Mental health, work and care: the value of multidisciplinary collaboration in psychiatry and occupational medicine

Summary

Objectives
To investigate the relation between work and mental health in a multidisciplinary fashion.

Methods
This overview is based on books and articles purposely extracted from national and international literature published in the fields of psychiatry, occupational medicine, economics and labor law, written in Italian and English, without time limits; it is part of the BUDAPEST-RP Project launched in 2010 to study the effects of the economic crisis on the Italian population.

Results
Some features of work and the labour market in the context of the Fourth Industrial Revolution (desynchronization of time, increased external control, need of orderliness in the work relationships – i.e., decreased tolerance of work-conflicts, e.g., between the employer and the Unions –, hypernomia and heteronomy) mirror some psychopathological aspects of the pre-morbid personality prone to develop depression, and may act as environmental risk factors. This, coupled with increased unemployment and precariousness, especially affecting the young, prompt to finding evidence-based strategies to promote employment of people affected by mental disorders, seriously hit by unemployment in the years following the Great Recession.

Conclusions
Work organization is the common denominator between the work environment conceived as a risk or protective factor for psychiatric disorders and the use of work in the field of psychiatric rehabilitation, by means of vocational rehabilitation programs. Given the intrinsic complexity of this common ground, networking is required between professionals of different backgrounds, to develop a multidisciplinary approach in the fields of care, research and education, and to foster a better integration between occupational health and psychiatry.

Key words
Psychiatry • Occupational medicine • Work • Mental health • Care

Introduction
The relation between work and mental health may be symbolized by the two sides of a coin. On the one, there are all work features able to promote the onset of psychiatric disorders (or to protect from it), such as work environment, type of work, flexibility required, and so forth. On the other, work may be used to promote recovery by means of vocational rehabilitation programs (VRPs) in the context of psychiatric services, to promote social reintegration of people affected by severe psychiatric disorders. This paper addresses both issues, starting with work as a factor able to prevent or promote psychic suffering. In order to achieve this goal, we will first summarise the evolution of work organisation paradigms in the last
hundred years, we will then link these changes to the emergence of specific psychopathological problems, we will present a research program studying VRPs optimal features, and we will end proposing possible ways forward.

**Work and mental health in times of economic and production changes**

The failure of the American bank Lehman Brothers on September 15, 2008 is generally recognized as the beginning of the Great Recession, the worst economic downturn since the 1929 Great Depression. The cover of the Economist published on September 20, 2008 announced this economic turmoil by depicting a vortex that sucked people, animals and things, accompanied by the question: “What next?”. From this moment on, the discussion concerning the relation between work and mental health became crucial, and research on this topic increased, as indicated by an excess of at least 800 studies published between 2008 and 2015 with respect to the previous time-trend. To deal with such an important issue, an overview concerning the main changes occurred in the production paradigms over the last century is useful, since production systems produce not only goods, but also human relations. More details on this topic may be found elsewhere.

The industrial production of the first two decades of the 2000s is apparently far from the Taylor-Fordism (or classic Fordism) paradigm which dominated the early Twentieth Century, represented by the H. Ford’s automobiles factory and mass production processes, and featured by monotony and repetitiveness of work. In classic Fordism, which represented the height of the Second Industrial Revolution, the factory was a total institution, closed and self-referential, able to provide for all phases of its own sustenance: from electricity production to the storage of the goods produced. Yet, the arrival of the 1929 Great Depression determined a crisis in this system, peculiarly in the United States, where it had widely spread during the “roaring twenties” in an atmosphere of economic miracle that Italy experienced only at the end of the 1950s. Franklin Delano Roosevelt’s ‘New Deal’ represented the response to help the United States cope with the Depression, and inaugurated a new phase in the American economy, based on a form of state interventionism inspired by the economic theories developed by the British economist John M. Keynes. The Keynesian economy was progressively adopted by the Western countries, especially after the end of the Second World War, when a new social, political and economic phase started, featured by the spread of democracy, increased wealth, a positive and fruitful match between the entrepreneurial capitalist drive and the Keynesian interventionist state policies, and the collaboration between social partners (such as the Unions and labour parties), large companies and State. This led, in the most virtuous cases, to the foundation of social welfare pillars, as the Italian National Health System (Act 833/1978). Since the decades from 1946 to 1973 were featured by increasing employment, wealth and peace, in the West, they were named the “thirty glorious” years, which correspond to the “mature” phase of Fordism. Yet, in the early 1970s, namely after the 1973 oil crisis and the adoption of austerity policies, even “mature” Fordism entered a phase of crisis and rethink. This crisis was also due to the fact that thirty years of Keynesian policies had led to a severe stagflation, i.e., increasing prices in the context of stagnating economies.

Thus, during the 1980s the Western countries looked for strategies to promote economic growth and leave behind the economic crisis of the previous decade. From the production standpoint, some principles developed in Japan since the 1960s by the automobile industry (namely, Toyota) were progressively adopted by the Western industries, though with noticeable differences (e.g., with respect to type and duration of employment contract). The concepts of total quality, just-in-time, lean production and so forth spread from country to country, from market to market, characterizing this phase of capitalism, known as Post-Fordism. This shift in the production paradigm was accompanied by a noticeable shift in the political and economic ideology. The Keynesian policies, that had characterized the “thirty glorious”, were replaced by neoliberalism, which rejects any form of state intervention, in the name of the markets freedom and their supposed ability to self-regulate. In terms of international politics this shift, facilitated by the financial instability due to the Vietnam war, the oil crises of 1973 and 1977, and the stagflation that hit the world economy in the same years, was marked by the administrations led by Ronald Reagan and Margaret Thatcher, in the United States and Great Britain respectively. From an historical and economic perspective, this represented the middle of the Third Industrial Revolution.

While mature Fordism had shown a degree of continuity with the previous years, Post-Fordism significantly broke with the past. This cleavage was partly due to the concomitant development of the intercontinental transports and of the Information and Communication Technologies. In such a climate, a new productive paradigm spread, featured by the relocation of production to developing countries, prompted by lower labour costs and lower labour protection and regulation systems. This decentralisation of production, made possible by the new technologies, was accompanied by the affirmation of globalization as Weltanschauung, particularly in the
Psychopathology issues related to the changes in the production paradigms

This brief review concerning the main changes in the production paradigm is useful to point out the changes featuring work (with respect to time, space, relations, goods, employment contracts, bargaining power etc.) and the worker: the latter is required more and more network awareness, flexibility, interpersonal and communication skills, ability to teamwork, and so forth. These aspects may have an important impact on the workers’ identity, that, typically in Western societies, may significantly overlap to individual identity. Unlike previous periods, in Post-Fordism a progressive con-fusion of spaces (places) and working hours (times) is noticeable: the barriers between private life and working life become more and more permeable, with noticeable implications. On the one hand, these new characteristics open the way to approaches such as teleworking, and, possibly, to a greater degree of autonomy and independence for the worker; on the other hand, they make the worker hyper-connected and potentially reachable at any time, creating new forms of subordination, both on the organisational and management level, and on the contractual one, with potential consequences in terms of work-related stress. Notably, this con-fusion of private and working spaces and times is featured by high levels of hypernomia and heteronomy, i.e., a request of “an exaggerated norm adaptation and external norm receptiveness”, respectively. Workers, on the one hand, adhere to labour standards and regulations laid down by others, on which they have very little opportunity to intervene; otherwise they may lose their jobs. This condition of heteronomy is reflected in the numerous debates that have concerned, in the very last years, the working methods of big companies like Ryanair and Amazon, and in the strikes that have affected the Ikea factories, for example. On the other hand, workers deal with the need to hyper-adhere to these heteronomic standards,

<p>| TABLE I. Main features of the four industrial revolutions, and the related production paradigm. |
|-----------------------------------------|-----------------------------------------|-----------------|------------------|</p>
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<thead>
<tr>
<th>When</th>
<th>Where</th>
<th>Production paradigm</th>
<th>Features</th>
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<tr>
<td>1st Industrial Revolution</td>
<td>18th Century</td>
<td>Great Britain</td>
<td>(Not clearly defined)</td>
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<tr>
<td>2nd Industrial Revolution</td>
<td>Late 19th Century – first half of the 20th Century</td>
<td>The West and the Soviet Union</td>
<td>Fordism</td>
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<td>3rd Industrial Revolution</td>
<td>Second half of the 20th Century</td>
<td>The West</td>
<td>Post-Fordism</td>
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<td>4th Industrial Revolution</td>
<td>Early 21st Century</td>
<td>The World</td>
<td>Neo-Fordism / Post-Fordism</td>
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first half of the 1990s, during the Clinton administration. This vision of the world, beyond industrial production, is based on the concept of ‘flexibility’ as a sort of motto of the lean production, that aims at reducing waste, thanks to the help of robotization and automation of production processes.

With the full affirmation of the Post-Fordism, the “solid” modernity featuring Fordism and “mature” Fordism was replaced by “liquid” modernity, this being symbolized by the transition from the Ford “total” factory to the “lean”, globalized factory, where the various functions (e.g., planning, production, commercial, managerial, and so forth) are no longer vertically integrated, in the same place (the factory) and often at the same time (production cycles and shifts), rather they spread horizontally in the space and time of the “global village”.

The so-called Fourth Industrial Revolution started in the early 2000s, favoured by the increasing spread of the Internet, which allows to interconnect machines, personnel and production processes in one or more connected production units. On the one hand, production gained unimaginable potentialities in terms of quality, punctual deliveries and absence of waste. Also, it was possible to avoid direct exposure of the worker to dangerous processes (with a consequent change of the professional risks and with implications also for health and safety tasks within the company). On the other hand, work adopted growing characteristic of hetero-directivity; differently than Fordism, when the human being controlled and governed machines within the production processes, now it is the worker who undergoes a growing control by the information he/she receives, just in time, from the ultra-computerized and interconnected systems, even because the complexity of production processes often goes beyond the capacity of the human being to govern them. This paved the road to the reappearance in the production systems of some features of Fordism, for this named Neo-Fordism, which currently coexists with Post-Fordism (Tab. I).
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Year depressive disorders caused 40.5% of all years of disability-adjusted life years (DALYs) due to psychiatric disorders\textsuperscript{16,17}. These data are difficult to explain only in the light of biological or genetic causes, and encourage the search for possible contributory causal agents also at an environmental level, i.e., with respect to work organization in the Western world, and, in general terms, in the organization of society deriving from it. A possible cause has already been investigated, namely hypernomia and heteronomy featuring work, with its psychopathological implications. A further environmental factor capable of acting con-causally in determining psychological suffering and, over the edge, a frank psychiatric disorder, is represented by the progressive change of relations within the working class, which has increasingly assumed the characteristics of a multitude, without social, representative and political cohesion\textsuperscript{8,11}. This weakening of social ties, accompanied by a virtualisation of the relationships fostered by the new technologies and their use (e.g., social networks) further reduces the possibilities that the social context may buffer the individual crisis, which can therefore more easily assume the connotations of illness, rather than crisis (Tab. II).

Certainly, what has been presented so far is not meant to be an exhaustive explanatory model, nor it is meant unrelated to their locus of control, which often they do not share but to which they may not oppose, otherwise they risk exclusion from both employment and society\textsuperscript{3,5}. It stems out that desynchronization, heteronomy and hypernomia are features of today’s labour market. In the era of the Fourth Industrial Revolution – the most advanced phase of Post-Fordism – reflections about psychology and psychopathology are urgently needed. Those working in the field of mental health know that desynchronization, heteronomy and hypernomia are key psychopathological features of depression. Traditionally, hypernomia and heteronomy are described, along with rigid perfectionism and orderliness, characteristics of the pre-morbid (and inter-morbid) personalities of people at risk of developing a depressive disorder\textsuperscript{12,13}. With all the proper precautions of the case, we hypothesize that contemporary society includes aspects intrinsically linked to the psychopathology of depression, and that these may act as possible environmental risk factors, in the context of a biopsychosocial frame\textsuperscript{14,15}. This “social psychopathological approach” seems particularly relevant in the light of the results of the Global Burden of Disease research initiative, indicating that in 2010 psychiatric disorders represented, globally, the first cause of years lived with disability (YLDs). Moreover, in the same

\begin{table}[h]
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\textbf{Some features of work in the 21st Century that are potential risk factors for depression.} & \textbf{Main features} & \textbf{Consequences} \\
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1) Desynchronization of time & Con-fusion of spaces (places) and working hours (times); the barriers between private life and working life become permeable & Teleworking, higher degree of autonomy and independence for the worker, VS hyper-connection and risk to be potentially reachable at any time, creating new forms of subordination; risk of increased work-related stress \\
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2) Need of orderliness in the work relationships & Decreased tolerance of work-conflicts, e.g., between the employer and the Unions & Internalization of conflicts; Unions and unionization are less tolerated within the work environment \\
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3) Hypernomia & Request of an exaggerated norm adaptation & Norms are unrelated to workers’ locus of control, though they generally cannot refuse/criticize them \\
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4) Heteronomy & Request of external norm adaptation, increased external control & Norms are unrelated to workers’ locus of control, and frequently are not shared by them \\
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5) Changed relations within the working class & Decreased social cohesion, weakening of social ties & The social context is less able to buffer an individual’s crises \\
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6) Increased unemployment (peculiarly among the young) & Reduced income, increased sense of precariousness & Increased social exclusion \\
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7) Virtualisation of the relationships fostered by the new technologies & Con-fusion of spaces (places) and working hours (times); life becomes more permeable, globally & Paradoxically, increased loneliness/isolation \\
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to suggest an etiopathogenetic hypothesis of psychiatric disorders exclusively based on social causes; rather, it was conceived as an invitation to reflect on some aspects of our contemporaneity that may be linked to important outcomes in terms of mental health.

Work and mental health in psychiatry and occupational health
In 2010 our group at the University of Modena and Reggio Emilia started a research project, named BUDAPEST-RP Project (Burden of Disease Attributable to Problems in the Economic Situation and Treatments Required for the Population) after the name of the city where the first results were made public 18. The aim of this project was to study the effects of the economic crisis on the health of the Italian population, at national 19,20 and local level 11, and to develop specific clinical interventions and training initiatives. With respect to the local level, we focused on the ceramic tile district of Sassuolo (in the Province of Modena) 21, which greatly suffered from the recent economic crisis 11. For this reason, in collaboration with the Occupational Health Unit of the Sassuolo S.p.A. Hospital, we realized a qualitative study, that involved occupational health physicians operating in the industrial area of Sassuolo. This first collaboration launched a stable liaison between occupational physicians and psychiatrists operating in the Province of Modena and led to a series of multidisciplinary events. The first was held in Sassuolo in June 2016 22. The second took place in the same year in Castelfranco Emilia (Modena) during the Sixth Mental Health Week of the Mental Health Department of Modena, and was titled “From work-related stress to vocational rehabilitation programmes”. The third was organized in 2017 during the Seventh Week of Mental Health of the Province of Modena, and was titled “Mental health and occupational medicine: many common things, many things to do”; 128 auditors took part to the seminar, including occupational physicians, psychiatrists, nurses, educators, psychiatric rehabilitation technicians, medical students 23. All these events attended by occupational and mental health professionals showed a strong commitment of the various professionals to promote a full integration between the two medical disciplines (in a multidisciplinary fashion), and not simply a juxtaposition of knowledge and skills.

Mental health and work: from vocational rehabilitation programs to recovery
The other issue linking mental health to work (“the other side of the coin”), as mentioned at the beginning, is represented by the use of work for rehabilitation purposes within psychiatric services, particularly in Community Mental Health Centres (CMHCs). A recent study concerning the years of the economic crisis showed a worrying increase in unemployment rates in the population affected by psychiatric disorders, twice those recorded in the general population not affected by mental disorders 24. This is even more relevant considering that in the years of the crisis the possibility and the availability of companies to employ users of mental health services involved in VRPs, especially by means of the effective placement (Act 68/1999), decreased. On the other hand, studies are available pointing out that active labour programs involving people with psychotic disorders may determine a reduction of hospitalization (up to 54% of days) 25,26. In the light of the above, it is essential to optimize VRPs, by favouring their positive outcome. For this reason, our research group carried out two studies in a CMHC placed in the Province of Modena.

The first study is a qualitative research. A group of users and professionals involved in VRPs were asked about the positive and negative aspects of such programs 27. Two macro-areas stemmed out from the qualitative analysis: positive reinforcements and negative reinforcements, further characterized by sub-codes. Work environment and relationships with co-workers were identified as able to influence VRPs both positively and negatively. Among the positive reinforcements, the following elements were coded: users’ expectations and motivation, the VRP seen as a resource and an important life opportunity by the user, and the supportive network offered by the CMHC. Differently, among the negative reinforcements, the following aspects were coded: increasing requests from the company, a certain lack of information concerning rules and rights concerning the workplace, and stigma in the work environment. This study suggests to address such issue by means of a group psychoeducational intervention, aiming at supporting the users during the VRPs 28-30. Furthermore, since some topics emerged during the focus group involve both psychiatry and occupational medicine, the participation of an occupational health physician at specific modules of the psychoeducational intervention may help realize a full integration between mental health and occupational health services.

The second study was a retrospective research, in which a group of fifty users who were successfully employed at the end of their VRP were compared with a group of fifty users who dropped out during the VRP 31. Aim of the study was to identify clinical and socio-demographic variables associated with the outcome of VRPs. The analysis identified two variables significantly associated with the outcome (employment): type and duration of the programme. VRPs oriented toward competitive labour market (e.g., type C apprenticeships as defined by the Emilia-Romagna Regional Law 14/2015) were asso-
associated with increased probability of employment. Similarly, short-term programmes (in our sample, no longer than six months) were associated with better outcomes. From the point of view of translational research, these two variables (typology and duration of vocational rehabilitation programmes) may be easily monitored to get a practical and immediate feedback of VRPs success, helping to avoid exposing the users to useless failures.

**A tentative conclusion**

Starting from the metaphor of the two-sided coin, the present contribution focused on the relation between work and mental health on the one hand, and mental health and work on the other. Our view is that an important and neglected mediator of these two sides is represented by work organization. The latter may promote workers’ health and well-being, as well as foster the inclusion of psychiatric services users attending VRPs in the social and economic body (Tab. III). Yet, it may act in the opposite way, by increasing work-related stress and mental disorders, and further promoting the exclusion of those who are already excluded. Work organization is certainly a complex issue influenced by different dimensions, e.g., economic, managerial, legal, health, etc. For this reason, a multidisciplinary approach is needed to better understand those links and change work organization, to make it healthier. At the same time, it is necessary to foster networking between professionals with different backgrounds, operating in different fields: mental health, occupational medicine, local health authorities and universities, and so forth. In this sense it appears important to promote a better integration between occupational health and psychiatry in care, research and education.

**Acknowledgment**

Special thanks to Dr. Vittorio Mattei for the very helpful suggestions and remarks.

**Conflict of Interest**

The authors have no conflict of interests.

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**References**


