

WORKERS WITH MENTAL DISORDERS IN A DIGITALIZED WORLD: CHALLENGES, OPPORTUNITIES AND NEEDS

Mental health includes our emotional, psychological, and social well-being. People with diagnosed and undiagnosed mental disorders cope differently with work, technology/digitalization and relational demands bringing opportunities when tailored working needs are met. Needs relate to tailored approaches, trust-building and acknowledgement reflected by adequate regulatory and organisational policies supporting the expression of individual needs.

1. Mental disorders and digitalization: some definitions

The present contribution aims to address how workers with mental disorders face, interact, and relate with digitalization in the workplace. This is a complex and understudied field, with multiple implications. People with mental disorders cope differently with work and relational demands. This difference may lead them to face specific challenges but also to provide novel views and approaches. In this contribution, we would like to underline the need for tailored approaches to employees with mental disorders interacting with digitalization, that will take into account their strengths and capacities and not only their vulnerabilities.

Before going further, we need to clarify what we consider as ‘mental disorder’ and what we mean by ‘digitalization’. In the next paragraphs, you can find some definitions.

1.1 Definitions: Mental disorders (MD)

Mental health includes our emotional, psychological, and social well-being. While, when speaking about ‘problems’ (that are mental health conditions) we can have mental disorders (that are mental illness) or ‘mild’ conditions such as psycho-emotional maladjustment, psychological stress/distress (for example, in the working environment, burnout or work-related stress), etc. The focus of the present contribution is on mental disorders which always imply distress or impairment in important areas of functioning. According to the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM) 5th version (2013), a mental disorder (or mental illness or psychiatric disorder), is a syndrome that significantly affects one's individual thinking, feeling, mood, and behaviour. Mental disorders may be temporary, such as post-traumatic stress disorders, or long-lasting, such as personality disorders or schizophrenia. Despite people with some mental disorders may

present areas of good functioning and excellence, generally significant distress or challenges in the social or occupational activities or in the everyday functioning are reported after becoming aware. Table 1 lists the major and most common mental disorders in the adult population following the DSM-5 classification.

On the other side, expectable or culturally appropriate responses to common stressor, such as sadness or withdrawal after the death of a loved one or anxiety and distress after a change in job status/activity (e.g., job loss, job reassignment, job promotion) are not classified as mental disorders. Similarly, the psycho-emotional maladjustment that might be transitionally experienced by a person in the course of his/her life, such as existential crisis or psychological maladjustment after a stressful event/ condition are not considered as mental disorders.

Table 1. Major mental disorders in the adult population following the DSM-5 classification

Classification sections	Main/Principal disorders	Main characteristics
Neurodevelopmental disorders	Autism spectrum disorder Attention-Deficit/Hyperactivity Disorder (ADHD)	Individuals could manifest very different conditions with onset in the developmental period (but with effect also in the adulthood), inducing developmental deficits that produce impairments of personal, social, school or working functioning.
Schizophrenia Spectrum and Other Psychotic Disorders	Schizotypal (Personality) Disorder Delusional Disorder Brief Psychotic Disorder Schizophreniform Disorder Schizophrenia Schizoaffective Disorder	Individuals interpret reality abnormally. These disorders may result in some combination of hallucinations, delusions, disorganized thinking (and speaking), disorganized or abnormal motor behaviour, and negative symptoms (e.g., diminished emotional expression, reduced ability to experience pleasure, or decreased ability to initiate and persist in self-directed purposeful activities). They impair daily functioning and can be disabling; mostly of them are lifelong conditions.
Bipolar and Related Disorders	Bipolar I Disorder Bipolar II Disorder Cyclothymic Disorder	Individuals experience extreme mood swings that include emotional highs (mania or hypomania) and lows (depression). Manic/hypomanic episode(s) is a period of abnormally and persistently elevated, expansive, or irritable mood and abnormally and persistently increased goal-directed activity or energy, characterized by grandiosity, decreased need for sleep, being more talkative than usual or distractibility).
Depressive Disorders	Disruptive Mood Dysregulation Disorder Major Depressive Disorder, Single and Recurrent Episodes Persistent Depressive Disorder (Dysthymia)	Individuals experience persistent feelings of sadness, loss of interest, and impaired thinking and behaviours. They can experience a variety of emotional (e.g., irritability or emotional outburst), physical, or cognitive (e.g., trouble in thinking, concentrating, making decisions) problems. Individuals may feel as if life is not worth living.

Anxiety Disorders	Specific Phobia Social Anxiety Disorder (Social Phobia) Panic Disorder Panic Attack (Specifier) Agoraphobia Generalized Anxiety Disorder	Individuals with different anxiety disorders share features of excessive fear and anxiety and related behavioural disturbances. While fear is the emotional response to real or perceived imminent threat, anxiety is the anticipation of future threats. Anxiety and fear interfere with daily activities, are difficult to control, and are out of proportion to the actual danger. Anxiety disorders differ each other in the thing or situation that induce fear, anxiety, or avoidance, and the associated cognitive ideation. Anxiety disorders are commonly associated with physical health complaints
Obsessive-Compulsive and Related Disorders	Obsessive-Compulsive Disorder Body Dysmorphic Disorder	Individuals show a pattern of recurrent and persistent thoughts, impulses or images (obsessions), experienced as unwanted and inappropriate (ego-dystonic) that lead them to do repetitive behaviours (e.g., hand washing, ordering checking) or mental acts (e.g., praying, counting, repeating words silently) (compulsions). These obsessions and compulsions interfere with daily activities and cause significant anxiety or distress.
Trauma- and Stressor-Related Disorders	Posttraumatic Stress Disorder Acute Stress Disorder Adjustment Disorders	Individuals may experience intrusive memories, avoidance, negative changes in thinking and mood, and changes in physical and emotional reactions. These disorders are triggered or precipitated by events or circumstances that overwhelm the individual and that often threaten or cause serious injury, neglect, or death
Feeding and Eating Disorders	Avoidant/Restrictive Food Intake Disorder Anorexia Nervosa Bulimia Nervosa Binge-Eating Disorder	Individuals show persistent eating behaviours that negatively impact their health, emotions and ability to function in important life areas. Individuals may focus too much on one's own weight, body shape and food, adopting dangerous eating behaviours.
Substance-Related and Addictive Disorders		These disorders affect a person's brain and behaviour and lead to an inability to control the use of a legal or illegal drug or medication.

Personality Disorders		
Cluster A	Paranoid Personality Disorder Schizoid Personality Disorder Schizotypal Personality Disorder	Individuals show a rigid and unhealthy pattern of thinking, functioning and behaving, causing significant problems in relationships, social activities, work and school. Individuals may not realize they have a personality disorder because their way of thinking and behaving seems natural to them. Cluster A includes individuals with odd, eccentric thinking or behaviour characterized by social awkwardness and social withdrawal.
Cluster B	Antisocial Personality Disorder Borderline Personality Disorder Histrionic Personality Disorder Narcissistic Personality Disorder	Cluster B includes individuals with dramatic, overly emotional or unpredictable thinking or behaviour
Cluster C	Avoidant Personality Disorder Dependent Personality Disorder Obsessive-Compulsive Personality Disorder	Cluster C includes individuals with anxious, fearful thinking or behaviour

1.2 Definitions: Digitalized work

KEY MESSAGE: In the last decades, digitalization has affected extensive sectors of production and the workforce, and it has rendered virtually impossible to be part of the workforce without dealing with the digitalized world and its challenges.

Over the last thirty years, we have witnessed an extensive technological and digital development, which has affected almost every sector of production and has greatly altered the work landscape. Technology has become an integral part of how companies operate: from increasing profitability, to being competitive in a globalised world, to enhancing safety and health.

An EU-OSHA publication (2019) set out to pose the question “What does digitalization mean for occupational safety and health?”. The report described several digital technologies, the developments of which could create new challenges for OSH and its management in the immediate future, at a pace faster than ever before.

New digital technologies	Examples of application
Artificial intelligence (AI)	AI-augmented cobots, decisions tools
Advanced robotics	Exoskeletons to reduce muscular load
Big data	Monitoring and predictive analytics
Online platforms	Labor-supply matching
The internet of things	Industrial automation
Wearable mobile devices and connectivity	Monitoring and alertness of safe and healthy working environments

The digitalized world, however, does not only entail smart working or cutting-edge technologies, in fact digitalization has become part of processes in nearly every sector. From the use of computers in every desk job, to the more modern applications in precision industry and even precision farming and agriculture, sectors usually considered more traditional and less digitalized.

For modern workers, this means that it has become impossible to be part of the workforce without being entangled in some form of technology and its applications. The workforce is thus destined to become increasingly diverse and dispersed, with a higher likelihood of income and job instability, and required to acquire new digital skills to remain employable (Charles et al., 2022).

The European Commission (2022) keeps track of the digital performance of member states in terms of digital competitiveness with the DESI (Digital Economy and Society Index). The latest results show Scandinavia and the Netherlands at the forefront within the EU, and that a great push in digitalization efforts was conducted during the COVID-19 pandemic. Nonetheless, many members are still struggling to close these gaps: only 54% of working age EU citizens have at least basic digital skills and only 55% of small and medium enterprises reached at least a basic level in the adoption of digital technologies.

1.3 The impact of COVID-19 pandemic on the phenomena

KEY MESSAGE: The COVID-19 pandemic had an important impact on the spread of digitalized work (especially telework) and on the increase of mental disorders.

The COVID-19 outbreak has made working from home (WFH) the new way of working for millions of employees in the EU and around the world. Due to the pandemic, many workers and employers had to switch, quite suddenly, to remote work often times without any

preparation. Early estimates from Eurofound (Ahrendt et al., 2020) suggested that due to the pandemic, approximately 50% of Europeans worked from home (at least partially) as compared with 12% prior to the emergency, and these numbers are approximately the same after the pandemic. It is interesting to note how WFH is not a new phenomenon and many European countries adopted WFH regularly before the pandemic. However, WFH it is now coming back in full swing also in countries less used to it, partially thanks to digitalization, new technologies, and pandemic needs.

In relation to mental disorders, a recent paper (Santomauro et al., 2021) quantifies the impact of the COVID-19 pandemic on the prevalence and burden of major depressive disorder and anxiety disorders globally in 2020, including studies from western Europe (n=22) and high-income North America (n=14), Australasia (n=5), high-income Asia Pacific (n=5), east Asia (n=2), and central Europe (n=1). The study found that the decrease in human mobility and the daily SARS-CoV-2 infection rate were significantly associated with higher prevalence in major depressive disorder and anxiety disorder. Particularly, after adjustment for the COVID-19 pandemic, the estimated prevalence of major depressive disorder changed from 193 million people to 246 million people, with an increase of 27,6% new cases, while the estimated global prevalence of anxiety disorders moved from 298 million to 374 million people, with an increase of 25,6% new cases globally.

2. WORKING WITH A MENTAL DISORDER

2.1 Scale of the phenomenon in the EU

KEY MESSAGE: It is hard to calculate the number of EU workers living with MD because of the underreporting of MDs, which is related to stigmatization, trust and privacy, and the underdiagnosis of some MDs.

The exact number of workers with MD is difficult to be calculated, as there are many confounders which make these analyses challenging. First and foremost, workers with a mental disorder are not required to disclose their condition for privacy reasons. Moreover, the stigma that still exists regarding the diagnosis of MD in the general population may prevent them from disclosing their condition. Attitudes towards people with mental disorder in the workplace have improved but a pervasive culture of silence around MDs seems to prevail. The lack of awareness in the work setting has implications, as workers are more likely not to involve anyone at work, or disclose mental health issues, citing a reluctance to formalize the issue and fears of negative consequences. In 2017, the Mental Health at Work report highlighted that less than 25% of managers receives training in mental health. According to WHO, mental health training for managers has the capacity to help those in charge recognize and act on mental health conditions at work and fostering a better understanding of how job stressors and risk factors that affect mental health (World Health Organization, 2022).

Given this situation, it is difficult to assess the prevalence of MDs in the workforce, and the available figures probably underestimate the extent of the problem.

Nonetheless, the share of workers with an MD has been estimated utilising different set of data. For example, according to the Organisation for Economic Co-operation and Development (OECD) data, in 2021 around 20% of the working-age population suffered from a mental disorder at any given moment (The European House – Ambrosetti, 2021), while in another European 2018 study this data was up to 27%, or approximately 80 million people (OECD/European Union, 2018).

Furthermore, up to 1/3 of population in exam, has had one or more coexisting mental health disorders, thus increasing the burden of the MDs without necessarily increasing the affected population (Wittchen & Jacobi, 2005).

Concurrently, more than 44% of employed people aged 15-64 reported facing risk factors for their mental well-being at work (Eurostat, 2021). These are risk factors that may affect workers' psychological response to work and workplace, and may possibly exacerbate underlying MDs. The most often mentioned risk factor was time pressure or work overload, followed by dealing with the public and job instability.

Other analyses looked at MDs through the lenses of some behaviours associated with poor mental health at work: presenteeism and absenteeism or sick leave.

Presenteeism means being at work, despite ill state, with decreased performance, or the feeling of accomplishing less than desired due to mental (or physical) health problems. This phenomenon is 2 to 3 times more likely to occur for workers with MDs. On the contrary, there are absenteeism and sick leave. The data show that 20 to 40% of all workers suffering from moderate to severe MDs have been absent from work in the last four weeks, with increased sickness absence duration compared to workers without MDs.

As per EU-OSHA, the psychosocial risk factors mentioned earlier can be directly related with an increase in both absenteeism and presenteeism (EU-OSHA, 2021).

Other analyses showed that sickness leave or early retirement due to mental health conditions increased over the last few decades (OECD/European Union, 2018).

2.2 The disclosure of a MD at work

KEY MESSAGE: The disclosure of a MD at work is often difficult for the employee due to stigmas. Employers should stimulate a culture change supporting confidentiality/trust with tailored and strengths-driven approaches facilitating (voluntary) disclosure.

Employees with a MD always face the decision of whether or not to disclose their condition. The principal reason for disclosure is to ask a job reassignment an adaptation in order to perform better at work. Changing job, or job site, or the way things are done may enable a qualified individuals with a MD to have an equal opportunity for employment. Disclosure of MD at work may be also motivated by the idea of serving as role models and sensitize others, decreasing the stress of “hiding” a MDs, or enabling the employers to understand their symptoms, crisis, hospitalization periods, or absenteeism. Some of the reasons for not disclosing may relate to shame and stigma around MD, fear of losing hiring or promotion opportunities, protecting one’s own privacy, fear of negative reactions by employers or co-workers or fear of receiving different (and lower) evaluation standards. When talking about stigma, we refer to a complex phenomenon composed by 3 dimensions: knowledge (ignorance or misinformation), attitudes (prejudice) and behaviours (discrimination) (Thorncroft et al., 2007). Figure 1 collect some of the most common stigmas related to workers with MDs (Brohan et al., 2010; Krupa, 2009).

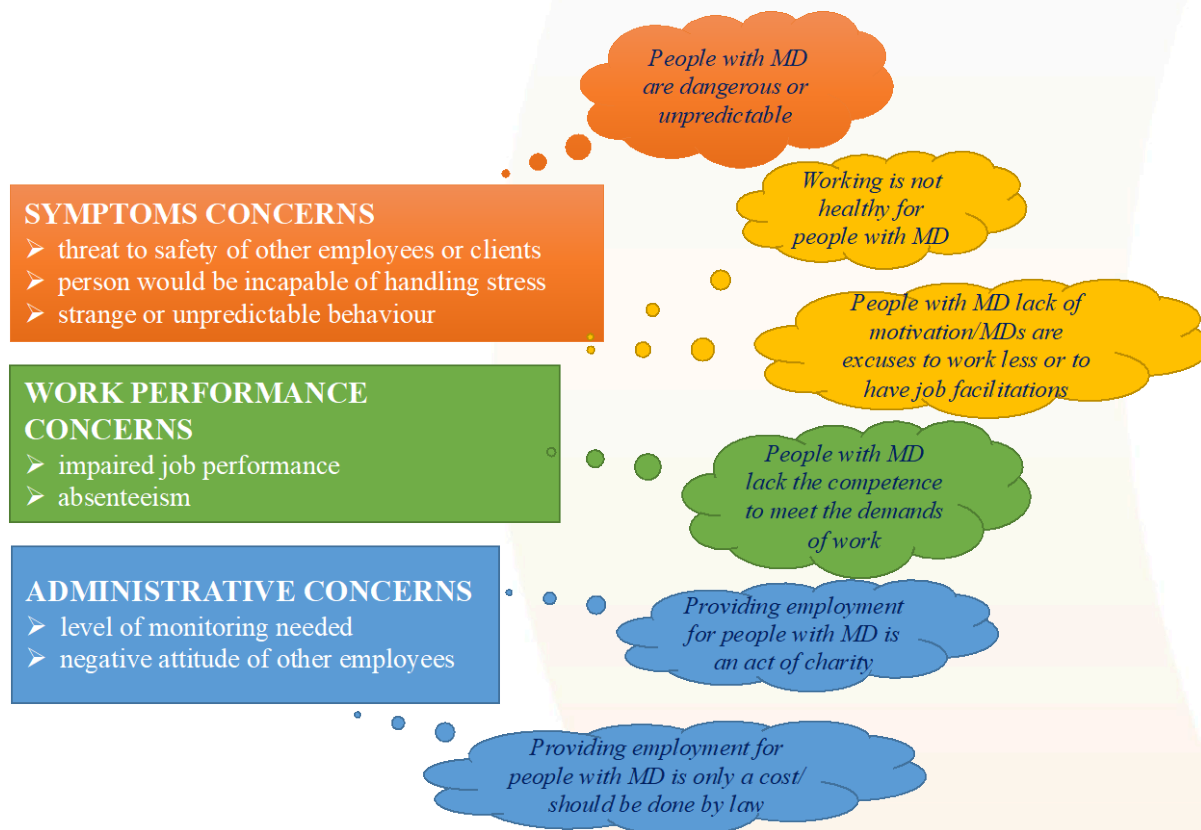


Figure 1. Most common stigmas related to workers with MD

Another aspect that is worth having in mind is that disclosing (or not) a MD at work could create different working climate depending on who is aware of the MD. For example, there could be a diagnosed MD of which both the employer and the person are aware of, or a MD that the worker does not want to disclose, or a MD that is evident to the employer or to the colleagues, such as a personality disorder, but is egosyntonic with the person. For example, people with personality disorders are often not self-critical about their way of acting, feeling or thinking. They may not perceive that there is something “wrong” and often think that the problem lies in the other persons (colleagues, friends, employers, etc.)

Ellison and colleagues (2003) suggested that disclosure of MDs is more likely to occur either in times of crisis when the person is not able to conceal his/her illness or at times where the person feel valued and secure in the workplace. In this sense, occupational health professionals may play a key role in facilitating employees to disclose their MD and agreeing upon reasonable requests in keeping with personal preferences, legal requirements and organizational considerations.

2.3 Challenges and opportunities

KEY MESSAGE: For people with MDs, employment is an important and widely recognised factor for wellbeing and recovery. Employers should support workers with MDs through

employment programs that could promote a competent, capable, diverse yet productive workforce.

People with MD might face various challenges at work. Beyond difficulties related to the MD disclosure such as fear of having a salary reduction, socio-relational effects, and stigma, they might face problems in recovering and job reintegration after an acute episode; they might turn down for a job because of their MD (Mental Health Foundation, 2002; Wahl, 1999) or stop themselves from looking for work because they anticipate discrimination (Thornicroft et al., 2009). The disclosure of a MD in the workplace can also lead to discriminatory behaviours from managers and colleagues such as micro-management, lack of opportunities for advancement, over-infering of mistakes to illness, gossip and social exclusion (Corrigan et al., 2001). Moreover, workers with MD might be more susceptible for distress related to job performance and productivity, deadlines, acquiring new competences, multitasking or working in team, as they might be more prone to relational problems.

On the other side, employers of people with MD also face challenges related to the costs for absenteeism and decrease in productivity. Moreover, employers are required to facilitate the disclosure to the occupational physician, to act for reducing the risk factors of crisis or hospitalization and to promote job reintegration.

In terms of smart working specifically, the challenges are for both employer and occupational physicians in defining the homeplace as a workspace (for instance, in term of safety measures).

Employment is an important and widely recognised factor for recovery (see for example, Pai et al., 2021). Giving space to MDs at the workplace and interactions amongst staff making it discussable may promote a safe and secure working environment and may foster the possibility to address the needs of workers with MDs. This might support staff with MD to feel good and satisfied about themselves, improve or develop skills, competence and experience, foster autonomy and give a source of purpose allowing them to contribute to families and to feel actively part of the society.

The opportunity for employers is to support employment of people with MD with programs (Table 2) that help them to get, maintain and excel in jobs. In this way, employers could support a competent, capable, diverse yet productive workforce. As an example, people with bipolar disorder are known to be highly creative and innovative, while people with anxiety disorder are often very precise and scrupulous. MDs are present at all levels of occupational hierarchy and across jobs. People with MDs might gain high-level positions and excel in their activities. For example, a recent study (Rovelli & Curnis, 2021) reported that individuals with a highly narcissistic personality benefit from their personality when aiming at becoming CEOs faster in their career advancement. Other well-known examples of people with MDs who excelled in their fields are John Nash, mathematician (<https://livingwithschizophreniauk.org/john-nash/>), JK Rowling, writer (<https://bostoneveningtherapy.com/jk-rowling-on-overcoming-depression/>), Katelyn Ohashi, gymnast (<https://www.youtube.com/watch?v=r7LHqOW4X8E>); <https://eu.usatoday.com/story/sports/2021/06/14/gymnasts-laurie-hernandez-katelyn-ohashi-talk-mental-health/7691674002/>), and Lady Gaga, singer (<https://www.today.com/popculture/lady-gaga-opens-about-battling-ptsd-i-was-secretly-freaking-t178030>), just to name a few.

Programs	Features	Advantages
<p>American with Disabilities Act (ADA)</p> <p>USA</p> <p>https://www.ada.gov/</p>	<p>provide reasonable adaptations (e.g., telecommuting, scheduling flexibility, sick leave, breaks and noise reduction), when requested, to an employee with a disability as long as it does not cause undue hardship on the employer.</p>	<ul style="list-style-type: none"> - Low cost and easy to implement; - reduce costs - foster people with undisclosed MD to feel more comfortable in the workplace; - encourage those that are not fully functioning in the workplace due to MD to ask for adaptations; - reduce presenteeism and thus support productivity.
<p>Individual Placement and Support (IPS)</p> <p>USA (exportable in non US-Countries, see Bond et al., 2012)</p> <p>https://ipsworks.org/index.php/what-is-ips/</p>	<p>help people with MD to quickly choose, secure and keep competitive employment while providing ongoing individualized long-term support. IPS aims to place people in jobs that match their talents and interests.</p>	<ul style="list-style-type: none"> - IPS programs are highly effective - increase competitive employment rates
<p>Assertive Community Treatment (ACT)</p> <p>USA</p> <p>https://omh.ny.gov/omhweb/act/</p>	<p>provide intensive support services to people with serious MD in the community. The program includes components such as individualized treatment, community integration and job placement. Each ACT team includes an employment specialist.</p>	<ul style="list-style-type: none"> - Individualized treatment plan for the person, integrating all the different pieces of the program, including employment activities
<p>Clubhouses</p> <p>USA, spread in 30 countries all over the world</p> <p>https://clubhouse-intl.org/</p>	<p>community-based centers open to individuals living with MD that offer supported employment programs but also supported education programs.</p>	<ul style="list-style-type: none"> - Increase employment rate - especially supported education programs can enhance job prospects

Table 2. Examples of the main evidence-based employment support programs for people with MD

3. DIGITALIZATION AND MENTAL DISORDERS: BARRIERS AND FACILITATORS

KEY MESSAGE: There is a need for a person-centred tailored approach to employees with mental disorders interacting with digitalization, that will promote the indication of individual needs and take into account their strengths and capacities and not only their vulnerabilities.

Within this complex framework, does the process of digitalization affect employees with MD in terms of vulnerability or would it create advantageous circumstances for people with MD to excel and mobilize their resources to the working process? We think the answer is not univocal.

Generally speaking, based on the literature, we could identify the following aspects:

- Digitalization creates challenges for workers with MD, such as: request for high cognitive abilities, work and private life interference, increased workload, longer working hours, continuous updating of programs and digital information overload, social isolation, presenteeism, increased requirements for education, specialization and new skills to acquire, impact on existing jobs (phasing out);
- Digitalization facilitates workers with MD: it provides greater flexibility and autonomy, better work-life balance, reduced contact with the public which could be a source of additional distress, increased quality and efficiency.

However, when speaking of MD and digitalization, generalizations are often meaningless and useless: what could be a challenge for a worker with a type of MD might in turn be a facilitator for a worker with another MD. The relationship with technology should not be seen as unique or monolithic but tailored to the needs of individuals.

Technology and digitalization may present the advantage to smooth out or prevent important relational problems, such as anger, relational manipulations, unrealistic expectations, frustrations, engulfment, which are frequently present in almost all MDs and especially the cluster B personality disorders. For example, the communication with the employer and the working group that is mediated by digital means, may protect from relational contacts, but may also expose to intrusive communication (e.g., company chats) if people are not able to maintain clear boundaries between working and private life. The right to be disconnected may be more difficult to exert for people with some MDs. For example, workers with some types of MDs such as psychosis or some forms of anxiety disorders may find difficult to close this channel, and may show impulsive behaviours of hyper-control of the communication and presenteeism. On the contrary, people with schizoid personality traits may enjoy and feel safe when doing digital work in isolation and may perceive emails or chats as disturbing intrusions.

Another aspect of digitalization that could be challenging for workers with MD is the management of the workload fluctuations, linked to specific periods of the year. For example, when there is little work, people with MDs could experience complicated relationship with the 'machine' for instance looking at the PC waiting for an email in order to see if something

arrives and immediately answer. This mechanism could create stress, and foster presenteeism; depending on the type of MD, there could be an impulsive mechanism of addiction, but if the person is unable to immediately respond to all the requests this could lead to feelings inadequacy or failure.

On the contrary, when the workloads are excessive in the peak periods of the year, precisely because the requests arrive in digital version (for example by email) without the mediation of the human relationship, people with MDs can have reactions crisis, feel too crushed and show impulsive reactions such as giving up everything or quitting. In these cases, it is important, for example, to make a tailored plan based on the needs of the worker, with realistic objectives that can be reached on time.

Thus, when looking at the relationship of MD workers with digitalization, it could be valuable adopting an individualized perspective basing on each person's (or category of MD) fragilities and resources, as the Job Demand-Resources model (Bakker & Demerouti, 2007) suggests.

In this line, the employment support program for people with MD that probably better fit are the ClubHouse. ClubHouse international (<https://clubhouse-intl.org/>) adopts an individualized approach that for example involves part-time work, with rigid and repetitive, non-discretionary tasks, where the first step is the creation of a manual, where each step is guided by a tool. Then, the worker is supported by tutor figures who have an essential role especially in 'new' situations, such as starting situations or situations of job change, tool change, PC change or work from home problems.

It should be underlined that those programs are mainly applied to jobs in the tertiary sector, especially clerical, and not to other types of jobs in the primary or secondary sector. As a general note, awareness of people having MD(s) and the feeling of safety and security in the society and workplace add to the expression of needs imposed by the individual rather than by a program guidebook. Frequently, however, the awareness also related to the education ability, to empathy and to self-reflection.

IMPLICATIONS FOR POLICY

KEY MESSAGE: There are no current EU directives addressing mental disorders in combination with digitalization at work, but there is progress since the last decade. The future goal will be to define who the digital worker is and to develop adequate regulation enhancing workers' protection.

Within the European Union, Council Directive 89/391 applies to the safety and health of workers at work. This is the pivotal model guiding every Community decision on safety at work. Given its longevity, it inevitably brings with it certain limitations, especially regarding a working world with challenges and technologies that were not envisioned in 1981, such as those discussed in this document. For this reason, since the last decade, more and more EU and EU-OSHA reports (see for e.g., 2019) and communications have focused on new technologies, the digitisation of the world of work and the promotion of mental health at work.

The most recent parliamentary resolution on the topic (European Parliament, 2022) is of 5 July 2022 “on mental health in the digital world of work”, adding another piece to the complex discourse concerning the changing world of work and correlating it with the consequences of the Covid-19 pandemic, which has challenged many areas of everyday life, not least digitisation and MDs. Many of the sensitive issues addressed in this paper are described, such as gains that do not always outweigh the negative consequences of digitalization, the increased psychosocial risks connected to teleworking, and that mental health has not been treated as a priority similar to physical health, thus rendering it “a health emergency”. The European parliament, the resolution reads, believes the current measures to prevent and contain mental conditions to be insufficient, and calls for member states for better measures in this regard. One of the suggestions states that the EU mental health strategy should aim to require member states to integrate mental healthcare with physical care, in view of the close correlation between the two (European Parliament, 2022).

The myriad of aspects and complexities of digitalization present an opportunity to implement a vast array of policies in terms of risk reduction, and not only confined to the world of telework. Interventions such as investments in the supply of digital skills, standardized and aligned requirements for telework common across the EU, accessibility measures and inclusive technologies for all workers (all existing and new staff) are all but small steps toward the resolution of the issue.

In addition, it should be noted that at this moment there are no specific laws regarding the digitalized world in occupational medicine. The only type of workers whose issues related to the use of technology are investigated are VDU (Video Display Unit) operators, comprising of all workers utilizing a computer screen. The prerequisite for falling under this definition is that the worker uses the video terminal for twenty hours a week or more, which nowadays includes a vast percentage of the workforce due to the spread of computer technology in everyday tasks (Muro et al., 2017).

This is a reductive definition of the risks of worker in the current digitalized era, as the most thoroughly investigated risks are oculo-visual and postural ones, while others, such as mental health disorders and other more subtle health and safety implications (i.e., the workspace risks in a teleworker), are less considered. We therefore believe that there is a need to rethink and redefine who a digitalized worker is, and what are the risks associated with the modern digital workspace and to consider alignment of current and future EU legislation.

IMPLICATIONS FOR PRACTICE

KEY MESSAGE: The goal ought to be to pick up on indirect signs of mental problems for early diagnosis, and this requires coordinated collaboration between OP, clinical psychology, and employers. It’s important to remember that no mental disorder or individual are the same, and we should act accordingly.

On a practical level, it is important to be able to intercept mental health problems among workers at an early stage so that any difficulties in using new technologies can be assessed.

Often, due to the lack of specific tools available and a basic underestimation, such problems are not sufficiently investigated by the occupational physician during health surveillance visits, especially if the worker tends to conceal the disorder or is unaware of his/her disorder.

It would therefore be appropriate in the first place for any doctor, and in particular the occupational physician, to be able to pick up on indirect signs of mental disorders such as sleep quality disorders, addiction to any kind of substance, and signs of somatisation of anxiety states, by means of an accurate anamnesis and careful observation of the worker. As a support during health surveillance activities, it would be useful to propose an ad-hoc questionnaire to workers to understand the extent and reasons for stress, with the aim of understanding whether there is an undiagnosed or undiscovered mental disorder at the root, and for the early diagnosis of digitalization-related disorders. Once the problem has been intercepted, the specialist must be supported to implement appropriate preventive and reintegration measures.

Coordinated collaboration between the domains of occupational medicine and clinical psychology, and the revision of surveillance protocols that shed more light on psychosocial risks, particularly those related to the use of new technologies and their management, could be useful in this regard.

The employer has a key role to play in this. It is also desirable for him to clearly inform workers about psychosocial risks and mental illnesses, and to enable appropriate digital training for all workers. Speaking specifically of teleworking, it is necessary for the employer to provide clear rules that protect the worker, in terms of working hours and workload, working environment, access to company information and meetings with colleagues.

The most challenging, but most important aspect of the implication for clinical practice is the fact that no mental disorder or individual are the same. Recalling what “on mental health in the digital world of work” resolution stated, we have seen how digitalization has brought both positive and negative consequences. On a positive note, it has caused more flexibility, autonomy, a better work-life balance. On a negative note, blurring of the line between work and life (“bringing work at home”), greater intensity of work and technology-related stress. To complicate matter further, what could be a positive consequence for an individual, may be a negative unintended consequence for another. The key concept is that both positives and negatives should be addressed in relation to the specific mental disorder. There is not a one-size-fits-all solution, and only a joint effort between occupational physician, clinical psychologist, employer, and worker can properly address the issue.

IMPLICATIONS FOR RESEARCH

KEY MESSAGE: Longer follow up studies are needed to evaluate specific populations, and to investigate the phenomenon further at EU level.

Larger, methodologically sound studies with longer follow-up are needed for evaluating specific homogeneous populations, both in terms of specific MD and of the different aspects of digitization. For this, an evidence-based literature is essential to draw practical and policy conclusions or recommendations.

There is certainly the need to investigate into the phenomenon further at EU level, with the implementation of Europe-wide studies with the collaboration of EU-OSHA and member states. The steps undertaken in the last decade at a policy level point to a good direction, but there needs to be a translation but there is a need to enhance the science to policy process enhancing the policy uptake of latest scientific insights.

The conclusions of the studies will be essential from three points of view: to help the employer in understanding which measures to be implemented to protect against this new risk factor, to aid the occupational physician in outlining how to perform risk assessment with the introduction of new technologies and ultimately, to benefit the worker with MD in a digitalized era.

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