work environment of men might provide a case in which the negative outcomes become especially visible with poor coping, injury underreporting, or other internal masculinity contests that not only are dangerous to the individuals but also further harm organizations and all their employees. A caring perspective of masculinity and a broadening of the role of men in society can decrease the negative outcomes of such behaviours, improve the work reality of men, and further promote healthy masculine norms that work together with feminism towards an equal society.

Perhaps it all boils down to the individual's courage to diverge from the imposed segregation.

## 6.1 Final Thoughts

Psychological safety, as discussed earlier, is crucial for individuals and organizations alike. It fosters positive learning and engagement, not complacency. Effectively managing transformation within organizations and fostering confidence in change may become a significant challenge in the dynamic future. Productive psychological safety safeguards mental health by empowering employees to express concerns to caring managers.

To strengthen equal opportunities, men's societal roles should be expanded. They should be actively recruited and encouraged to pursue alternative employment paths, especially in the HEAL sector, based on leveraging intrinsic motivations that fit masculine norms or by actively using extrinsic rewards such as wages to pull men towards such sectors. Conversely, the overrepresentation of women in the HEAL sector might suggest they are also trapped within female-gendered work. Change can cause distress, which can be mediated through resilience fostered by psychological safety measures in organizations, individuals, and societies.

Work-related injuries and suicide among men raise important questions beyond this thesis's scope:

- Will women face similar issues regarding work-related injuries in the future through their integration into male-dominated industries?
- Will women's suicide rates increase (or decrease) as they enter male-dominated professions?
- Will women's mental health suffer from inclusion in male-dominated employment?
- Do female suicide deaths or deaths of despair rise with equality?

Observing statistical data on equality rankings within the EU and gender-segregated suicide data might reveal correlations. If causation is implied, female suicides could increase without environmental change, potentially posing a mental health threat.[8]

[8] This correlation analysis was experimentally conducted by the author using European data

Understanding gender segregation is crucial to understanding the gendered health risks across sectors and occupations, ultimately reflecting topics relevant to both men and women. Data can provide information to understand how the economy is changing, equally or unequally. However, institutional change can be slow, and organizations might be able to provide incentives faster than legislative institutions.

Gender socialization might explain the origin of gendered mental health risks in adults, as was suggested by various authors, impacting aspects such as coping strategies or help-seeking in adulthood. Understanding how children are socialized, hence pulled or pushed into certain careers and environments later in life, might hold the potential for how work environments should be designed to reduce risks for individuals and the organizations that hire them.

## 6.2 The Contribution of this Research

This research synthesizes findings from gender studies, business, economics, and mental health to highlight the interconnectedness of these fields in understanding the role of men in the segregated economy. It suggests that gender socialization contributes to economic gender segregation, which, in turn, poses physical and mental health risks for men. To reduce the gender divide in the economy, institutionalized change is necessary, spanning from social institutions to organizations. The role of men in the economy, particularly concerning their mental and physical health, remains underexplored. However, it can be hypothesized that broadening men's roles in society, similar to the evolving roles of women, could contribute to greater gender equality and mitigate the negative aspects of male-dominated work environments.

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on gendered suicide and gender equality. Preliminary findings suggest that gender equality may correlate with an increase in women's suicide rates. However, a comprehensive data analysis of this correlation is beyond the scope of this thesis.

## 6.3 The Limitations of the Research

The research faced potential limitations. Firstly, not all research papers could be included despite their potential relevance due to the inclusion criteria, leaving out potentially relevant research that, due to low citations or inaccessibility, could not be included. This could lead to leaving out potentially important studies. Hence, future research could follow a more explorative approach when combining the reviewed topics by setting, for instance, lower boundaries for inclusion criteria. This leads to the next limitation. Due to the topic of the research, the vast overview over different research areas from economics, management, gender studies and psychology, which by themselves produced a large amount of research, the sample size could have been too large to comprehend, for which important studies could have been overseen. Future research could aim to limit the reviewed material through stronger inclusion criteria. Additionally, the provided data stems from different nations, and while the findings are very often aligned, there is a risk of a cultural bias in the datasets. While the data stem from industrialized nations, there still might be great cultural differences, especially regarding gender norms, which could reduce the general applicability of this thesis. Future research should aim for data that reduces specific cultural biases for instance by including only data from countries that are geographically close to the country where the researcher aims to apply his or her methodology.

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# Appendix

## Neuropsychology, Cognition and Stress Response

**Table 18**

*Overview on Neuropsychology*

| Authors and Date | Title | Journal | Citations | Key Findings |
|---|---|---|---|---|
| Barrett, 2017 | How emotions are made: The secret life of the brain | Book Publication | 3398 | Emotions can be constructed by society. Once one can name a feeling, it is easier to perceive |
| Perry and Szalavitz, 2006 | The boy who was raised as a dog: And other stories from a child psychiatrist's notebook--What traumatized children can teach us about loss, love, and healing | Book Publication | 1347 | The brain is structured in a specific way, leading from primary survival functions such as the heartbeat to complex cognition that is found in the outer layers of the cortex. |
| Van der Kolk, 2014 | The body keeps the score: Brain, mind, and body in the healing of trauma | Book Publication | 9204 | Trauma is a whole-body experience. |

This section aims to highlight some of the basic findings within the field of neuropsychology that influence an individual's perception of their environment and their reactions to it, hence emphasizing the importance of psychological safety. Understanding how the brain works is fundamental to the concept of psychological safety (as noted, for instance, by Sherf et al., 2018). Basic human reactions, such as those to distress, are embedded in the brain's physiology, which highlights the importance of organizations supporting employees' mental health to ensure a healthy work environment.

Readers may gain a basic understanding of how the brain functions to distress by referring to works by Barrett (2017), Van der Kolk (2014), and Perry and Szalovitz (2006) (see also Goleman and Griese, 1996). A challenging aspect remains our limited understanding of the origins of emotions and how they potentially emerge through society's constructionist approach, as argued by Barrett (2017).

Despite its complexity, the brain can be organized into four key systems, each with distinct impacts on an individual's perception and reaction to given circumstances. The bottom-up approach showcases the underlying and old brain, the brainstem, leading up to the cortical brain, which has developed more recently throughout human evolution. In general, as we

move up the brain, we progress from basic bodily functions to emotional reactivity and finally to the concrete and creative thinking processes of an individual. These interconnected aspects all influence an individual's perception and reaction (Perry & Szalavitz, 2006).

From an evolutionary perspective, the brain developed its reaction mechanisms to ensure human survival (evolutionary psychology). In modern society, however, the nature of fears has drastically changed. While our ancestors might have feared wild animals, their brains needed to develop rapid reactions to protect themselves, responding faster than their conscious thought processes. This was crucial for fleeing from a perceived threat without actively thinking about the action itself and without any delay in response. In modern societies, the causes of fear have largely shifted. While wild animals are no longer a significant threat to an individual's health, social factors now play a substantial role in provoking fears and fear-based reactions within individuals' brains. The brain regions most interesting to the discussion are the amygdala (part of the limbic system) and the frontal cortex, as individual reactions largely stem from these areas. The amygdala is a reactive part of the brain responsible for unconscious reactions in situations perceived as threatening, such as social discrediting, imposter syndrome, insults, or other forms of threats. An example of how the amygdala functions is when a snake appears in front of an individual. The body reacts before the individual is consciously aware of their actions. This is the same effect that occurs when someone quickly withdraws their hand from a potentially hot stove. The brain has memorized the burning pain associated with such an experience. These examples illustrate how emotional impacts can trigger unconscious reactions. In contrast, or rather in coexistence, the frontal cortex operates, which is associated with logical thinking and conscious reactions. The brainstem can be viewed as the regulatory system that maintains bodily functions, controlling blood pressure, heart rate, and breathing. These three mentioned regions, the brainstem, the limbic system, and the prefrontal cortex, can influence one another. For instance, if the limbic system senses a threat, the brainstem elevates the heart rate, while the prefrontal cortex can calm these reactions down through conscious exercises like breathing. Ultimately, the threat might not be as significant as the limbic system initially assumes. Another crucial aspect to is the sensory shortcut from sensory input (sound, sight, smell, etc.) to the amygdala. As previously described, the amygdala can trigger an unconscious reaction to a situation that is essentially just sensory input navigated through the thalamus. After the sensory input is

assessed by the amygdala, the hippocampus, and the cingulate, the prefrontal cortex is engaged. In other words, every experience is assessed more quickly by the amygdala for a threat response before the frontal cortex is activated. Therefore, tense situations always initially provoke an emotional or unconscious reaction (amygdala), followed by an active/logical or conscious reaction (prefrontal cortex) (Van der Kolk, 2014). Difficult situations at work or within organizations, therefore, always evoke an emotional reaction, which is then, hopefully, followed by a prefrontal cortex assessment.

However, as Barrett (2017) argues in her book *How Emotions Are Made*, the traditional view of localizing emotions to specific areas in the brain is not necessarily as simple. Patient cases have demonstrated that damage to certain brain regions traditionally viewed as responsible for a specific emotion or other regulation does not always produce the expected outcome. Moreover, the author argues that emotions themselves are, by their origin, social constructs with a diverse set of behavioural outputs. Thus, an emotion is defined by the culture in which it has been crafted. Additionally, the author argues that humans do not express emotions based on stereotypical depictions of how such an expression is supposed to look. Individuals and cultures, therefore, have unique emotional experiences that cannot be standardized. In relation, the author argues that a misunderstanding of the individual nature of emotions can carry profound social costs in misinterpreting emotions based on stereotypes. This can lead not only to social costs but also to threats to an individual's health (Barrett, 2017).

In summary, this chapter discussed the role of neuropsychology in shaping an individual's perception and emotional responses, particularly in the context of psychological safety within organizational environments. It highlights the brain's evolutionary structure, including the brainstem, amygdala, and prefrontal cortex, which governs emotional and cognitive responses to stress. Perry and Szalavitz (2006) argue that the brain's basic design dictates how individuals react to perceived threats, illustrating the impact of evolutionary development on emotional regulation. Additionally, Van der Kolk (2014) emphasizes that emotional reactions to stressors are automatic, with the amygdala triggering rapid responses before the prefrontal cortex can engage in logical thinking. This dual response system is essential for understanding how people react to social pressures and threats, particularly in workplaces. Furthermore, Barrett (2017) challenges the traditional view that emotions are biologically determined, proposing instead that emotions are socially constructed, influenced by culture and personal experiences. This perspective refutes the idea that

emotions are localized to specific brain regions.

Together, these perspectives underscore the importance of understanding neuropsychological processes in fostering psychological safety and resilience in the workplace, where organizations, through their duty of care, are responsible for protecting their employees' mental health. While not all reactions are conscious, organizations could establish mechanisms that help employees deal with difficult emotions, where psychological safety might be the foundation that promotes an environment in which employees' concerns are safely addressed.