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Investigating difficulties and opportunities in the job market
for people with autism spectrum disorders: the Tangram project

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"On this World Autism Awareness Day, let us all play a part in changing attitudes toward persons with autism and in recognizing their rights as citizens, who, like everyone else, are entitled to claim those rights and make decisions for their lives in accordance with their own will and preferences."

2017 April 2nd

UNITED NATIONS Secretary-General António Guterres

INTRODUCTION

“The Convention on the Rights of Persons with Disabilities recognizes the right of persons with disabilities to independence of person and to individual autonomy (article 3). Moreover, the CRPD highlights the right of persons with disabilities to "legal capacity on an equal basis with others and in all aspects of life (article 12).

The construct of disability has changed over time, from focusing on pathology or a defect within the person to a socio-ecological person–environment fit conception that focuses on understanding human functioning and disability according to the interactions between personal and environmental characteristics (Buntinx 2010). The construct of psychological and intellectual disability has also changed (World Health Organization, 2001) consistent with this social-ecological focus. Conceiving of disability in the context of person–environment interactions not only enhances our understanding of psychological and intellectual disability but also changes our approach to diagnosis, classification, assessment, and planning individualized supports.

Disability has come to be seen not solely in terms of a significant limitation in intelligence and adaptive skills; rather, it is viewed as a problem of the whole person in his or her life situation impacting health, community participation, and the roles that the person plays in society. Information about intelligence and adaptive behavior offers only a very limited understanding of the person’s functioning and should be complemented by the assessment of the other dimensions of human functioning: health, participation, and context. A multiple perspective or multidimensional approach is required to understand and examine psychological and intellectual disability.. However,

despite the best efforts, stigma around mental health and mental illness is still widespread.

The proportion of persons with disabilities not participating in the labour market is at least twice as high as that of average EU citizens (Grammenos 2011). This disparity increases their poverty risk in way that social benefits cannot compensate, especially when the budgets are under pressure. This situation is dramatic especially for young people, as a good start in the labour market is very important for future careers.

People with Autism Spectrum Disorders (ASD) are a heterogeneous group of people that includes intellectually impaired persons as well as those of average or above average cognitive abilities. All of them are in a complex situation as their symptoms – impairments in social interaction, impairments in communication, restricted interests and repetitive behaviour – put them at a disadvantage in the increasingly communications-oriented service-economy job market. In fact, people with ASD often need consistent and highly qualified assistance, yet many of them do not receive such assistance as their condition is not regarded as particularly serious, especially when high intellectual abilities are thought to be enough to balance the social skills impairments. Some of them have strengths such as accuracy, attention to details, reliability and meticulous application of routine tasks (Holwerda 2013).

Evidence shows that many people with ASD can be productive and contribute considerably to society in a structured and well-organised work environment.

Unfortunately, their capability to work seems to be hugely underestimated even if an increasing number of projects focused on employment of persons with ASD have been developed. For this reason, reviewing past experience seems important in designing more accurate programs and a better future for people with ASD.

Our study examines critical aspects and opportunities of employment for people with ASD and offers some insights to make the job market more accessible to them. Even though the study focused on this very specific group of persons with disabilities, there are broader considerations that can be drawn from this report.

AUTISM SPECTRUM DISORDER (ASD)

Diagnosis

The global prevalence of ASD has increased twentyfold to thirtyfold since the earliest epidemiological studies were conducted in the late 1960s and early 1970s. At that time, prevalence estimates from European studies were one in 2,500 children in the general population (Gillberg 1999), and by the 2000s prevalence estimates from large surveys were 1%–2% of all children (Blumberg 2013, Lai 2013, Schieve 2012). Recent estimates suggest that ASD may affect as many as one out of every 68 children in the United States (Christensen 2014). The reasons for this increase are continually debated. Studies suggest that the recent prevalence increase is likely attributable to improved awareness and recognition, changes in diagnostic practice and more complex interactions between genetic predisposition and environmental exposures or triggers (Hansen 2015, Frye 2014, Blumberg 2013, Schieve 2011), with increasing evidence of the role played by epigenetic mechanisms in brain development (Tran 2017).

Since adults with ASD did not benefit from the current diagnostic sensitivity in childhood, many of them have not received a diagnosis in the past decades. First diagnosis in adulthood is an important clinical issue due to the increasing awareness of autism, broadening of diagnostic criteria, and the introduction of the spectrum concept. Thus, the hypothesis of a lost generation of people who were previously excluded from a diagnosis of classic autism has arisen and the need for high quality research on autism in adulthood is highlighted (Howlin 2015). More systematic research is required to delineate different patterns of development in adulthood and to determine the factors influencing these trajectories (Howlin 2017).

Diagnosing autism spectrum conditions in adults can be challenging for practical reasons (above all, difficulties in gaining information about the patient's early

development), for the acquisition of learnt or camouflaging strategies, misleading previous psychiatric diagnosis in the subject's medical history, and a high frequency of co-occurring disorders (Lai 2015). It is important to recognize ASD symptoms also in adults with milder forms to consequently support them and promote positive outcomes (Lai 2015). The creation of supportive, accepting, and autism-friendly social and physical environments is important and requires both a coordinated effort across agencies and support from government policies.

A multistep and multidisciplinary assessment (National Institute of Clinical Excellence 2012) should be undertaken by trained and competent professionals, and clinical judgment should be supported by standardized instruments (Fusar-Poli L, 2017).

The diagnostic process includes referral, screening, interviews with informants and patients, and functional assessments. In considering differential diagnoses, true comorbidities, and overlapping behaviour with other psychiatric diagnoses, particular attention should be paid to anxiety, depression, obsessive-compulsive disorder, psychosis, personality disorders, and other neurodevelopmental disorders (Lai 2015). Possible misdiagnosis, especially in women (Tierney 2016), should be explored .

Clinical features

In the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5), Autism Spectrum Disorder (ASD) is a new diagnostic classification that includes most individuals previously diagnosed with one of four pervasive developmental disorders: Asperger's disorder, autistic disorder, childhood disintegrative disorder, and pervasive developmental disorder not otherwise specified (American Psychiatric Association, 2013). The presentation of ASD differs from person to person in severity and combination of symptoms and comorbidity. ASD is hallmarked by communication deficits across multiple contexts and restricted, repetitive patterns of behavior, interests,

or activities (CDC, 2015). Furthermore, people with ASD often struggle with misreading non verbal interactions, building age-appropriate friendships, and adapting to changes in their environment (American Psychiatric Association, 2013). Like areas of difficulties, the strengths associated with ASD are particular to each individual. However, numerous common features exist. For instance, many individuals with ASD exhibit detailed thinking, expansive long-term memories, comfort with rules and guidelines, and an affinity for analyzing complex patterns.

The symptoms of ASD fall on a continuum, with some individuals showing mild symptoms, while others have more severe symptoms and require extensive support (APA 2013). Individuals on the mild end of the spectrum who were previously diagnosed with Asperger's disorder (AD) or High Functioning Autism have typical or above average intelligence and the same communication deficits associated with ASD. In the literature, AD is often referred to as a non-obvious or hidden disability, because individuals with AD may not appear obviously different, but also do not quite fit in (Portway, 2005).

With high intellectual abilities and good environmental supports, the symptoms of ASD may go unnoticed by others during short casual conversations (Frith 2004); however, when the contextual social skill requirements become over-whelming, the individual with ASD will fail to adapt to the new social challenge.

Special interests in ASD

Since the goal of this research is to highlight the opportunities offered by people with autism, a special feature will be discussed below: the presence of special interests.

Restricted interests and behaviours represent established diagnostic symptoms of autism spectrum disorder (AAP 2013) and are distinguished in “lower order” repetitive behaviours, such as lining up objects, and “higher order” repetitive behaviours, such as engaging in a circumscribed interest (Szatmari 2006, Turner 1999). There is substantial variability in restricted and repetitive behaviours among individuals with ASD.

Abnormal focus on a restricted interest can have socially isolating effects due to their intensity or unusual nature and may reduce the child’s willingness to attend to developmentally necessary activities, with consequent negative impact on learning (Anthony 2013). Persevering and even aggressive behaviours may occur if restricted interests are frustrated or interrupted, further decreasing opportunities for socialization. These behaviors also affect family functioning, often leading to increased stress levels (Bishop 2007) and engendering more negative parenting styles (Greenberg 2006). In rare cases, the restrictive interest itself may be intrinsically maladaptive, such as an interest in an illegal or harmful behavior. In order to face all these challenges connected with repetitive and restricted interests and behaviours in ASD, intervention programs have targeted their management and reduction (Boyd 2012). Although it is important to take into account the possible negative effects associated with restricted interests, clinicians should also consider their possible positive effects, seeing it as a way to achieve personal fulfillment. A distinction should be made between services meant to help people with ASD achieve goals they personally value, and services whose primary goal is to “normalize” them (Parsloe, 2015). Many people with high functioning autism

point to the established benefits of restricted interests and would prefer that their odd — but not harmful — behaviours or interests be accommodated rather than therapeutically altered (Parsloe, 2015). Muller et al. report that when a partner who shares their interest can be identified, this is a very effective way to promote social interaction (Muller, 2008).

People with ASD often have an intense and passionate level of focus on things of interest. These traits may lead them to become highly successful in the workforce if they can find a job relating to the field. Sometimes these interests are lifelong; in other cases, one is phased out to make room for another. In either case, there are typically only one, two or very few interests at any given time. These interests may be linked in a way that is logical only to the autistic individual. In pursuit of these interests, autistic people often manifest extremely sophisticated reasoning, an intense focus, and a remarkably good memory. Hans Asperger called his young patients "little professors" because he thought his patients had as comprehensive and nuanced an understanding of their field of interest as university professors (Asperger H, 1944).

Mercier et al. identified several positive elements of the restricted interests, including promoting happiness, providing a constructive hobby, acting as a source of achievement or identity, and developing knowledge that could be applied in the social or occupational fields (Mercier 2000). Special interests are associated with feelings of enthusiasm, pride and happiness (Winter-Messiers, 2007) and appear to be strongly related to positive affect and intrinsic engagement (Grove 2016). Furthermore, increased intensity of restricted interests has been found to be negatively correlated with depression in children with ASD (Stratis and Lecavalier, 2013). This highlights the important role special interests can play in positive outcomes for individuals with ASD.

People with ASD may have little interest in things outside their special interests. At school, they may be perceived as highly intelligent underachievers, clearly capable of

outperforming their peers in their field of interest, yet persistently unmotivated to do regular homework assignments. Others may be hypermotivated to do excellent work and be considered "overachievers."

Recent policy developments promote inclusion of children with special educational needs, including children with ASD, into mainstream classrooms. Inclusive education requires teachers to adapt to children's learning styles. Children with ASD exhibiting interests restricted to particular topics often bring challenges to classroom teaching. Teachers can be faced with a dilemma either to accommodate restricted interests into teaching or to keep them out of the classroom altogether. Indeed, one important and practical concern for inclusion of children with ASD into mainstream education is how best to work with their restricted interests. Gunn and Delafield-Butt reported that positive gains in learning and social skills can be achieved by incorporating children's restricted interests into classroom practice. Indeed, the use of restricted interests to enhance classroom instruction resulted in increased academic task performance and improved social engagement (Gunn and Delafield-Butt, 2016).

Special interests should be adequately involved in a broad-based educational project. In the absence of proper mediation with the environment, they might become a reason for exclusion and isolation with respect to peers. Elective interests, especially if unusual compared to those of peers, might be considered an extravagance and cause bullying from the early school years. The difficulties of social interaction and the few personal satisfaction opportunities experienced by people with ASD often induce a gradual closure within their own special interest, with progressive isolation and the onset of reactive psychopathology (such as obsessive-compulsive symptoms, anger, depression, anxiety) (Patel 2017).

Overall, restricted interests can neither be described as exclusively beneficial nor

exclusively negative. Consequences associated with restricted interests need to be assessed by clinicians before determining whether and how to intervene. If an interest has meaningful positive and negative aspects, it may be possible to reduce the negative effects without diminishing the interest itself, thereby preserving the positive elements. Current assessment of restricted interests denies researchers and clinicians the opportunity to capture the range of associated consequences (Smerbeck 2017). Therefore it is desirable to use tools that evaluate these aspects in a comprehensive way. Smerbeck et al. propose a *Survey of Favorite Interests and Activities (SOFIA)*, a broad list reflecting a wide range of adaptive and maladaptive outcomes potentially associated with restricted interests. The SOFIA Adaptive Coping scale provides a way to quantify, examine and discuss the complex range of outcomes associated with restricted interests (Smerbeck 2017). This is an interesting branch of research, with a view to understanding, respecting and enhancing the characteristics of the functioning of people with ASD, not merely claiming to "normalize" them (Parsloe, 2015).

Some interests are particularly frequent among people with ASD.

- **Aircraft and transportation**, particularly trains and rail transport.
- **Fantasy things** such as fairies.
- **Technology and computer games** which can provide visual stimulation without the need for social interaction. In many cases, multiplayer games provide a non-intimidating way to socialize while playing the game. Some people with ASD can reach high-tech skills and computer programming.
- **Scientific interest** in biological sciences (from molecular biology to various medical specializations) and for the sciences of Earth and the Universe (from geology to astrophysics).
- **Interest in construction and design.**

- **Creative interests** such as writing, music, and art.
- **Social issues**, due to a strong sense of morality and social responsibility. They may present complex and nuanced arguments against racism, transmisogyny, world hunger, ableism and so on.
- **Cards/Sports-Facts** such as baseball or football cards and scoreboard information. It becomes a way to interact with people.
- **Pets**, dogs in particular can have a calming influence on people with ASD and are commonly used as service animals for this purpose.
- **Strage things** in a specific manner such as turtles, mushrooms, stones, African dictators, military uniforms, graffiti and so on.

In conclusion, research highlights the benefit of incorporating special interests into intervention programs for individuals with autism, and their inclusion in peer activities has been associated with increased socialisation, social engagement, and peer interaction in adolescents (Koegel 2013). Since special interests can play an important role in positive outcomes for individuals with ASD, there are implications for treatment practices, and better insight into the significance of and motivations for engaging special interests and their inclusion should be considered in intervention programs (Grove 2016). Furthermore these traits may lead people with ASD to become highly successful in the workforce if they can find a job relating to the field.

Autism Spectrum Disorders in adulthood

For most children who receive an ASD diagnosis, it is a lifelong developmental disorder that continues into adulthood (Helt 2008). The majority of research efforts had focused on young children, while relatively little attention is given to adults (Edwards 2012). In adulthood there is wide variability in research methodology, choice of measures and selection of participants. Thus, estimates of how many adults with ASD have significant social and mental health problems are often conflicting (Howlin 2017).

As the ASD population get older, they require continued assistance and training to function in their daily lives (Edwards 2012, Shattuck 2012). Employment is an area of particular concern cited throughout the adult ASD literature (Howlin 2017). The existing ASD employment literature is based on evidence from qualitative studies that record experiences of adults with ASD in their own words and several larger scale studies focusing on young adults' post-secondary transition and the experiences of adults receiving vocational rehabilitation services. Due to the research emphasis on adults receiving services, further study of the employment outcomes of adults with ASD outside of the service system is required (Chen 2015).

Despite having the ability and desire to work (Hendricks 2010), it is estimated that in the USA approximately half of adults with ASD are unemployed (Roux 2013, Shattuck 2012), which is significantly higher than the national unemployment rate (5.0% in November 2015) (Bureau of Labor Statistics (BLS), 2015). Additionally, Shattuck et al. found the employment rate of adults with ASD to be significantly lower than adults with mental retardation, learning disabilities, and speech impairments (Shattuck 2012).

Educational and professional background for people with ASD

In the USA, parents of children with autism have insisted that public schools provide specific educational support to students with ASD and have demonstrated a greater willingness than other parent groups to file suit when their children are denied it. As a result, a growing number of people with ASD are graduating from high school and entering colleges and universities - institutions that are increasingly developing specific programs to assist this population (see **COLLEGE AUTISM SPECTRUM - Programs for Students with Asperger Syndrome**).

Despite the significant progress made in the USA, the employment prospects of people with ASD remain bleak. Although nearly half of all individuals diagnosed with ASD possess either average or above average intelligence (Christensen 2014), only a small percentage are employed. Even for people who have post-secondary educational experience, employment difficulties are common (Hendricks 2010). Barnard et al. identified employment "as the single biggest issue or barrier facing" adults with high-functioning autism (Barnard 2001). When compared to people with other types of disabilities, the lack of success for adults with ASD is notable, since they have the lowest rates of participation in employment compared with other disability categories (Shattuck 2012).

The predictable great increase in the number of young people with ASD transitioning to adulthood presses society to change the status quo and to increase employment opportunities in the same way that educational services have been expanded. This shift presents an opportunity both for people with autism to integrate into the workforce and for employers to tap into the talents and abilities of a sizable population of workers. At the same time, as there is a great deal of diversity in functioning among people on the

spectrum, it will unquestionably create new challenges for employers attempting to accommodate this set of workers, many of whom will have unique needs.

Italian people with ASD

Compared to the United States and the UK, Italian translation of research into the practice is delayed, both for diagnostic sensitivity and for the availability of adequate education and vocational support. The result is underestimated prevalence - yet very heterogeneous diagnostic sensitivity is reported in the country - and inadequate service availability compared to the needs of the population with ASD. Parents point to a lack of organized health services and trained staff as well as inadequate support in educational and social contexts (Chiarotti F, Rapporti ISTISAN 17/16). In 2012, the Ministry of Health and Regions signed an institutional agreement to conform interventions to the needs of people with ASD in Italy. In 2015 a law was adopted (Law n. 134), and recently the Ministry of Health has defined national levels of ASD health care. Information on existing services for people with ASD is currently lacunose in Italy, in particular regarding the adoption of the main national and international recommendations. Child and adolescent mental health units throughout Italy have been involved in a web-based survey to obtain detailed information on professionals, tools, services, cooperation and integration with different health and social-educational units. For now, data on prevalence and guidance for adults with ASD are not available in Italy. A Position Statement on adults with ASD has recently been proposed to the Ministry of Health as a joint proposal of a large number of Italian parents' associations, in order to promote improved care also for adults.

Compared to the educational background provided to autistic people in the USA, Italian people with ASD have lower skills to exercise in their jobs. In addition to the inadequacy of psycho-educational interventions provided by the social services, the tools and interventions adopted at school are largely inadequate to the needs of the increasing number of students with ASD.

The consequences of inadequate qualifying supports are frequent early abandonment of school and the achievement of skills and autonomies far below those that are potentially achievable.

Support provided to adults with ASD is even more critical and further from international standards than services available for children and adolescents, as awareness that autism is a lifelong condition is still uncommon among Italian professionals (Chiarotti F, Rapporti ISTISAN 17/16; ANGSA 2017).

There are currently no data on the employment rate of people with ASD in Italy. Even phone contacts, email requests, participation in conferences and meetings with public and private sector representatives, institutions and associations did not yield all the elements needed to frame and describe this phenomenon in Italy. This difficulty is also due to the fact that within the lists of protected categories, people with ASD are generally included among people with mental disabilities.

PEOPLE WITH ASD IN THE JOB MARKET

Barriers to obtaining employment

Personal factors and symptoms associated with ASD have been found to adversely impact employment. In a systematic literature review examining the predictors of work participation in individuals with ASD, Holwerda et al. identified seventeen factors related to work outcomes of people with ASD. It may not be just one single factor, but the combination, that leads to limited employment outcomes. Some of these factors may be interdependent. For example, high correlations between IQ and language abilities and IQ and adaptive behaviour are often reported in individuals with ASD. The disorder-related characteristics (intensity of autistic symptoms, psychiatric comorbidity and epilepsy) and personal characteristics (limited language abilities, behavioral problems, social impairments) typical to ASD are factors which may, separately or combined, hinder individuals with ASD to participate in work in a sustainable way.

IQ is the only childhood predictor of work outcome for which Holwerda et al. found consistent evidence in the literature across fifteen studies (Holwerda 2012). Although an IQ below 50 does almost always lead to a poor outcome (Howlin 2004), individuals with an IQ of 70 or higher do not necessarily have a good outcome. Outcome in individuals without intellectual disability is much more variable and less predictable.

Eight other factors were found to hinder employment in several studies: severity of the disorder; comorbidity with psychiatric disorders, oppositional personality or epilepsy; the presence of social impairments and lack of empathy; the presence of maladaptive behaviors; female gender; lower speech and language abilities; lack of drive; and prior institutionalization (Holwerda 2012).

Organizational and interactional difficulties are also known to impact employment.

Muller et al. interviewed 18 adults with ASD about their experiences within the workplace. Participants were asked to describe positive and negative aspects of their vocational experiences, identify major obstacles to successful employment, and recommend appropriate vocational supports to be provided by vocational rehabilitation counselors, employers and co-workers. Most difficulties were reported in organizing the job process as a whole, with difficulties in how to look for a job, initiating job contact, and following-up once contact was made (Muller 2003). Participants also reported problems in developing succinct resumes that included pertinent experiences and skills, knowing what type of information to provide on the job application, and how much detail to give during the interview (Muller 2003). In addition to these difficulties, frequent job terminations and long periods of unemployment between jobs are reported in the literature (Harlbutt 2004, Muller 2003), creating a checkered work history that is difficult to account for during the job hiring process (Muller 2003).

Facilitators to obtaining employment

Education and family support are reported as the main factors in facilitating employment (Holwerda 2012). Migliore et al. examined the predictors of employment and post-secondary education outcomes for young adults (aged 16 to 26 years) with ASD who had received vocational rehabilitation services. Findings showed that the odds of employment were greater for participants who had received job placement services, yet only 48% of youth received this service. In addition, post-secondary education was among the strongest predictors of better earnings, yet only 10% of youth received college services (Migliore 2012). Roux et al. also examined post-secondary employment experiences of young adults with ASD (aged 21 to 25 years) and compared these outcomes with those of young adults with different disabilities. They found participants

were more likely to find paid employment if they were older, from a higher income household, and had higher functional skills (Roux 2013).

Underemployment

Underemployment is common for adults with ASD who are able to obtain employment. There are different forms of underemployment, concerning hours, income, skills, and status. People may be considered underemployed if they involuntarily work less than full-time, work full-time but don't receive a livable wage, when their job does not afford the opportunity to use their skills, and when their job provides less status than expected on the basis of their background (Friedland 2003). Several studies have found adults with ASD are typically employed part-time, working less than thirty hours per week on average (Baldwin 2014).

Muller et al. found almost all participants reporting lengthy periods of unemployment and/or underemployment, as well as lack of opportunities for career advancement. Several of their participants with ASD had prepared for professional careers by completing graduate level coursework, yet found themselves working in food-services or low-level administrative or customer service positions, doing simple, repetitive tasks for which they were over-qualified (Muller 2003). Hurlbutt et al. reported similar experiences of underemployment. The participants with ASD in their study, for the most part, were not able to find jobs in the fields they had been trained in (Harlbutt 2004). Moreover, several of the participants described only being able to obtain "menial" or entry-level jobs, such as renting out beach umbrellas and cleaning cat cages (Harlbutt 2004). Roux et al. found that young adults with an ASD were most frequently employed in office and administrative support occupations (i.e. material recording, scheduling,

dispatching, and distributing). Transportation and materials moving jobs, tasks involving assembly, food processing, or work in factories also were common. Other frequent job types included food preparation and serving, and building or grounds cleaning and maintenance (Roux 2013). The authors also found that most of the employed adults with ASD earned significantly less money than adults with other disabilities, and worked in jobs that could largely be considered entry-level (Roux 2013).

Baldwin et al. studied a sample of high functioning adults with ASD in Australia and examined the match between their participants' highest education level and the education level required of their job. They found almost half (45%) of the employed adults with ASD in their study were working in jobs for which they were overqualified (Baldwin 2013).

Difficulties on the job

Individuals with ASD frequently have difficulty processing incoming information, particularly when that information is spoken rapidly. Furthermore, they often have difficulty "reading between the lines" and uncovering the implicit as well as explicit meanings of a message. Having difficulty in reading facial expressions and understanding tone of voice, knowing whether someone is teasing or being sarcastic, gauging the appropriate time to conclude a conversation, and understanding the purpose of casual workplace chit-chat are typical social features of people with ASD that can hinder work placement. Hurlbutt found that a number of participants attributed their job difficulties to the social demands of the work environment, rather than the job itself. The participants expressed that they typically did not have difficulty with the tasks, but

had difficulty getting along with co-workers and employers. After having so many jobs and observing the interactions that occur in the workplace, one interviewee developed strong feelings about why people with ASD struggle on the job. He shared this opinion: “The most important rule at work is to get along with others at work. I think that jobs usually are 80% social (conversation, lunch, breaks, chit-chat) and 20% work. People with autism are better the other way around!” (Hurlbutt 2004). Other interviewees reported numerous social struggles, which included being too blunt, obsessing over the meaning of something a co-worker said, and not knowing how many questions to ask when they needed clarification from their boss (Hurlbutt 2004). Muller et al. also found the inability to master the social demands of the workplace to be the most frequently mentioned barrier to vocational success. While some adults with ASD were able to tolerate being socially different, the majority experienced isolation and alienation in the workplace (Muller 2003).

Continuous vocational failures have negative effects, both financial and emotional, on adults with ASD. Feelings of depression, low self-esteem, and frustration are reported by interviewees when describing their inability to obtain work and their frequent job terminations (Muller 2003). When asked about their needs for positive employment outcomes, adults with ASD identified finding the appropriate job match with help from a vocational rehabilitation counselor and a job coach was considered essential for providing individualized ASD-specific support on the job (Muller 2003).

Disclosure is often reported to be beneficial because it allowed for job accommodations (Hurlbutt 2004). However, there is still stigma attached to disclosure (Krieger 2012), and fear that it will not only prevent hiring, but also lead to the employer finding an excuse to terminate (Hurlbutt 2004). For people who choose to disclose their disability, other barriers related to ASD may prevent successful disclosure. The act of disclosing

often requires a complex, emotional, and socially demanding conversation that may be particularly difficult for people with ASD given the communication deficits and social anxieties often experienced by them (Neely 2014).

PEOPLE WITH ASD AND THE WORKFORCE: SUGGESTIONS FROM GOOD PRACTICES.

Every year, on the occasion of World Autism Awareness Day (April 2nd), the United Nations General Assembly and the International Community renew their commitment to raising awareness about autism and the need for people with ASD to have equal opportunity and full participation in society on equal basis with other citizens.

"...the full enjoyment by persons with autism spectrum disorders [...] of their human rights and their full participation will result in significant advances in the social and economic development of societies and communities" and stress "the important contribution that non-governmental organizations and other civil society actors can make in promoting human rights for [...] all individuals with autism spectrum disorders [...] and their integration in societies". The General Assembly voices its concern "that persons with autism spectrum disorders [...] continue to face barriers in their participation as equal members of society" and calls this "discrimination" and "a violation of the inherent dignity and worth of the human person".

For this reason, the UN sent a Call to Action concerning employment for persons with autism. It is an appeal to employers to offer employment opportunities to people with ASD. Employers are invited to submit voluntary commitments containing concrete quantifiable pledges to increase the proportion of their workforce that is comprised of individuals with ASD. There are two main reasons explaining why employers should respond. The first reason is the unacceptably high unemployment rate of adults on the autism spectrum. The second reason is the opportunity for employers to improve the quality of their products and services by tapping into the specialized talents of employees with ASD. Another important issue for employers is to achieve a better

understanding of their customer base by having a workforce that better reflects the general population. In order to match the needs of people with ASD to integrate into the workforce and the opportunity for employers to take advantage of the talents and abilities of a sizable population of workers, many projects about employment for people with ASD have been developed in the last years. Better insights about strengths and failures in previous experiences are of main interest in drawing and supporting new ones.

The following section takes into account some projects that promote job placement for people with ASD according to the international and Italian frame. Study, analysis and comparison of these experiences were the premise on which our research was developed.

Results of four pilot projects on employment of persons with autism supported by the European Union

In 2010, at the request of the European Parliament, the Commission invited grant applications for projects that could help to improve the employment of people with ASD. This pilot action underlined the need for concrete and transferable practical outcomes of sustainable placement for people with ASD in paid work.

From the pilot projects, the Commission aimed to gain better insights into challenges and obstacles faced by people with ASD when entering the job market. In order to identify the best practices, the Commission also aimed to outline the existing policy approaches and types of measures in the Member States.

Four projects were selected and had financial support from the European Commission from 2011 and 2013 (European Union, 2014)

- 1- Specialisterne Foundation (Denmark)
- 2- SWANS project: Sustainable Work for Autism Networking Support (Italy)
- 3- Foundation European Software Institute Center Eastern Europe (ESI-CEE) – Bulgaria
- 4- Berufsbildungswerk Oberlinhaus (Germany)

All four selected projects started in the spring of 2011 and their duration varied from one to two years.

Methodology for the assessment was similar in all pilot projects, consisting of elaborating individual profiles as the first step. The second phase consisted of training and support to progress towards the profile desired by the potential employers. Training was aimed at developing two kinds of skills – technical skills and social skills – according to individual profiles of persons and targeted jobs. In most projects, educators and other support people were trained simultaneously, giving them understanding of the nature of the ASD, and of the challenges in the work environment. At this stage,

projects already exhibited certain differences. Some organisations with previous expertise in the field did not have to spend as much effort as others who were just entering it. Nevertheless, sustained expert support clearly played a central role in all cases.

The third stage involved the acquisition of job openings and the arrangement of placements. Specialisterne Foundation (Denmark) was itself the employer for the persons with ASD. It is their core business to take care of the parts of the business process that a client company wants to outsource – and at the same time they relieve the client companies of the specialized aspects of employing persons with ASD (support, training, legal questions). ESI-CEE (Bulgaria) also played the role of a job placement entity, using its credibility and contacts with the ICT (Information and Communication Technology) companies. The SWANS project (Italy) targeted local small businesses and public sector jobs for placements of their project participants, playing the mediator role. Finally, Berufsbildungswerk Oberlinhaus (Germany) trained and supported their project beneficiaries in writing job applications and attending interviews, replicating the “real world” experience as closely as possible.

In stage five all projects were able to report that stage four – employment – worked according to plan.

Two of these projects are explained in detail because they are both of interest for Italy.

SPECIALISTERNE Project (European Union 2014)

The Specialist People Foundation (SPF) worked in cooperation with around 30 businesses, foundations and educational establishments active in Denmark, Scotland, Germany, Spain, Poland, and UK.

The beneficiaries of the project were persons with ASD who work as “consultants” for Specialisterne and its clients.

The Specialist People Foundation (SPF, Specialisterne) mainly employed people with a diagnosis of ASD, who were placed as “consultants” in other enterprises to work on selected specialized tasks such as software testing, programming and data-entry.

A five-months assessment program was at the core of Specialisterne’s operating model. In this period the candidates with ASD went through different exercises, tasks and work situations. This assessment program helped the candidates to recognise their real personality, skill-set and potential.

Specialisterne licensed its model to other countries and this pilot program was aimed at knowledge transfer and sharing of transnational experiences with Germany, Spain, the UK and Poland as a preliminary step to commencing full-scale operations in these four large EU countries.

Review of business processes led to better tools and a better training process for “consultants”. This process was shared with new Specialisterne entities and other social enterprises.

Feasibility studies were carried out to demonstrate if conditions were generally right for implementing Specialisterne operations in each country.

Following the completion of the project, the Specialist People Foundation has successfully begun Specialisterne operations in Spain, Germany, Poland and in the UK. Specialisterne is now active in many countries worldwide, including also Denmark, Norway, Iceland, Ireland, Austria, Switzerland, USA, Canada and Italy.

Despite the economic crisis that negatively affected the possibilities of finding work for consultants, more than 50 representatives of private companies were actively engaged during the project period, raising their awareness and willingness to employ consultants with ASD.

The results appear sustainable, as the Specialisterne Foundation is expanding its operations. In May 2013, SPF entered into a global partnership with the enterprise software and solutions industry leader, SAP, and Specialisterne Deutschland is based in Munich and opening up office in Walldorf, near Frankfurt, to work with SAPs on employment of people with autism.

We recently interviewed Pablo Mas, *Director of the International Development Office - Southern Europe & Latam*, about the current situation in the world and about projects for Italy. He answered “Specialisterne has already done projects in 34 cities in 18 countries in the world and has directly created job opportunities for more than 1.000 people in the world. In Italy we are aiming to create 30-40 job opportunities by the end of 2018” .

SWANS Project – Sustainable Work for Autism Networking Support (European Union 2014)

Comunità Montana Associazione dei Comuni Trasimeno Medio - Tevere was the project coordinator. Ag.USL Umbria 1, Consorzio Auriga (IT), King' College (UK), and Antwerpen Autisme Opleiding Centrum (BEL) were project partners.

27 persons (aged between 16 and 40) with ASD were the main beneficiaries of the project. Furthermore, 18 persons received tutor training and 50 more social and health workers attended 3-day training on autism issues.

The SWANS-project had a strong academic component, with UK researchers providing systematised knowledge and know-how in the initial phase and also evaluating the feedback from the practical project experience. The project had the direct involvement of local health authorities (Ag.USL Umbria 1).

The training of Italian participants was based on academic knowledge and experiences of a similar undertaking in the UK, the “Prospects” project conducted in London. Italian tutors were trained and educated based on UK academic and practical experience, but also on practical experience from the project partner Antwerpen Autisme Opleiding Centrum.

The training provided theoretical knowledge about the characteristics of persons with ASD. It also provided a detailed overview of practical experiences from other countries in placing persons with ASD in the job market. Finally, the training provided concrete advice on communication and the work environment for people with ASD.

People with ASD were mainly referred by mental health and other clinical departments (35), with social and job services contributing to some extent (7) and families or family association referring one person each.

A series of tests led to the selection of 27 persons, (6 female, 21 males). The majority of selected participants were between 19 and 22 years of age, with 4 between 16 and 18

and 1 over 30.

Simultaneously, over 40 employers were approached for placement of persons with ASD in their enterprises. Twenty-seven agreements to placements in 25 enterprises were concluded. Among employers willing to offer a job, 9 belonged partly or wholly to the public sector (municipalities, schools, cooperatives). Private sector employers came from a wide selection of fields, but generally offered services or goods to general public (hospitality, retail). They were preeminently family firms with fewer than 10 employees.

The duration of placements was between 2 and 12 months, depending on the availability of the employers and persons with ASD for the placements. All placed persons were supported by a trained tutor, who reduced his or her presence at the workplace in correspondence with the increased autonomy of the placed persons and the rising level of awareness and skills in the work environment. Results of the placements focused both on performance indicators of the placed persons and conditions at workplace. After the end of the project, funds raised allowed the expert support to continue to the 14 placements with 12 employers.

The main impact of the project in the region of Umbria, and more widely in Italy, was primarily in the areas of awareness and attitude change. Increased awareness by stakeholders, especially public authorities, appeared sufficiently high at the end of the project.

The placements of 14 persons with ASD in jobs were sustained after the end of the project until resources were found to continue expert support. We interviewed one of the coordinators of the project, Angiolo Pierini MD, to find out about the work situation of the participants after the program was completed. He answered that in the 2013-2014 period, there were 4 continuations of no-tutor placements due to the good level of autonomy achieved at the workplace. In 2014 with funding from UMBRIA REGION

(Euro 30 000) a 6 month internship was resumed for 10 boys. As for employment, one was hired by a chain of hotels. Occasionally other participants got paid internships. The major difficulties encountered in the SWANS Project involved the financing of insurance coverage and resources for expert support.

Italian projects for the employment of people with ASD

Over the last fifteen years, numerous projects have been launched in Italy to develop multidisciplinary networks to spread competencies among operators and to support the employment of people with autism.

The transition to adulthood, preparation for work, the professional qualification of the carers working with ASD in the employment/work placement phase, the placement and the adaptation of the working environment are common to many models proposed and funded in Italy in recent years.

There is currently no shared methodology for planning work placement projects for people with ASD in Italy. The SWANS project, described in the previous section, is a model frequently taken into account for clarity of methodology and objectives. One of the best known Italian experiences is START Autism (START Autism, Territorial System for Autism and the Realization of Talents of People with Autism), supported by the European Social Fund and launched in Abruzzo in 2012. The main objectives of the project are: job placement of people with ASD and the acquisition of specific competencies by the providers who support them in the enrollment and job placement phases. At this time, results on the effectiveness of this project in terms of employment of people with ASD are not yet available.

In Regione Lombardia, starting from 2000, the *"in service"* model was proposed (Lomascolo T, 2010). It is a multidisciplinary and multi-institutional training model dedicated to people with ASD. The first experience started in 2000, within the Autistic Syndrome Experimental Project of Regione Lombardia, by the Autism Coordination Working Group. In the 2007-2009 period, with the support of the Provincia di Milano, an experience was carried out involving providers from of a wide network of services. In an experimental way, in collaboration with the parents' association Angsa

Lombardia, a training course for families of people with autism was also planned and implemented. Even in this case, the project results are not yet known.

TANGRAM Project

The potential resources offered by people with ASD is one of the most stressed aspects to encourage their social inclusion. Indeed, people diagnosed with autism have particular features that could be regarded as “skills” in specific working environments. Punctuality, precision, ability to intensively focus on a task and complete it, loyalty, efficiency in performing repetitive tasks, high levels of competence in some areas of interests (Migliore 2012) are just some of the features that people with autism can offer. Unfortunately, the deficit in communication and interpersonal relationship typical of ASD, significantly hamper the acknowledgement of these putative strengths points by potential employers. For this reason, effective communication - ways, tools and messages - is very important for achieving the goal. On the other hand, with respect to other conditions of disability, fears of fragility and unpredictability of behavior may make employers less likely to accept candidates with autism.

The aim of the TANGRAM Project was to facilitate the matching of the candidates' profile with the recruiting companies' needs, in order to maximize the benefit for both parties. The different components of the project (e.g., disclosing initiatives, meetings, partnerships, development of specific tools) contributed to the achievement of a main goal: encouraging employers to perceive the candidate with autism as an opportunity and not as an obligation required by ethics and law.

Our hypothesis was that a better understanding and a valid communication of the candidates' strengths and an open discussion with employers about their worries may encourage hiring people with ASD. Therefore, communication strategies and synergies between different stakeholders play a central role in this multidisciplinary model.

The project was divided into several parts, implemented at several levels at the same time. Starting from the assessment of the working experience among a group of people referred to the Laboratorio Autismo, several activities related to the process of integration into employment realities were initiated.

From the earliest stages of the project, great importance was given to the possibilities of multidisciplinary meeting and confrontation. In particular, in addition to academic speculation, meetings were sought with representatives from the job market and public institutions. Two opportunities were created to address this topic: a workshop (“Inserimento lavorativo e categorie protette: un obbligo di legge può trasformarsi in un’opportunità. Esperienze e proposte per i lavoratori con autismo” Milano, 2016 – *Attachment A*) and a symposium (“Inserimento lavorativo di persone con autismo: modelli ed esperienze” in “Decent work, equity and inclusion: passwords for the present and the future” Padova, 2017 – *Attachment B*).

The Career Day - “Porte aperte alle imprese” that took place at the University of Pavia (Pavia, 2016) was also considered a good opportunity to have direct contact with a large number of companies, in order to illustrate the project and invite them to attend the workshop that would take place in Milan a few days later.

Materials and methods

Summary of the main phases of the project.

1-Evaluation of working experiences of patients referring to the Laboratorio Autismo

2- Introduction of candidates with autism through the TANGRAM Profile

- a) Development of the instrument (TANGRAM Profile) within the Laboratorio Autismo with the collaboration of the Work Psychology Team
- b) Modifications of the TANGRAM Profile based on suggestions by the Human Resources Depts. of some companies (Campari, Mapei, Kiabi, Cisco, I and O srl, Multiserass srl)
- c) Filling the TANGRAM Profile through interviews addressed to patients referring to the Laboratorio Autismo

3-Pilot project for job placement of candidates

4-On-line questionnaire "DISABILITY AND WORK: feedback on how to employ",
submitted to the Human Resources Offices of companies.

1- Evaluation of working experiences of patients referring to the Laboratorio Autismo

Patients referring to the Laboratorio Autismo were asked to fill out an online questionnaire (*Attachment 1*) and were supported in doing so by phone when possible. The interview focused on their education, past and present work experiences, with particular attention to the characteristics of the employment status (internship, placement, recruitment within protected category) and remuneration. Those who had a job at the time of the interview were asked about main tasks carried out and whether they considered that job appropriate to their skills. During the interview, they were also asked about their interests and skills and whether they had found an opportunity of satisfaction over the years.

2- Introduction of the candidate with autism through the TANGRAM Profile

a) Development of a specific tool (TANGRAM Profile) within the Laboratorio Autismo and with the collaboration of the Work Psychology Team.

The TANGRAM Profile is an interface tool developed to facilitate the presentation of people with ASD to the enterprises. It is intended to be completed by competent professionals with clinical expertise in diagnosing and treating adults with ASD. This tool was thought of and structured considering the possible point of view of potential employers.

Since the project highlights the employers' perspective, standard basic principles in building the CV were followed. In fact, the TANGRAM profile matches instructions for filling the Europass Curriculum Vitae (CV) with the need to make the potential employers aware of the features of a candidate with autism, highlighting strengths and suggesting solutions to avoid or minimize limitations connected to personal factors and symptoms associated with ASD.

Recruiters generally only spend a few minutes reading a CV before deciding to reject it, or to shortlist it for detailed consideration. Failure to make the right impact can cause a missed opportunity.

For this reason, CVs should be concise: two pages are usually more than enough, regardless of the education or work experience of the candidate. In order to focus only on the essential information, the first part of the TANGRAM profile is composed of only two pages.

The first page summarises personal information, main skills and past achievements that could be related to the job the candidate is applying for. Additionally, education, training and antecedent work activities, including explanation of the causes of any break, are presented in this section. Since work experience is often limited, education and training are described first, highlighting relevant aspects of training, volunteering activities, placements or traineeships and work experiences. CVs should be adapted to suit the job the candidate is applying for. For this reason, the candidate's strengths should be highlighted according to the needs of the employer and focus on the skills that match the position.

The first page of the TANGRAM Profile includes reference to Law No. 68/99 (March 12th, 1999) on the rights of people with disabilities.

The second page summarises personal skills more generally, job-related skills, and main personal factors about personality, behaviour and autonomy that are considered of relevance in obtaining and keeping a job. Details about suitable work environment features are also included in the candidate presentation. In fact, employers need information about specific requirements concerning work environment, such as noise, light, spatial organization (i.e. open spaces or individual rooms), social demands and the possibility of modifying it according to the "reasonable accommodation", the legal definition to describe adjustments made in a system to

accommodate or make the system fair for an individual with a proven need
(*Attachment 2*)

In the second part of the TANGRAM Profile - the “technical attachment” - the candidate is presented according to macro areas and domains about personal and job-related skills. Personal information is explained according to personality, behaviour, sensoriality, specific interests, and autonomy. Linguistic skills are evaluated on a five-point Likert scale which ranges from elementary (1) to advanced (5). Mental abilities, which include logical, verbal, computing and performance capabilities, are assessed on a five Likert type scale, ranging from very poor to excellent. The same response scale is used for the macro-area of personal capabilities that comprises eleven domains: communicative and relational skills (e.g. understanding of social rules, understanding of others’ emotions); autonomy (e.g. performing a task, handling money); determination (e.g. orientation toward the achievement of an objective); emotional balance (e.g. anger and other intense emotion management); open-mindedness and flexibility (e.g. tolerance toward the interruption of daily routine, tolerance toward change); reliability (e.g. honesty, integrity, taking responsibility); analytical skills and abilities to solve problems (e.g. ability to cope with unexpected problems); abilities of planning and programming (e.g. punctuality, ability to be focused despite external stimuli); technical-professional skills; computer and digital competences; artistic skills. The candidate with autism is assessed on all the domains and a global evaluation is specified at the end of each of the macro-areas. In sum, the “technical attachment” provides a detailed skill profile of the candidate which underlines his/her strengths and weaknesses (e.g. problematic behaviours) and suggests, through the use of notes, possible practical solutions to overcome potential problems that could arise within the workplace.

b) Modifications of the TANGRAM Profile based on the suggestions of the Human Resources Depts. of some companies (Campari, MilanoSport, Mapei, I and O srl Kiabi, Cisco, Multiserass srl)

Since the submission of the job request is usually based on the company's perspective, the TANGRAM Profile draft was modified on several occasions according to the observations from the Human Resources Depts. of the collaborating companies. The suggestions concerning the proper terminology for communicating the candidate's main and soft skills, the simplification of the technical-scientific language, the features of the graphic presentation (e.g. spatial organization, types and colors used) are the main contributions provided by the companies.

c) Filling the TANGRAM Profile

Two male patients were enrolled in the pilot study. Data for the TANGRAM Profile were provided by two staff members (CP and NB) and the form was filled out after a consensus meeting of the staff.

The patients enrolled each received an ASD diagnosis from expert clinicians with the support of gold standard instruments (ADOS-2 - *Autism Diagnostic Observation Schedule-2*; ADI-R - *Autism Diagnostic Interview- Revised*). The final definitive clinical diagnoses were made according to the DSM-5 criteria (American Psychiatric Association 2013) through a consensus meeting among the staff members. Severity levels were determined for criterion A (“Persistent deficits in social communication and social interaction across multiple contexts”) and B (“Restricted, repetitive patterns of behavior, interests, or activities”). According to the DSM-5, people with

level 1 of severity require support; people with level 2 of severity require substantial support; people with level 3 of severity require very substantial support.

Standardized cognitive assessments (WAIS – Wechsler Adult Intelligence Scale, Leiter-R, Raven’s Progressive Matrices) and an adaptive functioning evaluation (Vineland Adaptive Behavior Scale) had been previously performed.

Psychiatric interviews, Hamilton Anxiety Rating Scale (HAM-A), Hamilton Depression Rating Scale (HAM-D) and *WHOQOL-BREF* scale were included for the assessment upon entry into the study.

3-Pilot project for job placement of the candidates

The matching phase between the company needs and the candidate profile was followed with particular care. Apart from the written presentation represented by the TANGRAM Profile, a careful mediation process was implemented in order to anticipate any possible difficulties experienced by either party. Troubleshooting was possible through joint and individual meetings with both companies and candidates, allowing for sincere explanation of doubts and worries. We want to emphasize the importance of equal respect and consideration of the interests of both parties, a necessary condition for optimal matching between candidate and company needs. Once a match between the candidate profile and the company's requests has been established, the placement provided an unpaid internship period in which to test the suitability of the work relationship in practice. In accordance with an individual evaluation, the internship period was carried out with the support of a mentor with experience in educational support for people with autism and trained on the tasks required by the position. Costs for educational support were sustained by the family. The tutoring was structured to be gradually reduced, according to the progressive

acquisition of independence and self-trust by the candidate. This phase enabled us to find out the initially unforeseen difficulties and to develop the appropriate strategies to deal with them. Upon completion of the internship, the employers' interest in and modalities for continuing the collaboration were evaluated.

Hamilton Anxiety Rating Scale (HAM-A), Hamilton Depression Rating Scale (HAM-D) and WHOQOL-BREF were administered to the candidates before and after the internship period.

4-On-line questionnaire "DISABILITY AND WORK: Feedback on how to employ", submitted to the Human Resources Depts. of companies.

In order to replicate our job placement model, a survey was developed to understand the expectations and worries of the recruiters regarding the employment of workers with disabilities and, in particular, with autism. An e-mail was sent to the Human Resources Depts. with a brief outline of the scope of the research project promoted by the University of Pavia and a link to the online questionnaire to be filled anonymously (*Attachment 3*).

Results

1-Evaluation of working experiences of patients referring to the Laboratorio Autismo

Patients referring to the Laboratorio Autismo were asked to fill an online questionnaire. General characteristics of the sample are depicted in Table 1. Supported with phone contact when possible, 87 people answered (65 males and 22 females), aged an average of 30 years (mean 30,26; range 13,36-57,37). Cognitive functioning was normal (IQT >75) or higher than average in 59,8% of respondents. Severity levels were distributed as follows: as concerns criterion A, 28 individuals had level 1 (32,2%); 28 had level 2 (32,2%) and 31 level 3 (35,6%); as concerns criterion B, 28 individuals had level 1 (32,2%), 25 had level 2 (28,7%) and 34 person had level 3 of severity (39,1%).

The largest proportion (62%) of people with ASD lived with their parents or other family members and 24% were institutionalized (supported or residential living); only 12 people of the sample (13,8%) were self-reliant or lived in a family other than that of origin.

Of the 35 adults with intellectual disabilities, 21 (60%) had residential placements and the remaining 40% lived with parents. No independent supported living arrangements were reported.

In our sample 12 people (13,8%) were full-time students. For the rest, the highest educational qualification was a degree for 14% of the sample. One-third (34,5%) completed upper secondary education, 6,9% received a vocational school diploma and 36,8% received generic certificates of school attendance.

Table 1 Characteristics of people with ASD who answered the questionnaire

	N = 87	%
Age, years		
Mean (SD)	30,26(±10,56)	
range	13,63 – 57,37	
Sex (males)	65	74,7
IQT		
Mean	81	
Range (SD)	36 – 145 (±37,05)	
IQT > 75	52	59,8
Criterion A, severity		
Level 1	28	32,2
Level 2	28	32,2
Level 3	31	35,6
Criterion B, severity		
Level 1	28	32,2
Level 2	25	28,7
Level 3	34	39,1
Marital status		
single	85	97,7
Living arrangements		
Self-reliant	10	11,5
With partner/own family	2	2,3
With parents	54	62,1
Residential placement	21	24,1
Highest educational qualification		
Degree	14	16,1
High school diploma (5 years)	30	34,5
Vocational school diploma (3 years)	6	6,9
School attendance certificates	32	36,8
Current students	12	13,8

Past and current work experiences were compared to each other in 75 adults (non-students) with ASD (**Table 2**). Compared to the past, the current situation showed an increase in the number of people who do not carry out any activity (from 28% to 49.3%) and, at the same time, there is a decrease in the number of people doing an internship (paid or not), from 52% in the past to the current 28%. The situation of total paid work remains fairly stable (20% in the past and 22.6% in the current situation), with an increase in work in protected categories and a reduction in regular work. As far as people with intellectual disability are concerned, 18 of 35 adults with ASD (51.4%) do not carry out any activity, while the remaining 17 (48.6%) are employed for a few hours a week in internships, unpaid placements or occupational therapy (data not shown). Therefore, none of the people with intellectual disability in our sample generate income for their own sustenance. Moreover, none of them followed a specific educational training in the past, assessed on the basis of a functional evaluation and on the person's preferences.

Table 2: Comparison of past and present work situation among non-student people

	Past employment		Current work placement	
	N=75	%	N=75	%
No activity	21	28	37	49,3
Unpaid internship	32	42,7	21	28
Paid internship	7	9,3	0	0
Protected work	6	8	10	13,3
Regular work	9	12	7	9,3

Characteristics of non-student ASD adults with normal cognitive functioning are depicted in **Table 3**. The sample is made up of 40 persons, 13 females and 27 males. The female mean age is about ten years higher than the male sample ($37,70 \pm 11,76$ for women and $28,53 \pm 9,30$ for men), with similar age ranges. Females account for about one third of the group (32.5%), with a higher IQT than males ($116,23 \pm 12,36$ for women and $106,78 \pm 209,83$ for men). Women have lower severity for both criteria A and B: 76.9% of females have level 1 severity for A criterion (vs 37% in males), 84.6% of females have level 1 severity for B criterion (vs 37% in males). Almost all of the sample are single, only 2 women are married. More than half of women (53.8%) have independent living arrangements: 5 women are self-reliant (38.5%) and 2 women are married (15.2%) and live in a family other than that of origin. Among males, they all are single and only 5 men are self-reliant (18.5%); the rest of the sample of adult men without intellectual disability (81.5%) live with their parents.

Educational qualification is higher for females. Almost half of women have a degree (46.2%, vs 25.9% for males), while the remaining half of the sample have a high school diploma (46.2% vs 59.3% for males).

Even the outcomes of employment are better for females, as among activities carried out in the past, 69.2% of women experienced at least one paid job and more than half had had at least one work experience outside the protected categories. For males, having a job in the past is reported in 22.2% of cases and only 2 men (7.4%) had a regular job, outside the protected categories. Over half of the male sample, as the highest past experience, report paid (22.2%) or unpaid internships (37%). In addition, 18.5% of males reported that they had never had any activities in the past, compared to 7.7% of women. The difference between males and females is confirmed in current work experience, as 61.6% of women with normal cognitive functioning have a job, distributed in regular work for 38.5% and work in protected categories for 23.1%.

Among men without intellectual disabilities, 33.3% currently have a job (within protected categories in 25,9% and with regular job for the remaining 7.4%). Overall, among 40 adults with ASD and normal or higher cognitive functioning, 42,5%, (17 people, 9 males, 8 females) currently have a job and are divided into 25% (7 males, 3 females) in protected categories and 17,5% (2 males, 5 females) in regular work.

The 17 people who are currently employed were asked for an opinion on their satisfaction in carrying out their work and if they consider the job appropriate to their skills and level of education. Only 4 people are satisfied (23.5%). It is important to underline that among these 4 people, one man carries out a "tailor-made" job within a family-owned business; one woman is very happy because she carries out an activity that coincides with her own interest (comic books) but receives a very low pay, and a third person is employed in a part-time job not because he chose part-time (since he would prefer a full-time job) but hiring regulations in protected categories within co-operatives do not allow full-time. Therefore, the situation of the latter person can be defined as underemployment.

Table 3: Characteristics of ASD adults without intellectual disability

	F		M	
	N	%	N	%
Age, years	13		27	
Mean (SD)	37,70 (+11,76)		28,53 (+9,30)	
range	23,94-56,97		19,36-57,37	
IQT				
Mean (SD)	116,23 (+12,36)		106,78 (+20,83)	
range	91-137		76-145	
Criterion A, severity				
Level 1	10	76,9	10	37
Level 2	2	15,4	16	59,3
Level 3	1	7,7	1	3,7
Criterion B, severity				
Level 1	11	84,6	10	37
Level 2	2	15,4	16	59,3
Level 3	0	0	1	3,7
Marital status				
single	11	84,6	27	100
married	2	15,4	0	0
Living arrangements				
Independent/alone	5	38,5	5	18,5
Independent/family	2	15,4	0	0
With parents	6	46,2	22	81,5
Residential placement	0	0	0	0
Educational qualification				
Degree	6	46,2	7	25,9
High school (5 years)	6	46,2	16	59,3
Vocational school (3 years)	1	7,7	4	14,8
Past employment				
none	1	7,7	5	18,5
Unpaid internship	2	15,4	10	37
Paid internship	1	7,7	6	22,2
Protected work	2	15,4	4	14,8
Regular work	7	53,8	2	7,4
Actual work placement				
none	5	38,5	14	51,9
Unpaid internship	0	0	4	14,8
Protected work	3	23,1	7	25,9
Regular work	5	38,5	2	7,4

2- Introduction of candidates with autism through the TANGRAM Profile

The TANGRAM Profile was filled out for 2 male patients of Laboratorio Autismo. In this preliminary phase, in which it is necessary to understand whether and how the TANGRAM Profile and the whole work placement should be adjusted, attention was paid to the many possible details rather than the sample size.

An example of a filled out TANGRAM Profile is depicted in **Attachment 2**

3-Pilot project for job placement of candidates

The results of this phase are presented through two detailed case reports.

Case Report 1, A.C.

AC is a 30 year old man. He was diagnosed with ASD at the age of 25. A psychiatric interview and gold standard autism diagnostic instruments (ADOS and ADI-R) were used to confirm the ASD diagnosis, in addition to performing standardized cognitive and adaptive functioning assessments.

He has borderline cognitive functioning (IQ 83). Severe anxiety was indicated by the Hamilton Anxiety Rating Scale (HAM-A, score 31/56) when AC was enrolled for the TANGRAM Project.

AC has no special interests. He says he aspires to a quiet life, with simple and clear tasks, friends with whom to spend time, sometimes going to the restaurant and the cinema. To be serene, he thinks it is important to have a job, a necessary condition to be self-reliant.

At the time of enrollment in the study, he doesn't have a job. The prolonged state of unemployment is increasing his anxiety and is consolidating the conviction that he will never find a job. He is aware of the difficulty of finding employment for all people. So he thinks that for people with disabilities it is almost impossible. The fact that many people with autism among his friends live in the same condition confirms the distrust of the possibility of employment. Pessimism is leading him to a progressive social retreat, with anxious manifestations increasingly evident when he faces minimal changes in daily routines.

Aware of this deeper state of anxiety, AC thinks that even if an employment opportunity happens, it may be too late, as anxiety will prevent him from seizing and exploiting the opportunity. To accentuate the severity of the situation, his parents' attitude of mistrust contributes to AC's low self-esteem and lack of confidence in his abilities.

TANGRAM Profile filling

Operating secretarial activities, computer use (good command of Microsoft Office and Internet Explorer), mail management, archives and documents are AC's main skills and they are immediately reported under personal data in the TANGRAM Profile. The fact that AC belongs to protected work categories is also highlighted. Punctuality and precision in carrying out the assigned tasks complete the brief initial introduction, which can give the employer, in a few words, an idea of the candidate's characteristics and of the company's possible interest in his recruiting.

AC has a high school degree (commercial technical institute). In his past work experience five unpaid internships are reported. These experiences lasted one month each, except for one that lasted three months. The only work that he considers worthy of this name was over ten years before, with a fixed-term contract of six months, as a clerk

in a store. He also experienced two project collaborations, with a duration of three months each and occasional activities as a house painter, cleaner and poll watcher.

AC's profile is described in **Attachment 2**

AC's profile was considered of interest by a company operating in claims management. The company was previously debriefed on the research topic carried out by the University of Pavia on the employment of people with ASD. The company was looking for a worker to be included in protected work categories. Main tasks required were the reception, scanning and archiving of incoming documentation. AC was identified as suitable for this job. AC's profile (his expertise in secretarial work, the practice of document scanning, the precision of his performance) matched with the company's request for the job consisting of receiving accident notifications, scanning documents and filing them electronically. These operations represent the basis of the work carried out by the office responsible for claims settlement. It is important to emphasize that the electronic claims management system is the strength of the company.

Contact, matching, and job placement

1-The company selects AC's TANGRAM Profile and contacts the Project Supervisor CP (PS-CP)

A telephone interview between Human Resources (HR) staff of the company and PS-CP confirmed the matching between company's requests and AC's profile.

2- Supervisor CP meets HR representatives within the company.

The HR representatives of the company describe the tasks required to PS-CP, and all the operations were concretely shown. This phase allowed PS-CP to get an idea of the chances that AC will be able to carry out the tasks, the possible difficulties and

strategies that can be suggested to AC in order to solve any problems occurring during the execution of the tasks. Anticipating possible unexpected problems and providing strategies to solve them, as a sort of "toolbox", is very important to reduce anxiety, a very significant feature in AC specifically and in most people with ASD.

The supervisor's on-the-spot survey also allows evaluation of the characteristics of the working environment (lighting, noise, space layout, possibility of modifications). Furthermore, the supervisor meets future work colleagues and get some opinions about the presence of possible reference figures with tutor function within the office.

3- PS-CP meeting with candidate AC to communicate the possibility of a preliminary interview with the company.

PS-CP and candidate AC outlined a plan for conducting the job interview at the company, based on the candidate's particularities and the company's features previously assessed by PS-PC. We paid much attention to this stage of the process, given the risk of disappointment if the placement didn't work.

4-Meeting of candidate AC with the HR staff of the company, with the presence of PS-CP.

The PS-CP introduced AC to HR staff of the company, limiting her intervention in the interview to brief explanations. This strategy allows the company to assess the degree of autonomy of the candidate. On the other hand, facing the interview with his own strengths allows the candidate to perceive his sense of self-effectiveness and this perception attenuates the anxiety and worries of not being up to the tasks that will be assigned to him. During the meeting, AC visited the workplace and was introduced to the people who work in the office. The required tasks were also described and operations were shown in practice. In fact, the concrete thinking of people with ASD

requires concrete demonstrations. The opportunity to experience the tasks made AC aware of being able to perform them. For each phase, PS-CP checked up on AC and enquired about his opinions or doubts. When each phase was understood and AC felt he was able to do the task, it was possible to move to the next step. The result of this gradual settling of single steps made it possible to stabilize the acquisition of the entire process. At the end AC was aware that he would be able to do that job.

At the end of the visit to the company, PS-CP and AC wrote a short list of the required tasks together, so AC has a concrete tool that helps him to identify any doubts. The required operations will be:

1. • receiving of file claims (each file is stapled with a metal clip).
2. • stapling of individual files.
3. • scanning individual files (careful not to omit any written part of the document)
4. • electronic filing based on a system of internal coding.
5. • filing of hard copies of claims in special folders and shelf spaces.

During the meeting, possible supports to AC by a trainer were examined.

5- Feedback phase.

Some day after the meeting SP-CP contacted AC to check on his mood and checks to see if any doubts have arisen in the meantime. AC was satisfied. On the following days, he faced daily activities with greater enthusiasm and less anxiety and enjoyed spending time with friends, to whom he proudly communicated the possibility of a job.

The phone feedback required to the company was also positive.

6-Matching evaluation, based on company needs and AC possibilities.

A part-time job was foreseen for AC. He and his family have expressed the preference for reduced time job, given his difficulty in sustaining long-lasting activities. AC would prefer a morning activity. The company accepted a reduced time job and planned activities on the basis of AC's availability, but requested his presence for four hours in the afternoon and not in the morning, as claims to be filed will be available in the afternoon. There was, therefore, an agreement that meets the needs of both parties.

7- Waiting period.

This period lasted about two months, during which a trainer was selected by the supervisor for AC's gradual introduction into the company. In order to allow this support to AC's autonomy, a proper legal and bureaucratic pathway must be identified for the protection of all involved parties. Finding an agreement between the parties on bureaucratic, insurance and administrative matters has taken a considerable amount of time.

The delay due to the bureaucratic pathway adversely affected the state of AC, who started experiencing increasing anxiety, worrying that the placement will not take place.

8- 3-months internship period

The first month of the internship is organized as follows:

- First week: Work on Monday, Wednesday and Friday afternoon with the trainer.
- Second and third week: Work all afternoons with the trainer.
- Fourth week: Work all afternoons without trainer

At the end of the month all the stakeholders (AC, the company, the trainer, the family and the supervisor PS-CP) give positive feedback. So the internship went on for the next

two months without the trainer's support. The trainer was occasionally present for a check.

Further trainer support was provided when a reduction in the accuracy of AC scan activity was reported by the company. Colleagues identified some omissions in scanning and this is a serious problem for the reliability of the Electronic Claim Management System that represents the company's strength. Reports of the episodes by colleagues initially annoyed AC. Subsequently, AC understood the importance of finding a solution to help the company maintain the required accuracy.

AC's proposed to scan one page at a time. As an alternative, the supervisor and the trainer designed and proposed a quality control sheet.

The strategies adopted allow the original accuracy to be restored.

7-Activation of a fixed-term contract

AC is continuing his job with a fixed-term contract that will end November 2017 and has a regular wage. He has recently been informed that the contract will be renewed at the end of November.

Case Report 2, S.Z.

SZ is a 17 year old boy. He was diagnosed ASD at the age of 8, but no therapy was suggested. The high cognitive functioning seemed to offset his strangeness and apparent disinterest for social interactions. Persistent focus on trains, timetables, lines, and railway stations had been his special interest since he was 3 years old.

SZ had a long history of difficulties in maintaining and sustaining relationships with peers, and prefers his own company to that of others. He had always struggled to regulate his own emotions and to make sense of his feelings and those of other people.

SZ was referred to the Laboratorio Autismo when he was 14 due to concerns about low mood and social withdrawal. In that period he was experiencing significant bullying by peers at school because of his special interest in trains: he was nicknamed “choo-choo”. SZ often spent his school break drawing maps of railway lines and train timetables and his behaviour was considered quite strange by his school-mates. For this reason they made fun of him. He was also becoming more aggressive toward family members. He showed intense agitation and verbal aggressiveness towards people on buses and trains when they had inappropriate behaviours (i.e., they put their feet on the seat, talked loudly, held the volume of music high, threw trash on the ground). Episodes of anger were becoming very frequent, especially on public transport.

He was worried about something being wrong in his head. He thought he was mad. Before then, no one had talked to him about autism and made him aware of his neurocognitive functioning. In agreement with his parents, we revealed the diagnosis of ASD to SZ and explained the meaning of his neurodiversity in daily life. The diagnosis “all of a sudden made sense”, he said. Nevertheless, accepting it took some time. At a later time he accepted the disclosure of diagnosis to his teachers. A personalized teaching plan was built and some changes in the school environment were made.

Behavioral and emotional cognitive therapy was started and improvement in mood, anxiety, abnormal and obsessive behaviours, were recorded in the following year.

When he was 16 years old, the school program, according to a MIUR directive, included a work internship in a company. At the beginning this request made the student anxious because it required moving to an unknown environment and the requested tasks caused uncertainty. The challenge was transformed into an opportunity to do an internship at the RAILWAY Operations Center, in line with the student's special interest.

TANGRAM Profile filling

SZ was presented to the company via the brief version of the TANGRAM Profile, in which his special interest and considerable expertise on railway lines, train structures, services and stations were highlighted.

Contact, matching, and job placement

1-The Project Supervisor CP contact RAILWAY Human Resources Office to verify the interest in the proposal.

2- PS-CP's meeting with HR representatives

During the meeting, PS-CP described SZ's special interest in trains and provided information about SZ's anxiety and the need of predictability of activities. Choices between different tasks were proposed by the company. An internship at RAILWAY Operations Center was considered the most suitable to SZ's features and interests.

3- Meeting with SZ to communicate the possibility of the internship and agreement for an exploratory tour of the RAILWAY Operations Center.

SZ was very surprised when he was told about the chance to have an internship at the RAILWAY Operations Center. It took a while to make SZ understand that it was not a tease. When he was convinced, a date was agreed upon to visit the site.

4-Meeting of candidate SZ with the chief of RAILWAY Operations Center.

During the visit, the manager showed SZ the various tasks performed by the operators and the functions of the equipment. SZ demonstrated not only that he was already aware of what was being explained, but also pointed out some of the critical issues. Without the need of explanation, SZ was able to interpret the meaning of each symbol represented on the large display showing the Lombard railway network. During the visit, SZ showed the staff some examples of his work on his special interest, such as detailed maps of train lines and train timetables developed to optimize waiting times for the travelers. The staff's amazement was evident. At the end of the meeting, the manager of the Operations Center expressed a favorable opinion and approved the internship.

5- Feedback phase

SZ's state and queries were ascertained some days after the meeting. SZ felt happy as never before. At the same time, he said that he was so used to being unlucky that he was sure that something would probably happen to prevent the internship.

The phone feedback required to the company was also positive.

6-Matching evaluation, based on company needs and SZ skills.

In this case, the high cognitive functioning and the high level of SZ's skills made him able to do many tasks in this work setting. In order to have quantifiable and verifiable goals, SZ was offered to set up a timetable model to optimize the viability of three train lines sharing the same tracks and stations for a part of the railroad.

7- Waiting phase.

The internship start was established according to the school plans. We judged that SZ did not need any educational or training support during the internship. The high autonomy level and the kind and helpful people in that workplace were judged sufficient guarantee for a proper and safe placement. SZ's insurance coverage in the internship was provided by the contract with the company, in accordance with the ministerial directives.

8- Internship period

The internship took place five days a week, eight hours a day, for three consecutive weeks.

No supervision in the workplace was required nor were any problems reported from the colleagues.

In weekly interviews with Laboratorio Autismo, SZ reported the work in progress and expressed his enthusiasm. He did not experience anger or anxiety in the workplace. He also reported fewer anger episodes when he was on public transport, usually consequences of the rudeness of passengers. SZ said that he seemed to be able to withstand it better (i.e., had a slightly higher tolerance threshold). In addition, as he sometimes wanted to keep his state of well-being, on the way back home after the internship, he tried to avoid the situations considered "at higher risk of anger",

modifying his behavior with a previously unexpressed flexibility. We interviewed him to investigate his state of mind and general mood. He answered "From these interviews you can't understand how I feel. You can understand better if I tell you that since I was a child, on Sunday evening I was very sad and worried. On Sunday it bothered me to watch TV programs where people laughed. Every time I thought *"What are they laughing at? Perhaps they don't know that tomorrow is Monday"* For the first time in my life, on Sunday evening I'm happy, as I look forward to getting to Monday" .

A few days before the end of the internship, SZ reported anxiety and deep sadness at the idea of ending the experience. Considering the effects on SZ's well-being and RAILWAY's interest in continuing the collaboration, a way has been found to continue it, allowing SZ to go to the Operations Center one afternoon per week.

4-Online questionnaire "DISABILITY AND WORK: feedback about work placement", submitted to the Human Resources Depts of companies.

The answer to the online questionnaire was provided by 62 companies. On a seven-point Likert type scale, the TANGRAM Profile was evaluated positively in all dimensions (see **Table 4**). The TANGRAM profile was considered useful, simple, comprehensible, accurate, clear, relevant, effective, and complete.

Table 4: Evaluation of TANGRAM Profile

<i>Dimension</i>	<i>Mean</i>	<i>SD</i>	<i>Scale of answers</i>
Utility	1,92	1,29	1=useful; 7=useless
Simplicity	2,61	1,49	1=simple; 7=difficult
Comprehensibility	2,05	1,19	1=comprehensible; 7=unintelligible
Accuracy	1,81	1,25	1=accurate; 7=imprecise
Clarity	2,02	1,29	1=clear; 7=confuse
Relevance	2,13	1,27	1=relevant; 7=irrelevant
Synthesis	3,03	1,63	1=concise; 7=redundant
Effectiveness	2,34	1,32	1=effective; 7=ineffective
Completeness	1,98	1,38	1=complete; 7=incomplete

Most employers (see **Table 5**) answered that their company currently had no employees with physical or intellectual disability (61.30%), that they had not employed people with disabilities over the past 12 months (82.3%), that they were not currently looking for candidates with disabilities (90.30%). Most of the sample had previously had work experience with people with disabilities (59.70%).

Table 5: Frequency related to personal experience with people with disabilities

	NO		YES	
	n.	%	n.	%
Does your company currently have employees with physical or intellectual disabilities?	38	61.3	24	38.7
Has your company employed people with disabilities in the past 12 months?	51	82.3	11	17.7
Is your company currently looking for disabled candidates?	56	90.3	6	9.7
Did you already have work experience with people with disabilities?	25	40.3	37	59.7
			Mean	SD
If you already had work experience with people with disabilities, how many people have you met ?			4.45	8.05
Overall, how do you evaluate the quality of such experience?			5.49	1.12
<i>extremely negative</i> 1 2 3 4 5 6 7 <i>extremely positive</i>				

Employers think that a person with ASD may have a low chance of receiving a job offer (M = 3.00) or keeping a job for a long time (M = 4.03). They feel a low probability of having people with ASD in their company (M = 3.08), although they think that inclusion and acceptance of workers with ASD by their colleagues is possible (M = 4.87) (Table 6)

Table 6: Employers' opinions about the possibilities of employment of people with ASD

How likely do you think it is for a person with ASD to receive a job offer?	3.00	1.38
How likely do you think it is for a person with ASD to maintain a job?	4.03	1.61
How likely do you think it is for your company to involve people with ASD in the future?	3.08	1.58
How likely do you think it is for a person with ASD to be accepted by colleagues at work?	4.87	1.58
<i>absolutely unlikely 1 2 3 4 5 6 7 absolutely probable</i>		

The main obstacle identified (see Table 7) with regard to the recruitment of people with disabilities is the poor knowledge of the disability itself (M = 5.29), followed by the concern that the nature of the job is not adequate with respect to the characteristics presented by people with a disability (M = 4.95) and the actual costs associated with the adaptation of the working environment (M = 4.85). Other major obstacles identified are: discomfort or poor familiarity with the intake of people with disabilities (M = 4.68); lack of knowledge about the real costs associated with the adaptation of

the working environment (M = 4.68); concern about the difficulty in recruiting people with disabilities with appropriate qualifications for the job (M = 4.68).

Table 7: Main obstacles identified with regard to the recruitment of people with disabilities

PERCEIVED OBSTACLES	<i>Mean</i>	<i>SD</i>
Discomfort or poor familiarity with the recruitment of people with disabilities	4.68	1.78
Attitudes of colleagues towards disability	5.29	1.63
Attitudes of superiors towards disability	4.03	1.78
Customer attitudes towards disability	4.10	1.85
Lack of knowledge about the actual costs associated with adapting the working environment	4.34	1.69
Actual costs related to the adaptation of the working environment	4.68	1.52
Concern about the costs of insurance coverage	4.85	1.54
Concern about the reactions of other employees due to the economic treatment reserved for people with disabilities	3.97	1.75
Concern about the difficulty in recruiting qualified people	3.34	1.81
Concern over the fact that the nature of the work is not adequate to the characteristics of people with disabilities	4.68	1.70

Discussion

In last decades, since the formal description of autism in the 1940s, there have been major advances in research relating to diagnosis, causation, and treatment approaches for people with this condition (Howlin 2012). However, research into prognosis, outcomes, or effective interventions for adults with autism spectrum disorders (ASDs) is much more limited. There are few well-controlled studies of effective treatments or services in adulthood, and the evidence base for effective interventions for adults remains very weak, particularly those at the higher functioning end of the spectrum (Howlin 2017). Moreover, interventions for adults, if used, focus mainly on training basic self-help skills or reducing challenging behaviours in people with more severe intellectual impairments (Howlin 2012). The few available review studies of outcome in adulthood indicate that many people with ASD, including those of normal or high IQ, are significantly disadvantaged regarding employment, social relationships, physical and mental health, and quality of life (Howlin 2012).

Support to facilitate social integration is frequently lacking, and there has been almost no research into ways of developing more effective intervention programs for adults. Among employment-age adults with disabilities, some of the lowest employment rates are for individuals with ASD (Bureau of Labor Statistics 2015). Yet, employment is critical to quality of life.

Behavioral skills training (BST) has been used extensively to teach skills to individuals with and without disabilities but few published studies have examined BST with individuals with ASD in the workplace (Howlin 2012). Due to the social-communicative deficits associated with ASD, traditional job training and coaching methods (e.g. lengthy verbal instruction) are often counterproductive for individuals with ASD in finding and keeping a job. Therefore, job training should be tailored to the

specific sensory, emotional and relational characteristics of people with ASD, and should also be able to identify interesting opportunities in terms of job placement.

The Italian situation is even more critical for adults with ASD, as current support is lower than international standards (ISTISAN 16/17). Thus, in Italy people with ASD face the work world with lower usable skills and greater fragility as only a minority of current adults have received adequate psycho-educational support during childhood and adolescence.

Our research on people with ASD referring to the Laboratorio Autismo confirms the difficult situation of adults with this neurodiversity and reveals a cultural approach focused more on assistance to meet primary needs rather than on the support of abilities, without a view to personal achievement and reduction in social costs. In the planning of the lives of the interviewed people, there is no awareness of the domains of personal satisfaction, nor is there a social plan for broad-based planning to reduce social costs. Obviously, this does not depend on people with ASD and their parents, who are calling for a society more concerned with the personal fulfillment of people with ASD. The concept of life meant as “survival rather than existence” is very evident in the adult group with ASD and intellectual disability, but it is also strongly marked in the group without cognitive disability, in which a fragmentary and unplanned educational pathway – and one often inconsistent with the person's abilities - prevents the achievement of the goal of a meaningful life. In our sample, we found gender differences in the outcome of work and independent life, with better results achieved by women with ASD than men. The fact that the average age of women was 10 years higher than men and the higher cognitive functioning for the female group do not allow a clear comparison between the two groups. However, sex differences have been found among toddlers and young children with ASD and throughout childhood and adolescence (Lai 2011, Mandy 2012). Females have less repetitive stereotyped behavior and less externalising and social

problems than males (Mandy 2012). These features could facilitate work placement for women with ASD as compared to men.

Our online questionnaire “Disability and Work”, addressed to companies, highlights another important issue that needs to be taken into account for job placement of people with ASD. An effective policy, with significant impact and not limited to small numbers of personal experiences, requires knowledge, interest, openness and receptivity from the business world - conditions that are currently unavailable and which need to be addressed.

In fact, even in case of adequate educational training and support for people with ASD – i.e. optimizing strengths and compensating for fragility - job placement necessarily requires a second stakeholder: a company able to find an interesting resource in a worker with ASD. Quality of vocational training programs to teach targeted social-vocational skills is undoubtedly very important, but may not be effective if the gates of the job market are closed. This hypothesis seems to be confirmed by the low employment rate, even in countries where the psycho-educational and vocational support in childhood and adolescence is higher than in Italy (Shattuck 2012).

Therefore, keeping in mind that the main goal of vocational training is finding and keeping a job for people with ASD, in addition to the specificity of autism, educational programs should also take into account the characteristics and needs of the job market, trying to match the characteristics of people with ASD with business demands from adolescence.

In order to promote the enhancement of individual abilities, early detection of some individual features would be advisable to guide the educational pathway and habilitation towards the most useful direction for the person. To make it possible, in addition to the

assessment of cognitive functioning and basic skills, attention should also be paid to the study of the person's preferences, an indispensable aspect to ensure that the life project takes into account individual self-realization and happiness. Self-determination is linked to positive outcomes, including improved social inclusion and quality of life, but adolescents and adults with ASD rarely are active participants in the goal setting process (Hodgetts 2017). Currently available research on these topics does not provide evidence that can guide choices for enabling paths. The evolution of the idea of spectrum in autism suggests the importance of planning innovative studies based on recent knowledge on ASD, in order to compound together the distinctive characteristics of this neurodiversity with the wide inter-individual variability. The multitudes of possible combinations of cognitive disability, severity in terms of supportive needs and presence of abilities (up to real talents) allow at least three possible paths that can be differentiated from adolescence, with the possibility to start an early matching with the job market.

People without special interests and with moderate to severe disabilities could be early directed towards activities in which repetition, simplicity and predictability of the tasks are the main features. Among activities identified as most frequent among people with ASD (Howlin 2012) tasks related to weaving, packaging and cleaning may be appropriate. For people with high support needs, placement in a company may be difficult and not useful for the person with ASD or for the enterprise. Alternative situations can be imagined in these cases, such as the creation outside the enterprises of training laboratories, where some manufacturing work is done that can be useful to the enterprise. The economic support for such laboratories by enterprises could be the way in which businesses fulfill the statutory obligation to include disabled workers within their own workforce (Art14 Decreto Legislativo 276/2003).

For people with autism with mild or absent intellectual disabilities and with no special interests that can be spent on work, office, accounting, and secretarial services appear to be the most appropriate (Howlin 2012), as well as catering and cleaning jobs.

Finally, in regard to people with special interests, especially those who have standard or above standard cognitive functioning, skills related to special interests should be detected and supported by vocational training, favoring matching with the job market beginning in adolescence. The internship period of the school-work alternation at secondary school is an important opportunity to introduce people with ASD into the work world. Schools can play a significant role in this field, as they can help to create a network of sympathetic businesses on this topic. This awareness could favor the reception of students with ASD during the internship period, with a possible continuation of the relationship by hiring the candidate after the completion of studies. Our research has confirmed the possibility of this early matching and the overall benefit derived from the satisfaction expressed by the student and the company. The continuation of the relationship beyond the term of the internship is a confirmation of this successful matching.

With the increasing prevalence of individuals diagnosed with ASD, there is a need to develop programs to support them throughout their lifespan. In the planning and allocation of economic resources, projects focusing on the fact that people with ASD are the indispensable beneficiaries should be privileged. The improvement in the training of the staff involved is undoubtedly an advantage, but can not become a priority over the concrete benefits for people with ASD. This is consistent with the evaluation method used by the European Community for funds allocation to research projects. The Italian SWANS Project was evaluated positively for the clarity of the goals and the methods. The quality of academic education about autism, the high number of people with ASD

who had an internship for about six months and the significant improvements found in the domains of autonomy and socialization, confirmed the merit of the funding received. On the other hand, only one of the 27 participants got a job after the end of the training - and not within the company where he had been trained after the end of the training period. No long-term reassessment of competences was carried out. However it is likely that the suspension of activities and the termination of the use of acquired skills have resulted in their partial regression.

This situation is emblematic of how a well-structured project implemented with appropriate modalities in terms of academic education on ASD does not have the potential to produce a long-term benefit if it is not accepted, favored, and amplified by a sensitized company.

Therefore, with a vision of effective work placement, projects involving people with ASD should be planned taking into account the cultural and economic particularities of the country in which they are implemented, providing a network of companies sensitized and willing to hire candidates with ASD after the end of the training period. Academic education on ASD for the planning and implementation of educational interventions is undoubtedly a necessary condition. But it is not enough to achieve an effective insertion strategy unless it is matched with a network of companies willing to accept the proposal. To make this happen, in planning a job employment project, it is important to include tools and professionals who can mediate between candidates with ASD and the business world.

In our research, the TANGRAM profile seems to be a matching tool with favorable features, according to the evaluation of the companies that answered the questionnaire "Disability and Work". On the other hand, the difficulty of finding at least one company willing to hire our candidate demonstrates that the comprehension of the message is not enough if there is no guarantee that someone wants to listen to it. Confirmation of the

positive evaluation of the TANGRAM Profile six months after the job placement suggests that the tool provides a reliable and consistent description of the features of the worker with ASD. This observation will require confirmation on a larger sample.

In order to increase the number of possible job placements, strategies need to be identified for the creation of a network of companies willing to accept workers with ASD. Our research has created the opportunity for contacts with Specialisterne, the Danish company that was mentioned in the background of this report. In view of the important results achieved by the number of job placements in the world, in the next months a collaboration of the Laboratorio Autismo with Specialisterne is planned in order to encourage further work placements among people referred to our Centre.

Limitations of the study

The premises and the frame of our research have been deduced from the experiences of job placement reported in scientific literature. On this basis, a work placement model has been hypothesized and its main objective is the realization of the best possible match between the needs of the worker with ASD and the company. The limit of such a constructed model is represented by the fact that its realization requires a cultural predisposition which does not depend on the specific theme related to autism and can not be taken for granted, especially in a country like Italy where the application of laws that protect the rights of persons with disabilities is often disregarded. The current period of economic difficulties further discourages the implementation of social policies with medium and long-term objectives. For this reason, it would have been important to weigh the value domains and the motivations (i.e. “why take action”) of the companies in particular with regards to the complexity of the administrative aspects and the economic incentives connected with the recruitment of people with disabilities. We

hope that the collaboration with Specialisterne and Confindustria can be useful in order to better clarify these aspects.

In addition to the limits connected with the definition of the social frame, the main limitation of our research is that we only had one work placement. The wide variability of the characteristics of people with ASD, the many possible combinations between the candidates with ASD on the one hand and the different possible companies and types of requested tasks on the other, would require testing the TANGRAM profile in a larger number of different situations. A larger sample would have let us ascertain whether the tool has the required flexibility for the matching between workers' profiles and the needs of the companies. Moreover, in order to ascertain if the TANGRAM profile is actually a concise and informative tool to present the strengths and fragilities of a person with ASD, it would have been desirable to compare the assessments made by clinicians from different Centers. In our study, this comparison was carried out for a single patient (data not shown) referring to the Laboratorio Autismo and served at the same time by a Center where she was carrying out a training internship. In this single case in which the comparison was made, a good agreement was found between the assessments from the two Centers.

Conclusion

In our experience, the approach to the business world was very difficult on the three occasions when we tried to make a contact. The poor participation of enterprises at the workshop organized in 2016; the difficulty of reaching Human Resources Departments to propose the "Disability and Work" questionnaire; the difficulty of getting just one job placement through the presentation of the TANGRAM Profile are significant indicators. Moreover, if such difficulty was encountered by a proposal sent by the academic world, it is likely that for individuals with ASD the opportunities for positive contacts are even lower. A rather closed job market without signs of a change in the future seems to be a barrier even for proposals like the SWANS Project. For this reason, for an effective policy for the placement of people with ASD, it becomes a priority to guide the entrepreneurs to look at the opportunities offered by the worker with this neurodiversity. To make this happen, a careful assessment of the worries and difficulties of enterprises for recruitment of people with disabilities is needed. Our research has created the opportunity for a confrontation with Confindustria, action planned for the coming months through the definition of a Protocol of Understanding with the University of Pavia. Professionals on ASD on one side and business representatives on the other will make an effort to highlight the critical features of the job placement system for people with disabilities, with the aim of defining some proposals to submit to institutions.

Issues concerning social dynamics, although not falling within the specific tasks required by professionals working with ASD people, need to be taken into account to achieve the goal of job placement. Our research highlights that the problem of social and work placement for people with ASD is very complex and must be addressed simultaneously at all levels. Otherwise, apart from not producing lasting benefits for

people with ASD, partial interventions are likely to result in a waste of resources. A common language, the involvement of new professional figures as communication mediators, in a renewed frame where desires and worries from all stakeholders are equally taken into account; all these are necessary elements for effective planning in this field. Therefore, for experts on ASD – a form of neurodiversity characterized by impairment in communication and a tendency “for detail-thinking” - it seems that the ability to communicate and build multidisciplinary networks is a fundamental requirement. This seems to be true not only for the research on job placement (Szamari 2012).

Perhaps the main challenge proposed by autism is the ability to engage experts on ASD in network thinking. In other words, acquiring the ability to communicate could be the great opportunity that people with ASD are offering us.

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Attachment 1



Questionnaire on the employment of persons with ASD

This research is aimed at people who have been evaluated by the Laboratorio Autismo in Pavia. Participation takes about 5 minutes and aims to evaluate this important aspect, still researched. If the person is not able to fill in the questionnaire, the form can be completed by parents or caregivers.

E-mail address _____

Surname _____

Name _____

Date of Birth _____

- Education 1__1 Elementary
 1__1 Secondary School
 1__1 Professional School (3 years)
 1__1 High school (or equivalent - 5 years)
 1__1 University

Are you a full-time student? 1__1 Yes 1__1 No

IN THE PAST

Answer without referring to your present activity.

Did you do a paid job? (In case of multiple choice, select the highest number below)

- 0 No
- 1 Yes, internships, unpaid internships or occupational therapy that can produce indirect income (e.g., unpaid inventory work or laboratories whose products can be sold).
- 2 Yes, internships or paid placements
- 3 yes, protected work (e.g., special lists, or needing facilitating conditions)
- 4 yes, regular work

What was the duration of the job you held for more time? (including internships or stage, answer in months; if shorter than one month write "1"; always refer to the highest number of the previous answer.)

1 _____ 1

How many unpaid internships or placements did you do?

- 1 2 3 4 5 6 7 8 9 10

AT PRESENT

Answer with reference to CURRENT working activity.

Are you doing paid work? (In case of multiple choice, select the highest number below)

- 0 No
- 1 Yes, internships, unpaid internships or occupational therapy that can produce indirect income (e.g., unpaid inventory work or laboratories whose products can be sold).
- 2 Yes, internships or paid placements
- 3 yes, protected work (e.g., special lists, or needing facilitating conditions)
- 4 yes, regular work

How long have you been in the current occupation? (except for the study but including internships or stage; answer in months; if shorter than a month write "1"; always refer to the highest number of the previous answer.)

1 _____ 1

Specify what your job is and if you think it is appropriate to your skills. If not, write why.





Curriculum Vitae

First name / | AC
Surname
Place and date of
birth
Residence
Address
Marital status
Telephone
e-mail

MAIN SKILLS:

Undertaking secretarial activities, computer use (good command of Microsoft Office and Internet Explorer), mail management, archives and documents.

The candidate is a precise, timely, meticulous person in the performance of assigned assignments

Enrollment in Protected Categories - Civil Invalid listed in Targeted Job Placement of Disabled Persons Directory of the Province of Milan (Law 68/99, Law 407/90)

EDUCATION:

TRAINING COURSES:

WORK EXPERIENCE:

SYNTHETIC ASSESSMENT (detailed description available in Technical Document)

PERSONAL CHARACTERISTICS	
<i>More meaningful, documentable and expendable skills.</i>	The skills gained so far by the candidate are particularly useful for secretarial operating activities such as: data entry, archive re-sorting, photocopying, document scanning, correspondence management, fax and fax reception, checking and reordering of stationery, library management.
<i>Highlights of candidate strengths.</i>	The candidate is a kindly and well-mannered person. He is precise, punctual, meticulous in the performance of tasks assigned and in compliance with the rules. It is believed that he can show increased flexibility and initiative spirit once he has acquired security and familiarity with the environment, people and jobs. Commitment to volunteering activities confirms the desire and the ability to share and support within the group.
<i>Summary of weaknesses and constraints to be considered, possible problem behaviors, and possible solutions.</i>	Sensitivity to confusing environments and inhibition or anxiety in case of unpredictable demands, especially if requests are presented in abrupt and rude ways. He usually requires the opening and offering signals by the interlocutors. Otherwise, he has difficulty in entering the conversation rounds. The fear of mistake makes it difficult for him to take personal initiatives.
MOTIVATIONS, INTERESTS, EXPECTATIONS	
<i>Motivations, interests, desires and expectations, meaning of work for the person.</i>	Work is seen as an important reason for personal satisfaction, indispensable for opening up prospects of autonomous life.
MOVEMENT AUTONOMY	
<i>Movement autonomy with own or public transport.</i>	Driving license B . However, the candidate does not drive and uses only public transport.
<i>Availability of accompaniment by educator or family</i>	Presence of a tutor in the initial phase of insertion.
<i>Availability for work transfer</i>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>

REQUESTS FOR POSSIBLE ADAPTATIONS OF THE WORK ENVIRONMENT

<i>Improvements and adaptation of the working environment, need for support and support type.</i>	It would be advisable to avoid tasks in open space or to require frequent displacements and changes in the work setting. It is also advisable to plan some short breaks during the day. It is desirable, at least for the insertion phase, to have a colleague-tutor who can act as the reference figure within the working environment.
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TECHNICAL DOCUMENT

LANGUAGE SKILLS					
	LVL. 1 elementary	LVL. 2 intermediate	LVL. 3 upper intermediate	LVL. 4 advanced	LVL. 5 proficient
ITALIAN					
WRITING			X		
SPEAKING			X		
UNDERSTANDING WRITING			X		
UNDERSTANDING SPEAKING			X		
FOREIGN LANGUAGES					
ENGLISH					
WRITING	X				
SPEAKING	X				

The evaluations below will use the following scale:

vP= Very poor

P= Poor

A= Average

G = Good

E= Excellent

The symbol * shows the aspects that can be improved by identifying the types of useful supports

MENTAL CAPABILITIES					
	vP	P	A	G	E
LOGIC Ability to solve logical problems using systematicity and method, to draw inferences from premises (deduction), to grasp general relations from particular data (induction).				X	
VERBAL Degree of knowledge of the words and their meanings, ability to understand verbal expressions and to translate thought into a correct, structured and clear verbal exposition.				X	
NUMERICAL Ability to use numeric symbols and solve simple arithmetic operations quickly and accurately, putting in place good mental concentration skills.			X		
PERFORMANCE Simple and / or complex task execution, motor coordination, high-motor and end-motor skills, visual and spatial perception, space orientation.			X		
SYNTHETIC ASSESSMENT OF MENTAL CAPABILITIES			X		

PERSONAL ABILITIES

	vP	P	A	G	E
<p align="center">COMMUNICATIVE AND RELATIONAL ABILITIES</p> <p>Ability to introduce himself to others and to express himself appropriately, adapting own language and behavior to the situation. Includes the ability to listen, give space to others and interpret their expectations and needs; ability to persuade, motivate adequately own affirmations and the ability to engage other's interest.</p> <p><u>Communication</u>: transmission of information (receptive and expressive language), management of communication process.</p> <p><u>Relational ability</u>: internal and external work relations.</p> <p><u>Teamwork</u>: ability to interact with others, using own personal and professional resources to achieve common objectives.</p>					
TOLERANCE OF CHAOTIC ENVIRONMENTS AND ABILITY TO WORK IN GROUP		X			
ABILITY TO WORK IN SILENT ENVIRONMENTS AND ON SOLITARY JOBS				X	
ABILITY TO TAKE OR LEAVE THE TURN IN A CONVERSATION			X*		
ABILITY 'TO SHOW UNDERSTANDING OF EMOTIONS OF OTHERS				X	
ABILITY TO UNDERSTAND SOCIAL RULES				X	
ABILITY TO INVOLVE OTHERS WITH RESPECT FOR THEIR PRIVACY				X	
ABILITY TO SEEK INFORMATION HELP FROM OTHERS			X**		
ABILITY TO USE AN APPROPRIATE NON-VERBAL LANGUAGE				X	
ABILITY TO UNDERSTAND NON-VERBAL LANGUAGE NOT OF OTHERS				X	
<p>SUGGESTIONS: * it is difficult for him to take his turn in the conversation. The insertion can be favored by the interlocutors, through attitudes of opening and offering topics.</p> <p>** is able to ask for help if he knows and has confidence in people and receives opening and offering signals.</p>					
	mSc	Sc	M	B	O
<p align="center">AUTONOMY</p> <p>The ability to cooperate, even if unsolicited, in the absence of a formal consent and demonstrate resourcefulness, respecting principles and context rules</p>					
ABILITY TO FOLLOW SIMPLE INSTRUCTIONS GIVEN IN SEQUENCE					X
ABILITY TO AUTONOMOUSLY CARRY OUT INSTRUCTIONS PREVIOUSLY GIVEN					X
ABILITY TO FOLLOW COMPLEX INSTRUCTIONS				X	
ABILITY TO REPEAT THE TASK INDEPENDENTLY				X	
ABILITY TO FOLLOW EXPLICIT INSTRUCTIONS					X
ABILITY 'TO COMPLY WITH THE RULES					X
TENDENCY TO COMPLY WITH THE RULES					X
ABILITY TO UNDERSTAND EXCEPTIONS WHEN EXPLAINED AND MOTIVATED				X	
ABILITY TO RECOGNIZE SAFETY RISK SITUATIONS				X	
ABILITY TO ENSURE SELF SAFETY FOLLOWING GIVEN INDICATIONS					X

ABILITY TO REACH THE WORK PLACE IN AUTONOMY				X	
ABILITY TO MANAGE MONEY				X	
Suggestions:					
	vP	P	A	G	E
<u>DETERMINATION</u> Will to orient himself towards achieving the goal, time-tune his resources, demonstrate tenacity and perseverance and ability to act resolutely and with finalized action.				X	
Suggestions:					
	vP	P	A	G	E
<u>EMOTIONAL EQUILIBRIUM</u> Ability to handle interpersonal relationships with stability and to maintain a calm and controlled attitude even in tension situations.					
ABILITY TO USE PERSONAL MODES TO MANAGE INTENSE EMOTIONS				X	
Suggestions: It is possible to have anxiety states in the event of overburdening. It would be beneficial to allow some breaks during the day for a better emotional equilibrium.					
	vP	P	A	G	E
<u>MENTAL OPENING AND FLEXIBILITY</u> Interest in and willingness to deal with ideas and experiences different from oneself and to approach organizational contexts different from those of belonging.					
ABILITY TO FOLLOW LONG ROUTINE TASKS					X
ABILITY TO TOLERATE THE INTERRUPTION OF ROUTINE			X*		
ABILITY TO TOLERATE CHANGE			X**		
ABILITY TO TOLERATE WAITING			X		
ABILITY TO TOLERATE PERCEPTIONAL STIMULI				X	
Suggestions: * it is preferable to anticipate routine interruptions. ** it is preferable to anticipate changes.					
	vP	P	A	G	E
<u>RELIABILITY</u> Ability to act with correctness and consistency, respecting the rules and agreements taken. Capability of assuming own responsibilities, ensuring constant performance over time.					
HONESTY					X
ACCURACY					X
TAKING ON RESPONSIBILITY			X*		
Suggestions: * It can be improved if the demands, expectations and assignment of tasks are clear and well-defined when planning work.					

	vP	P	A	G	E
<u>ANALYSIS AND TROUBLESHOOTING</u>					
Set of personal knowledge, skills and resources designed to deal with difficult, problematic or unforeseen situations regarding the organization, own job or that of others.					
ABILITY TO FACE UNEXPECTED SITUATIONS AND PROBLEMS.			X*		
Suggestions: * It is possible that the candidate is inhibited if he is pressured, while in a quiet environment he can find the solutions himself. It would be useful to present the most common unexpected events, so that some possible strategies for resolving them can be anticipated.					
	vP	P	A	G	E
<u>PLANNING</u>					
Set of knowledge, skills and personal resources designed to plan his own or others' work and to prefigure the effects on own activities, to plan timing and mode of use of instruments.					
PUNCTUALITY					X
ABILITY TO NOTE DETAILS AND USE THEM FOR THE JOB					X
ABILITY TO IDENTIFY A BIG PICTURE				X	
ABILITY TO ORDER, SELECT AND CATALOG					X
ABILITY TO PLAN OWN WORK				X*	
ABILITY TO POSTPONE STEREOTYPY TO MOMENTS OF PRIVACY					X
ABILITY TO MANTAIN ATTENTION			X		
ABILITY TO KEEP CONCENTRATED IN SPITE OF PERCEPTUAL STIMULI		X			
ABILITY TO ASK FOR OR TO TAKE A BREAK WHEN AGREED			X**		
ABILITY TO SWITCH TO DIFFERENT JOBS			X		
Suggestions * Excellent planning for known activities with predictable effects. ** Ability is present if there is familiarity with the interlocutor.					
<u>TECHNICAL-PROFESSIONAL SKILLS</u>					
It is the set of knowledge, skills and resources that is specific to and distinctive of the professional activity. It derives from previous professional or educational qualifications in which the person has taken part (indicate in which context the mastery has been developed). Eg administrative-accounting, legal, economic-financial, logistics, etc. The candidate has competences in secretarial office functions through PCs, management of correspondence, archives and documents.					
<u>IT AND DIGITAL</u>					
- Use o PC with good command of Microsoft Office and Internet Explorer. - Search information using Google search engine, saving and filing of information. - Use of online communication tools via e-mail, social network, Skype. -Conversion of VHS to DVD movies.					
<u>ARTISTIC-EXPRESSIVE</u>					
A set of knowledge, skills and personal resources aimed at composing or expressing artistic products of various kinds. Eg drawing, graphics, music, singing, acting, writing, etc. Originality and Innovation: Ability to propose original improvements, taking into account the context in which they can be applied. There are no particular skills of the candidate in this area.					

OTHER SKILLS

Activities in leisure time, participation in voluntary associations, day centers, sport activities.

The candidate has carried out and still carries out volunteering at AILS Onlus (Italian Association of Scleroderma Fighting), Banco Farmaceutico Onlus, and participates in fundraising initiatives for Christmas markets.

	vP	P	A	G	E
SUMMARY EVALUATION OF PERSONAL SKILLS				X	
SUMMARY EVALUATION OF THE PERSON				X	
<u>ORIENTATION:</u>	The skills gained so far by the candidate are particularly useful for secretarial activities such as: data entry, archive re-sorting, photocopying, document scanning, correspondence management, fax and fax reception, checking and re-ordering of stationery, library management.				

DISABILITÀ E LAVORO: feedback
sulle modalità di inserimento

AVANTI

Non inviare mai le password tramite Moduli Google.

***Disability and Work
feedback about work placement***

(addressed to the employer responsible for selection/insertion)

The purpose of this questionnaire is to find useful information for improving the presentation process for candidates with autism.

Thinking about your contact experience with people with autism in your business, please answer the following questions.

The compilation of the questionnaire will take approximately 15 minutes.

We assure you that all data of your completed questionnaire will remain absolutely anonymous (in compliance with the Personal Data Protection Code, Legislative Decree 196/2003) and will be processed along with those of your other colleagues in the statistical data analysis.

Thank you for your cooperation, which is fundamental to promote the employment of people with disabilities.

D1. Below you will find a tab containing a series of adjective pairs with opposite meaning. Thinking of the documentation with which the candidate with disability was introduced to you, please put an X on your evaluation, also in comparison with a simple traditional curriculum vitae.

The documentation received is

Useful	1	2	3	4	5	6	7	Useless
Simple	1	2	3	4	5	6	7	Difficult
Comprehensible	1	2	3	4	5	6	7	Unintelligible
Accurate	1	2	3	4	5	6	7	Imprecise
Clear	1	2	3	4	5	6	7	Confused
Relevant	1	2	3	4	5	6	7	Irrelevant
Concise	1	2	3	4	5	6	7	Redundant
Effective	1	2	3	4	5	6	7	Ineffective
Complete	1	2	3	4	5	6	7	Incomplete

D1. As far as you know, does your company currently employ staff with physical or intellectual disabilities?

D2. In the past 12 months, has your company employed people with disabilities?

D3. Does your company actively hire candidates with disabilities?

D4. How many people with physical or intellectual disabilities do you know personally or professionally? (specify the number of people)

D5. How many people with autism do you know personally or professionally? (specify the number of people)

D6. Have you previously had work experience with people with disabilities (e.g., training, job, recruitment)?

D7. If so, we ask you to indicate the number of people with disabilities with whom you have had previous work experience during your professional career:

D8. Thinking about your past experience with people with disabilities, how do you evaluate the quality of such experiences? Please indicate your rating by placing a cross in the scale below.

In the four questions below, answer using a scale from 1 to 7, where 1 = absolutely unlikely and 7 = absolutely probable

D9. How likely do you think it is for a person with autism to receive a job offer? 1 2 3 4 5 6 7

D10. How likely do you think it is for a person with autism to maintain a job? 1 2 3 4 5 6 7

D11. How likely do you think it is for your company to involve people with autism in the future? 1 2 3 4 5 6 7

D12. How likely do you think it is for a person with autism to be accepted by colleagues at work? 1 2 3 4 5 6 7

QUESTIONNAIRE ON EMPLOYERS PERSPECTIVES RELATED TO HIRING PEOPLE WITH DISABILITIES

Below you will find a list of factors that employers often report being potential obstacles to hiring people with disabilities. We ask you to express your opinion using a scale from 1 to 7, where 1 = does not constitute a real obstacle and 7 = is an important obstacle.

In your opinion, how much is each of the following factors is a real barrier to hiring people with disabilities?

D13. Discomfort or poor familiarity with the recruitment of people with disabilities	1	2	3	4	5	6	7
D14. Poor knowledge or information about people with disabilities	1	2	3	4	5	6	7
D15. Attitude of colleagues towards disability	1	2	3	4	5	6	7
D16. Attitude of superiors towards disability	1	2	3	4	5	6	7
D17. Customers' attitude towards disability	1	2	3	4	5	6	7
D18. Lack of knowledge about the actual costs associated with adapting the working environment	1	2	3	4	5	6	7
D19. Actual costs related to the adaptation of the working environment (e.g., architectural improvements, changes in the working environment)	1	2	3	4	5	6	7
D20. Concern about the insurance costs	1	2	3	4	5	6	7
D21. Concerns about the reactions of other employees due to the economic treatment reserved for people with disabilities	1	2	3	4	5	6	7
D22. Fear of possible conflicts that may arise at the workplace	1	2	3	4	5	6	7
D23. Concerns about the difficulty in recruiting people with qualified disabilities	1	2	3	4	5	6	7
D24. Concern about the fact that the job is not adequate to the characteristics of people with disabilities	1	2	3	4	5	6	7

ATTITUDE TOWARDS HIRING PEOPLE WITH DISABILITY

Finally, we ask you to answer some questions about your perception on the issue of hiring people with disabilities. For each statement submitted, indicate the degree of your agreement using the following scale:

1 Strongly agree	2	3	4	5	6 Strongly disagree
------------------------	---	---	---	---	---------------------------

How much do you agree with the following statements?

- | | | | | | | |
|---|---|---|---|---|---|---|
| D25. Companies should have a specific human resources policy for people with disabilities | 1 | 2 | 3 | 4 | 5 | 6 |
| D26. Disabled workers should be paid less than regular workers, because of their disability | 1 | 2 | 3 | 4 | 5 | 6 |
| D27. Disabled workers should not be favored in promotion | 1 | 2 | 3 | 4 | 5 | 6 |
| D28. Companies should not make special efforts to hire people with disabilities | 1 | 2 | 3 | 4 | 5 | 6 |
| D29. In the staff selection process, companies should pay particular attention to disabled workers | 1 | 2 | 3 | 4 | 5 | 6 |
| D30. People with disabilities need extra training | 1 | 2 | 3 | 4 | 5 | 6 |
| D31. People with disabilities enrich the work environment | 1 | 2 | 3 | 4 | 5 | 6 |
| D32. In general, companies show preferential treatment for people with disabilities | 1 | 2 | 3 | 4 | 5 | 6 |
| D33. Companies tend to discriminate against people with disabilities | 1 | 2 | 3 | 4 | 5 | 6 |
| D34. Disabled workers are a burden on regular workers | 1 | 2 | 3 | 4 | 5 | 6 |
| D35. In general, disabled workers are not as productive as normal workers | 1 | 2 | 3 | 4 | 5 | 6 |
| D36. The fact that my superior has or does not have a disability makes no difference to me | 1 | 2 | 3 | 4 | 5 | 6 |
| D37. The fact that a colleague can have a disability does not make a difference to me | 1 | 2 | 3 | 4 | 5 | 6 |

Attachment A

Il tema dell'inclusione lavorativa delle persone appartenenti alle categorie protette è questione assai dibattuta. I risultati fino ad ora ottenuti in questo ambito sono, complessivamente, poco soddisfacenti, sia sul versante delle aziende sia su quello dei lavoratori con disabilità; le prime, perché vivono la pressione di un obbligo di legge che prevede sanzioni se non viene rispettato; i secondi, per la scarsa probabilità di trovare un impiego, raramente commisurato alle proprie potenzialità. È presumibile che parte della responsabilità dell'inefficace integrazione sociale realizzata in Italia in questo ambito sia attribuibile ad un modello culturale della disabilità che antepone il peso del deficit rispetto al valore delle abilità. Conseguenza di questo stato di cose è l'imposizione legale del supporto e dell'inserimento lavorativo della persona "disabile", senza la possibilità di percepire e affrontare tale intervento come l'inserimento di una persona "abile" nello svolgimento di compiti utili per l'azienda. Perché ciò possa avvenire, è importante che si modifichi innanzitutto l'atteggiamento di coloro che accompagnano verso il mondo del lavoro la persona con disabilità, superando per primi la definizione diagnostica di deficit e spostandosi sul piano della valutazione funzionale, premessa per l'individuazione delle abilità e per il loro potenziamento.

Il cambiamento di atteggiamento costituisce la premessa perché il rapporto di lavoro tra aziende e lavoratori con disabilità scaturisca dall'incontro delle rispettive esigenze ed opportunità, evitando la contrapposizione tra la logica del profitto aziendale e la questione etica del supporto alle persone in condizione di svantaggio. I due aspetti, infatti, non sono inconciliabili, a condizione che le "tessere" del mosaico vengano collocate ciascuna nel rispetto della forma e della posizione delle altre.

Il workshop mette a fuoco l'inserimento lavorativo delle persone con autismo. Più correttamente definito come "disturbo dello spettro autistico", si tratta di un'anomalia neurobiologica con prevalenza in rapida crescita; la stima attuale è superiore ad un caso su 100 individui. La definizione di "spettro" rende ragione dell'ampia variabilità clinica, includendo numerosi soggetti con funzionamento cognitivo normale o superiore alla norma. Penalizzate da luoghi comuni assai radicati nella cultura italiana, le persone con autismo possono essere del lavoratori-modello per efficienza e comportamento. Esperienze compiute in altri Paesi hanno evidenziato come i lavoratori con autismo, oltre ai risultati concreti raggiunti con la propria attività, rappresentino spesso uno dei fattori favoriti le dinamiche di relazione all'interno dei gruppi di lavoro, contribuendo al miglioramento dei risultati complessivi raggiunti.

Il workshop sarà l'occasione per presentare un modello di interfaccia tra il lavoratore con autismo e le aziende. La descrizione di effettive esperienze realizzate nel mondo del lavoro confermerà la possibilità di un produttivo scambio tra i due versanti. Le riflessioni da parte degli esperti e la proposta di piste di lavoro da percorrere completerà il quadro dello scambio tra potenzialità della persona autistica e opportunità per il mondo del lavoro.

Iscrizioni

La partecipazione al workshop è gratuita.
È necessario iscriversi compilando il modulo on-line

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CENTRO DI RICERCHE SULL'ORIENTAMENTO
E LO SVILUPPO SOCIO-PROFESSIONALE
UNIVERSITÀ DEGLI STUDI DI PAVIA
DIPARTIMENTO DI SCIENZE DEL SISTEMA
NERVOSO E DEL COMPORTAMENTO

Inserimento lavorativo e categorie protette: un obbligo di legge può trasformarsi in un'opportunità

Esperienze e proposte
per i lavoratori con autismo

Sabato 28 maggio 2016
Aula Maria Immacolata, ore 9.30-16.00
Largo Gemelli, 1 - Milano

Workshop

www.unicatt.it



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DIPARTIMENTO DI SCIENZE DEL
SISTEMA NERVOSO
E DEL COMPORTAMENTO



UNIVERSITÀ
CATTOLICA
del sacro cuore

PROGRAMMA

9.30-10.00

Apertura dei lavori

Alessandro ANTONIETTI, CROSS Università Cattolica
Pierfrancesco MAJORINO, Assessore alle Politiche Sociali
del Comune di Milano

Francesco BARALE, Università degli Studi di Pavia
Marco RASCONI, LEDHA Milano

Moderatori

Claudio ARRIGONI, giornalista, InVisibili - Corriere della Sera
Cristina PANISI, Università degli Studi di Pavia

Il quadro normativo e le sensibilità etico-sociali

10.00-10.15

Inclusione lavorativa: il diritto di affermare la propria abilità

Laura ABET, Servizio legale LEDHA

10.15-10.30

Norme per l'inclusione lavorativa per le persone con disabilità intellettiva: la situazione italiana

Valeria INNOCENTI, Responsabile Area Lavoro e Previdenza di Assolombarda

10.30-10.45

Etica, legalità e bilancio aziendale: è possibile "far quadrare i conti"?

Emanuele SANDI, Gruppo Servizi alle Imprese e alle Persone di Confindustria Lecco e Sondrio

10.45-11.00 Diversa"mente" in azienda

Laura Bossler, MAPEL Corporate HR & Organization

Discussione

Conoscere l'autismo per "passare ai fatti"

11.15-11.30

Disturbi dello spettro autistico: una risorsa che può sorprendere

Pierluigi POLITI, Dipartimento di Scienze del Sistema Nervoso e del Comportamento, Università degli Studi di Pavia

11.30-11.45

Inclusione lavorativa e autismo: quante sono le facce della medaglia?

Roberto KELLER, Centro Pilota Regione Piemonte Disturbi Spettro Autistico in età adulta, DSM ASL TO2 Torino

11.45-12.00

Un modello di assessment del soggetto con autismo per l'inserimento lavorativo

Elena RAMELLA, CROSS Università Cattolica

12.00-12.15

Formare a e per l'inserimento lavorativo della persona con autismo

Roberta SALA, SPAEE Università Cattolica

12.15-12.30

Progetto TANGRAM: una possibile interfaccia tra il lavoratore con autismo e le aziende

Natazia BRONDINO, Laboratorio Autismo, Università degli Studi di Pavia

Discussione

Pausa pranzo

Esperienze con e nelle aziende

14.00-14.20

Lavoro e autismo: scenario internazionale

Matteo ROCCHETTI, Laboratorio Autismo, Università degli Studi di Pavia

14.20-14.40

Esperienze sul campo: luci e ombre

Edoardo RUGGERI e Gianmarco SPINELLI

14.40-15.00

Valemour: Profit e no profit, un'alleanza che genera valori e bene comune. Il caso GEOX for Valemour

Marco OTTOCENTO, Fondazione "Più di un Sogno" ONLUS

15.00-15.20

La scoperta del talento: come rendere flessibile il lavoro e sostenere le attitudini delle persone con autismo.

Anna BALLARINO e Simona RAVERA, Cooperativa Cascina Bianca, Milano

15.20-15.40

Io lavoro ... a L'Oréal

Bert PICHAL, Fondazione TEDA per l'Autismo ONLUS

Danielle NORRENBORG, Direttore Formazione e Sviluppo L'Oréal Italia

Discussione e proposte operative

Conclusioni

Attachment B



Thursday, 5th October 2017

16.30-18.00	16.30-18.30	16.30-18.30	16.30-18.30	16.30-18.00	16.30-18.00	
IL FUTURO DELL'ORIENTAMENTO UNIVERSITARIO: PROGETTI, RICERCHE, INTERVENTI, DELEGATI ORIENTAMENTO E PLACEMENT	RESOURCES AND DECENT WORK IN ADULTS	DALLA SCUOLA SUPERIORE, ALL'UNIVERSITÀ. AL LAVORO	SUPPORTS FOR CAREER CONSTRUCTION	NICE SYMPOSIUM ON CAREER PRACTITIONER COMPETENCES, STANDARDS, ASSESSMENT AND ACCREDITATION	INTEGRATING ICT INTO CAREER COUNSELLING PRACTICE: INCLUSIVE OR DIVISIVE?	
<i>Chair: Elisabetta Camussi</i> Università di Milano-Bicocca	<i>Chair: Steven Brown</i> Loyola University Chicago	<i>Chair: Massimo Oliveri</i> Università di Catania	<i>Chair: Peter McIlven</i> University of Southern Queensland	<i>Chair: Johannes Katsarov</i> University of Zurich	<i>Chair: Jenny Bimrose</i> University of Warwick	
1. Camussi E., Nota L. 2. Lo Coco A. 3. Rago A.M. 4. Milani S. 5. Zanetti M.A. 6. Saracino F. 7. Salento A. 9. Muscolo M., Caroniti D.	1. West L. 2. Barham L. 3. dos Santos N.R., Ferraro T. et al. 4. Ferraro T., dos Santos N.R. et al. 5. Urbanaviciute L., Udayar S. et al.	1. Borgonovi E. 2. Migliaccio G. 3. D'Alessandro G. 4. Pepino A., Sicignano G. 5. Pavone M.	1. Joshi J., Bakshi A.J. 2. Yates J., Buehlman L.A. 3. Pukelis K. 4. Marsay G. 5. Robertson P.J.	1. Chant A. 2. Schiersmann C., Weber P. 3. Neary S. 4. Kruythoff P.T.	1. Vuorinen R. 2. Kettunen J. 3. Brown A., Mulvey R. 4. Bimrose J.	
16.30-18.00	16.30-18.30	16.30-18.30	16.30-18.30	17.00-18.00	16.30-18.00	
LIFE AND CAREER DESIGNING FOR EMPOWERMENT, SUSTAINABLE DEVELOPMENT AND DECENT WORK PART 2	L'INSERIMENTO LAVORATIVO DELLE PERSONE CON AUTISMO: MODELLI ED ESPERIENZE	IS IT DECENT TO ALLOW ADOLESCENTS TO WORK ?	CAREER GUIDANCE ACROSS THE MEDITERRANEAN: INTERSECTIONS BETWEEN THE GLOBAL AND THE LOCAL IN A REGIONAL PERSPECTIVE	ESPERIENZE DI INCLUSIONE E CITTADINANZA	NEW CONSTRUCT IN THE RISK SOCIETY: RISK INTELLIGENCE, HOPE AND SPIRITUALITY WELL-BEING	ORIENTAMENTO E INCLUSIONE NEL CONTESTO SCUOLA
<i>Chair: Jacques Pouyaud</i> University of Bordeaux	<i>Chair: Alessandro Antonietti</i> Università Cattolica di Milano	<i>Chair: Rachel G. Cinamon</i> Tel Aviv University	<i>Chair: Ronald G. Sultana</i> University of Malta	<i>Chair: Gian Luigi Lepri</i> Università di Sassari	<i>Chair: Santo Di Nuovo, Paola Magnano</i> University of Catania, Korea University	<i>Chair: Omella Scandella</i> Società Italiana di Orientamento (SIO)
1. Aisenson G., Legaspi L. et al. 2. Di Fabio A. 3. Kenny M.E., Blustein D.L. 4. Vilhjálmsson G.	1. Ramella E., Sala R. 2. Cocchi M.G., Aceti G. et al. 3. Tocchi G., Castaldo R. et al. 4. Pierini A., Montagnoli L. et al. 5. Pichal B., Bonetto E. et al. 6. Panisi C., Sommovigo V.	1. Cinamon R.G. 2. Ran G. 3. Brown D., Nassar S., Habayib H. et al. 4. Michael R., Yesh'a'ya M. <i>Discussant:</i> Blustein D.L.	1. Sultana R.G. 2. Mahdjoub R., Miliani M. 3. Jones A.M.E. 4. Yesilyaprak B. 5. Piazza R., Magnano P. 6. Hooley T.	1. De Vita L. 2. Bonzagni M., Testi M. et al. 3. Caporale A.	1. Magnano P., Di Corrado D. et al. 2. Dibilio R., Zammitti A. et al. 3. Zammitti A., Bufalino G. 4. Platania S., Magnano P. et al.	1. Malafrente G. 2. Boerchi D. 3. Zanetti M.A., Invernici C. et al. 4. Amodeo M.