

**Challenges in Professional Integration of Individuals with
ASD: Characterizing ASD-Specific Social Competence
Deficits and ASD-Specific Workplace Requirements**

Inauguraldissertation

zur

Erlangung des Doktorgrades

der Humanwissenschaftlichen Fakultät

der Universität zu Köln

nach der Promotionsordnung vom 18.12.2018

vorgelegt von

Julia Espelöer

aus

Dortmund, Deutschland

Juni 2023

Diese Dissertation wurde von der
Humanwissenschaftlichen Fakultät
der Universität zu Köln
im Dezember 2023 angenommen.

Content

List of Abbreviations.....	5
List of Empirical Studies	6
1 Introduction	7
2 Theoretical Background.....	9
2.1 Characterizing Autism Spectrum Disorder.....	9
2.2 Challenges in Professional Integration	11
2.2.1 School Environment.....	11
2.2.2 (Un)Employment.....	12
2.3 Social Skills.....	13
2.4 Differentiation Between Symptoms of ASD and Social Anxiety	15
2.5 Specific Needs of ASD in the Workplace	17
2.6 Cologne Model Project <i>Vocational Integration of People with Autism Spectrum Disorder</i>	18
2.6.1 Project Description and Components.....	18
2.6.2 The Vocational Questionnaire.....	19
2.6.3 Results of the Project.....	20
2.7 Aims and Methodological Approach of the Present Thesis	21
3 Empirical studies	23
3.1 Diagnostic Procedure.....	23
3.2 Study 1: Alarmingly Large Unemployment Gap Despite of Above-Average Education in Adults With ASD Without Intellectual Disability in Germany – A Cross-Sectional Study	24
3.3 Study 2: Brief Report: Social Anxiety in Autism Spectrum Disorder is Based on Deficits in Social Competence	27

3.4 Study 3: What is Specific About Employment Status, Workplace Experiences and Requirements in Individuals With Autism in Germany?	31
3.3.1 Results of the First Part of the Vocational Questionnaire ‘Professional Employment’	37
3.3.2 Group Comparisons of the Second Part of the Vocational Questionnaire ‘Workplace Experiences’ and ‘Wishes and Requirements for an Ideal Workplace’	39
4 Discussion	41
4.1 Imbalance of Education and Unemployment	41
4.2 Manifestation of Social Competence Deficits and Social Anxiety Symptoms in ASD and SAD	42
4.2.1 Fundamental Impaired Social Competence Deficits in ASD Underlying Social Anxiety	44
4.2.2 Expression of Social Anxiety Symptoms in ASD and SAD	45
4.3 ASD-Specific Conditions and Requirements in the Workplace	46
4.4 Conditions for Satisfaction in the Workplace	48
4.5 Influence of Job Demands and Resources on Work Motivation	50
4.6 Future Directions	51
4.7 Conclusion	54
5 Summary	55
6 References	57
7 Appendix	82

List of Abbreviations

Abbreviation	Meaning
ASD	Autism Spectrum Disorder
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders (4 th edition)
DSM-V	Diagnostic and Statistical Manual of Mental Disorders (5 th edition)
ICD-10	International Classification of Diseases, 10th Revision
ICD-11	International Classification of Diseases, 11th Revision
IU	Intolerance of Uncertainty
IU scale	Intolerance of Uncertainty Scale
SAD	Social Anxiety Disorder
SASKO	Social Anxiety – Social Competence Deficit Scale

List of Empirical Studies

(Thematic ordering)

- Study 1**
(published)
- Espelöer, J.,** Proft, J., Falter-Wagner, C. M., Vogeley, K., (2023a). Alarming Large Unemployment Gap Despite of Above-Average Education in Adults With ASD Without Intellectual Disability in Germany – A Cross-Sectional Study. *European Archives of Psychiatry and Clinical Neuroscience*, 273(3), 731–738.
- Contribution** JE contributed to the conception and the design of the study, performed the material preparation and the analysis of the data, drafted the manuscript, and implemented the comments of the co-authors and reviewers in the final version of the manuscript.
- Study 2**
(published)
- Espelöer, J.,** Hellmich, M., Vogeley, K., Falter-Wagner, C. M., (2021). Brief Report: Social Anxiety in Autism Spectrum Disorder is Based on Deficits in Social Competence. *Journal of Autism and Developmental Disorders*, 51(1), 315–322.
- Contribution** JE contributed to the conception and the design of the study, collected the data, performed the material preparation and parts of the data analysis, drafted the manuscript, and implemented the comments of the co-authors and reviewers in the final version of the manuscript.
- Study 3**
(published)
- Espelöer, J.,** Proft, J., Kemmer, P., Falter-Wagner, C. M., Vogeley, K., (2023b). What is Specific About Employment Status, Workplace Experiences and Requirements in Individuals With Autism in Germany? *Autism Research*, 16(7), 1389–1402.
- Contribution** JE contributed to the conception and the design of the study, performed the material preparation and the analysis of the data, drafted the manuscript, and implemented the comments of the co-authors and reviewers in the final version of the manuscript.

1 Introduction

“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!” (Quote of a man diagnosed with autism)¹

Entering working life represents an essential milestone of social participation, providing social belonging, financial security, as well as physical and psychological well-being. Social skills such as knowing unspoken rules, finding topics of communication, communicating skillfully, or recognizing nonverbal signals, are becoming more and more important in working environments and are increasingly required. Rising social demands hinder sustainable transition to work and job retention for individuals with autism spectrum disorder (ASD) demonstrating qualitative impairments in social interaction and communication as well as inflexible behavior. During professional employment, the pronounced need for professional support becomes fully apparent. The poor integration of people with ASD into the labor market is demonstrated by a high unemployment rate, despite adequate and comparable education. Fundamental impairments in social skills of ASD are thought to impede successful integration. Repeated and persistent exposure to unknown social challenges leads to excessive demands in individuals with ASD. Uncertainty, avoidance behavior, social withdrawal, including social anxiety are consequences. ASD-specific social skills and social anxiety symptoms appear to be mutually dependent. If difficulties in coping with the unpredictability and complexity of social interactions in people with ASD are based on profound difficulties in processing social information, a modified manifestation of social anxiety symptoms in ASD can be hypothetically assumed. In order to prevent unstable, fragmented career paths, specific requirements of persons with ASD need to be identified.

With the goal of professional and social participation of adults with ASD, the current thesis aims to provide important insights into the employment situation of individuals with ASD without intellectual disabilities in Germany, taking into account the manifestation of social

¹ Hurlbutt & Chalmers, 2004

competence deficits in order to be able to identify an ASD-specific profile of requirements for successful and satisfactory participation.

In the **first study**, the relationship between educational attainment and employment rate among persons with ASD was found to be clearly unbalanced, substantially driven by interpersonal difficulties. The study showed a fivefold increase in unemployment rate among individuals with ASD, despite above-average school-leaving qualifications compared to the general German population. Searching for reasons underlying these findings, the **second study** explored the characterization of interpersonal difficulties with a focus on social anxiety by comparing a group of individuals with ASD and a group of individuals with social anxiety disorder (SAD). When disentangling difficulties in social competences and manifestations of social anxiety symptoms, it could be shown that social anxiety was prominent in individuals with ASD, but reduced social competences were substantially more pronounced. The second study allowed to draw the conclusion that increased social anxiety in ASD is based on more fundamental impairments in social skills and in processing social information. ASD-specific manifestations became apparent that led to the **third study** that focused on needs and requirements for a suitable working environment. Among individuals with ASD, a specifically pronounced need to reduce social demands and to structure working conditions in a suitable job that offers economic security were identified. Adults with ASD reported distinct difficulties in establishing and maintaining employment as well as specific needs at work.

Results emphasize the urgent need for specific and professional vocational support measures, as adults with ASD without intellectual disabilities are at risk of being overlooked for supported employment opportunities.

2 Theoretical Background

2.1 Characterizing Autism Spectrum Disorder

ASD is a lifelong developmental condition affecting approximately 1% of the population (American Psychiatric Association, 2013). ASD is a heterogeneous condition, symptoms vary in severity and may be associated with different levels of functioning (Pilling et al., 2012). The diversity and classification of different manifestations is becoming increasingly important². In the DSM-V (American Psychiatric Association, 2013), autistic disorder, Asperger's syndrome, childhood disintegrative disorder, and pervasive developmental disorder not otherwise specified, which were previously differentiated in the DSM-IV, are summarized under the diagnosis of autism spectrum disorder (ASD), as clear distinction appears difficult (Cederlund et al., 2008; Kamp-Becker et al., 2010; Klin & Volkmar, 2003; Leekam et al., 2000; Lord et al., 2012; Miller & Ozonoff, 2000; Vogeley, 2015). Similarly, in ICD-11 (World Health Organization, 2019), the categories of early childhood autism (ICD-10: F84.0), Asperger's syndrome (ICD-10: F84.5), atypical autism (ICD-10: F84.1), other pervasive developmental disorder (ICD-10: F84.8), and pervasive developmental disorder not otherwise specified (ICD-10: F84.9; World Health Organization, 2016) have been replaced by the diagnosis of ASD. Core symptoms of ASD include qualitative impairments in communication, in processing social information as well as inflexible, restrictive behavior patterns. Sensory hyper- or hypo-reactivity to stimuli were also included as diagnostic criteria (American Psychiatric Association, 2013).

Central core symptom of ASD are deficits in intuitive *mentalising*, i.e., difficulties in inferring thoughts, feelings, attitudes, desires, and intentions of others and taking them adequately into account when preparing one's own reactions (Baron-Cohen et al., 1985; Frith et al., 1991).

² There is a need for more reflective use of language and consideration of the concept of neurodiversity in autism research. Various phrases are preferred or judged offensive to describe autism, from *person-first* to *identity-first* to a mixed phrasing. *Identity-first* language emphasizes autism as an integral part of identity, whereas *person-first* language emphasizes that autism is only one of many personal characteristics (Bottema-Beutel et al., 2021; Buijsman et al., 2023; Bury et al., 2023; Dwyer, 2022; Kapp et al., 2013; Kenny et al., 2016; Monk et al., 2022; Sarrett, 2017; Tepest, 2021). Depending on the cultural background, the preference varies (Buijsman et al., 2023). In this thesis, we use a *person-first* designation (*person with ASD*). The neurodiversity paradigm encompasses multiple perspectives from stakeholders with different needs. It appears that no linguistic regime proves to be the best in all situations (Tepest, 2021).

Spontaneous and intuitive responses to social information and interaction in the social context are reduced. Less attention is paid to nonverbal cues (Baron-Cohen et al., 1997; Klin et al., 2003). Mentalising represents a fundamental skill in social interactions (Luyten & Fonagy, 2015) and, as in any context of our life world, the recognition of implicit as well as explicit expectations is also assumed in the work environment. Difficulties may occur in the proper assessment of the context of social situations. Dealing with customers, colleagues, and superiors also poses hurdles and may result in mutual miscommunication (Hurlbutt & Chalmers, 2004; Lehnhardt et al., 2012; Müller et al., 2003; Proft et al., 2016). Diminished social reciprocity may hamper successful communication (Krämer et al., 2015). Thus, impairments in social skills, based on underlying deficits in mentalising, entail substantial difficulties in social interaction and communication.

In addition to qualitative impairments in social skills, inflexible adherence to ritualized behavior and fixed structures can have a relaxing and stabilizing effect for persons with ASD providing external control. Deviations from plans and structures are often difficult to deal with and may lead to interruption of a job (Chen et al., 2015). Thus, coping with labor market's demands of flexibility and adaptability presents major challenges for individuals with ASD. Adapting quickly and flexibly to unfamiliar situations and requirements, and completing work tasks in the expected complexity and in the right timeframe appears difficult, if this information is not provided explicitly (Hurlbutt & Chalmers, 2004; Müller et al., 2003).

Besides unforeseen changes in the routine schedule, perceptual problems can interrupt the workflow in individuals with ASD (Hurlbutt & Chalmers, 2004; Kirchner & Dziobek, 2014; Müller et al., 2003). Hyper- or hypo-reactivity to sensory input such as sounds, light, smell, or body contact have been included as a diagnostic criterion for ASD in DSM-V (American Psychiatric Association, 2013). Overload due to sensory overstimulation has been increasingly reported in people with ASD. In the working environment, sensory overload may lead to decreased work performance and social withdrawal (Kirchner & Dziobek, 2014). ASD-specific characteristics could have a decisive influence on professional participation.

2.2 Challenges in Professional Integration

Participation in social life represents an essential component in a person's development (U.N., 1948). Entering working life as a major goal during the transition from adolescence to adulthood allows social, economic, and cultural integration and autonomy. Employment represents a key component in adult life in order to gain social responsibility, social status, and financial independence as well as physical and psychological well-being (Chen et al., 2015; Roux et al., 2015; Wright & Stickley, 2013). Employment may provide recognition of effort and capabilities, and it improves a sense of belonging (Evans & Repper, 2000) and contributes decisively to social participation (Chen et al., 2015; Cimera et al., 2013; Roux et al., 2015; Wright & Stickley, 2013). The respective settings of educational and employment situations seem to entail different requirements and associated challenges for people with ASD.

2.2.1 School Environment

In the context of school, pupils with ASD achieve high levels of educational attainment, showing significantly higher school-leaving qualifications compared to the general German population (Maslahati et al., 2022). Impairments in social interaction and communication are more likely to be tolerated in school, and more assistance can be provided than in the labor market. Beyond school, it is presumed that in the context of university and vocational training settings, requirements for social skills, structuring and planning abilities as well as flexible adaptive behavior become more demanding compared to the educational environments (Müller et al., 2008). Inadequate behavior and interaction difficulties can impede the successful transition from school to the workplace. Many individuals with ASD remain dependent on their parental home or other support systems following high school (Howlin et al., 2004). It is during the transition from high school to employment, especially in the first two years, that adequate support appears to be critical to achieve successful employment integration (Chen et al., 2015; Shattuck et al., 2012) and to prevent social withdrawal (Volkmar & Klin, 2000).

2.2.2 (Un)Employment

Over-education and high unemployment rates among people with ASD without intellectual disabilities show a striking imbalance. National as well as international studies show comparably low employment rates for individuals with ASD (Baldwin et al., 2014; F. Frank et al., 2018; Hurlbutt & Chalmers, 2004; Maslahati et al., 2022; Riedel et al., 2016). International studies obtained unemployment rates between 39% and 73% in the USA (Ballaban-Gil et al., 1996; Ohl et al., 2017), 24% to 54% in Great Britain (Barnard et al., 2001; Howlin et al., 2004; Howlin & Moss, 2012), and up to 82% in Taiwan (Lin et al., 2012). No differentiation was made according to severity of autism symptoms, level of functioning, or age at diagnosis. National studies from different autism outpatient clinics in Germany presented comparable results (F. Frank et al., 2018; Kirchner & Dziobek, 2014; Maslahati et al., 2022; Riedel et al., 2016). Kirchner and Dziobek (2014) examined 76 adults with a self-reported clinical diagnosis of ASD in an online survey of which 36% (of n=64) reported to be unemployed. In a prospective study in the period of 2009 to 2011 by Riedel and colleagues (2016) of individuals diagnosed with ASD in a specialized autism outpatient clinic, nearly 60% of individuals diagnosed with Asperger's syndrome reported to be either unemployed or on early retirement. In an autism outpatient clinic in Freiburg, Germany, results revealed in a study with 185 adults with ASD in the period of 2009 to 2014 that 13.5% of those who reported that they were under employment earlier were currently unemployed and 17% were on early retirement for health reasons (F. Frank et al., 2018). Maslahati and colleagues (2022) also described a disparity between over-education and increased unemployment rates in a heterogeneous group of adults with ASD with and without intellectual impairments or learning disabilities (n=196) compared to the general German population. Data were collected in a multi-center study in collaboration of four autism outpatient clinics in Germany. 21.1% reported working under conditions of supported employment, 15% reported early retirement for health reasons, 1% reported regular retirement, and 17% reported being unemployed compared to 6.1% in the general German population. High levels of education were achieved by 43.9% of the study sample, compared to 30.1% in the general German population supporting the assumption of over-education in individuals with ASD (Maslahati et al., 2022). Unemployment rates differ depending on the particular assumptions of the study, such as the inclusion of people with ASD with and without intellectual disabilities (e.g., Maslahati et al. 2022) or the inclusion of varying subcategorization into levels of education, vocational training, or employment. Strikingly, what all studies have in common

are high unemployment rates among highly educated people with ASD. Repeated terminations and long-term unemployment are threatening, so that continuous career paths cannot be developed. Interpersonal difficulties are more likely to be the cause of termination than lack of professional competences, which is in accordance with the findings on the immense influence of social competences in working life (Ballaban-Gil et al., 1996; Hurlbutt & Chalmers, 2004; Müller et al., 2003; Solomon, 2020).

Taken together, the challenge of sustainable integration of people with ASD without intellectual disabilities is reflected in an alarmingly poor employment situation. ASD-specific characteristics, such as qualitative impairments in social interaction and communication skills, appear to play an important role and may increase the risk of social exclusion.

2.3 Social Skills

Social inclusion is largely determined by a full integration in working life, but requires complex social skills (Arora, 2017; Fazekas, 2020; Riggio, 2020). Social skills are becoming increasingly demanding in the labor market (Deming, 2017). Deming (2017) found that work environments requiring strong social skills in addition to math skills grew the most since the 1980s. For decades, cognitive skills measured by standardized achievement tests, IQ tests, or grades have determined the school and work system through, for example, PISA or recruitment tests (Deming, 2017; Heckman & Kautz, 2012; Schanzenbach et al., 2016). In contrast to cognitive skills, the importance of non-cognitive skills, in this context also referred to as soft skills, including social, communicative and interpersonal skills, social intelligence, or social competence (Arora, 2017; Fazekas, 2020; Riggio, 2020; Schanzenbach et al., 2016), is growing. As technology evolves, job functions that requires cognitive skills can be more and more automated and even replaced by smart, computerized devices, which is not applicable to social skills with the same degree - although there are recent developments in this regard as well (M. R. Frank et al., 2019).

Social skills – including establishing and maintaining communication and interpersonal interaction with colleagues, supervisors, and customers, non-verbal communication, knowledge of social rules, social perceptual skills, behavioral flexibility – are assumed to be crucial to

successfully adapting to and maintaining work (Riggio, 2020). Social skills, such as intuition, group work, and trust were described in different working fields, i.e., not only in service sector but also in business management and are valued comparably to cognitive skills in improving labor market outcomes (Schanzenbach et al., 2016). Different approaches highlight the complexity of social skills. Basic communication skills are proposed to comprise the abilities to express oneself, to receive communication from others, and to regulate and control the flow of communication. In addition, verbal (communication in words or writing and the knowledge of social rules and conventions) and nonverbal (to express emotions, affects, and interests) communication are differentiated (Riggio, 2020). Social intelligence is described as the ability to perceive (*social perceptiveness*) and adapt flexibly (*behavioral flexibility*) to different situations, which is crucial especially in working environments (Müller et al., 2003; Riggio, 2020; Zaccaro et al., 1991). In the workplace, abilities in interpersonal communication as well as building and maintaining relationships are acknowledged. One is expected to be active and assertive, as well as cooperative and empathetic; however, one should be able to balance teamwork, service orientation, and self-expression (Klein et al., 2006). Understanding social norms and unwritten social laws and conventions also shape social skills.

Taken together, the importance of social skills, summarized as social competences, in the context of work becomes clear (Riggio, 2020). The capability to change perspectives promotes productive exchange and successful cooperation, but requires the ability to mentalise (Fazekas, 2020), which is impaired in individuals with ASD. By outlining the major impact of social skills on working life, it becomes clear that fundamental, ASD-specific impairments in social competences can hinder successful integration in the labor market. The normative requirement of inclusion in society and social networks represents a primary goal in the transition to adult life, which may pose a massive barrier for people with impairments in social competences.

In order to understand what specific supports are needed for individuals with ASD to initiate and maintain employment and pursue a stable career path, it is helpful to get a more accurate picture of social competence deficits specific to individuals with ASD to be able to consider their impact on the workplace. The benefit in differentiating individuals with ASD from individuals who exhibit social interaction difficulties for other reasons than autism, which is illustrated in the following example of social anxiety disorder, is thus to distill ASD-specific needs in the workplace.

2.4 Differentiation Between Symptoms of ASD and Social Anxiety

Young adulthood represents a sensitive transitional period in which it can be challenging to make independent decisions and integrate into a social network (Chen et al., 2015; Roux et al., 2013). The onset of psychiatric disorders occurs frequently at this age and may persist into later adulthood (Kessler et al., 2005). Mental disorders and additional comorbidities can, on the one hand, make the successful entry into working life more difficult (Schaller & Yang, 2005) or they can exacerbate due to excessive demands or lack of support during transition (Hurlbutt & Chalmers, 2004). Different disorders are associated with impairments in social interaction and communication with varying degrees, which may cause difficulties in everyday and professional life as well as pronounced distress (Arora, 2017; Brunello & Schlotter, 2011; Fazekas, 2020; Olesen et al., 2013; Riggio, 2020). Social withdrawal may occur, which might often relate to insecurities and impaired social skills (Kleinhans et al., 2010; White et al., 2014). In order to establish appropriate and suitable support systems, the distinction of ASD from other disorders need to be considered (Chen et al., 2015; Croen et al., 2015; Hudson et al., 2019).

As early as Leo Kanner and Hans Asperger, anxiety in general and social anxiety in particular were associated with ASD (Asperger, 1944; Kanner, 1943; Kerns et al., 2014). Social anxiety disorder (SAD) is characterized by pronounced, excessive fear of negative evaluations by others, of drawing attention to oneself, and of acting embarrassingly. Avoidance and withdrawal behavior from the social environment occurs (American Psychiatric Association, 2013). Comorbidity rates of SAD in ASD samples range between 6% and 38% (Kerns et al., 2014). In the general population, a lifetime prevalence of social anxiety has been described internationally as 12.1% in the United States (Kessler et al., 2005) and nationally as 1.8% in Germany (Asselmann et al., 2019).

Research has been conducted in order to disentangle the relationship between social interaction difficulties and symptoms of social anxiety in ASD (Bejerot et al., 2014; Kerns & Kendall, 2012; Maddox & White, 2015; Spain et al., 2018; White et al., 2014). The expression of certain symptoms appears to be similar between ASD and SAD. The question arises whether an association between ASD and SAD is evident in the sense of comorbidity or whether it is appropriate to assume an ASD-specific expression of SAD-like symptoms. The latter would suggest that some symptoms of ASD may be misinterpreted as resembling social anxiety symptoms and thus may lead to a misdiagnosis of SAD in people with ASD (Beidel et al., 2010;

Kerns & Kendall, 2012). The relationship between autistic and social anxiety symptoms is proposed to be bidirectional (Bejerot et al., 2014; Cath et al., 2008; Kanai et al., 2011; Spain et al., 2018). In SAD, the fear of being negatively evaluated by others seems to be paramount, leading to avoidance of social situations (Maddox & White, 2015; Neal & Edelman, 2003; Tyson & Cruess, 2012; White & Schry, 2011). In ASD, social withdrawal could be related to insecurities in social interaction associated with deficits in social skills based on deficits in mentalising (Beidel et al., 2010; Kerns & Kendall, 2012; White et al., 2010, 2014). The ability to cope with the unpredictability of social interactions is impaired (Mazefsky & Herrington, 2014; Wood & Gadow, 2010). Resulting avoidance behavior prevents appropriate skills from being developed and improved (Kleinmans et al., 2010; White et al., 2014). With regard to the working environment, it seems to be of particular importance to look more closely at the influence of difficulties in dealing with uncertainties, especially in relation to the diagnostic criteria of ASD of restrictive behaviors and the preference for fixed structures.

Already Kanner (1943) described intolerance of change as one of the central features of autism (Baron-Cohen et al., 1985; Boulter et al., 2014; Cath et al., 2008; Gillott et al., 2001; Kanner, 1943; Rodgers et al., 2012). Difficulties in responding spontaneously to unexpected events are frequently reported in individuals with ASD. A relationship between anxiety, inflexible adherence to ritualized behavior and fixed structures, and intolerance of uncertainty (IU) has been discussed (Chamberlain et al., 2013). The perceived complexity of social interactions may contribute to repeated social failure (Volkmar & Klin, 2000). Avoidance behavior may occur due to the increased stress caused by uncertainty and unpredictability in social situations (Dugas et al., 1998; Ladouceur et al., 1997; Rodgers et al., 2012). The concept of IU is commonly discussed in the context of generalized anxiety disorder, obsessive-compulsive disorders, or depression (Carleton, 2012; Dugas et al., 1998, 2004; Gentes & Ruscio, 2011; Holaway et al., 2006; Tolin et al., 2003). In ASD, inflexible behavior may act as a coping strategy for anxiety-related distress (Rodgers et al., 2012). The construct of IU is associated with the emergence of anxiety as well as with some ASD-specific characteristics such as repetitive behavior and sensory sensitivity (Boulter et al., 2014; Rodgers et al., 2012). In the manifestation of anxiety in ASD, IU represents an essential component (Boulter et al., 2014). Understanding the characterization of social competence deficits in relation to social anxiety symptoms and uncertainty in interpersonal interactions in ASD can be essential in developing highly needed, appropriate supports.

2.5 Specific Needs of ASD in the Workplace

Research repeatedly highlights the urgent need for specific professional support services especially for adults with ASD without intellectual disabilities (Baldwin et al., 2014; Chen et al., 2015; Kirchner & Dziobek, 2014; Lehnhardt et al., 2012; Roux et al., 2013; Shattuck et al., 2012; Vogeley et al., 2013). Compared to individuals with other disabilities, such as language or learning disabilities or other mental disorders, adults with ASD often lag behind in professional support systems (Barnard et al., 2001; Roux et al., 2013; Taylor & Seltzer, 2011; Vogeley et al., 2013). Lower wages are also reported (Roux et al., 2013). Even with comparable demographics, young adults with ASD show poorer psychosocial outcomes than individuals with other disabilities (Chen et al., 2015; Howlin, 2013; Howlin & Moss, 2012; Roux et al., 2013; Shattuck et al., 2012). Increased functional impairments, in turn, lead to an increased risk for poorer post-secondary educational and vocational outcomes (Müller et al., 2003). Taylor and Seltzer (2011) referred to the comparison of young adults with ASD with and without co-occurring intellectual impairments and described that individuals with ASD and intellectual impairments were more likely to achieve employment after high school. Nevertheless, the majority of early diagnosed adults with ASD were found to be employed in supported settings, regardless of whether or not an additional intellectual disability was present (Howlin et al., 2004; Taylor & Seltzer, 2011).

In spite of commonly average to above-average cognitive abilities, individuals with ASD are significantly more likely to fail in obtaining and maintaining employment appropriate to their educational level, even compared to individuals with other disabilities (Shattuck et al., 2012). People with ASD indicated that the intellectual demand is of high importance when choosing a profession, as they are often highly educated (Baldwin et al., 2014; Müller et al., 2003). However, an unsatisfactory ratio of workplace demands of social skills relative to potential work performance emerges, with the former predominating, much to the discomfort of individuals with ASD (Hurlbutt & Chalmers, 2004). In qualitative studies (Baldwin et al., 2014; Hurlbutt & Chalmers, 2004; Kirchner & Dziobek, 2014; Müller et al., 2003), the need for clear communication, limited social interactions, and reduced sensory input in ASD becomes apparent. Adults with ASD reported a pronounced need for clearly defined, predictable, and consistent work assignments. The ability to flexibly adapt the daily working schedule according to individual needs appears to be important. Persons with ASD needed support to improve

prioritization skills and learning new tasks required sufficient time (Baldwin et al., 2014; Hurlbutt & Chalmers, 2004; Kirchner & Dziobek, 2014; Müller et al., 2003).

Following the need for specific working conditions and support measures for individuals with ASD, a model project was developed in cooperation with the Rhineland Regional Council (*Landschaftsverband Rheinland*), the service provider for supported employment *ProjektRouter gGmbH*, and the Adult Autism Outpatient Clinic of the University Hospital of Cologne, also providing the framework of this thesis.

2.6 Cologne Model Project *Vocational Integration of People with Autism Spectrum Disorder*

2.6.1 Project Description and Components

The pronounced need for specific support services also became apparent in the help-seeking behavior of people attending the Adult Autism Outpatient Clinic of the University Hospital of Cologne for diagnostic clarification. Difficulties in vocational orientation and integration were also evident in a study conducted to develop a manual for behavioral group therapy for adults with ASD in the Autism Outpatient Clinic (Gawronski et al., 2011, 2012). A growing awareness of the employment situation of adults with ASD emerged. With the aim of expanding supported employment programs as well as sustainably integrating late-diagnosed adults with ASD in the labor market, the Cologne model project *Vocational Integration of People with Autism Spectrum Disorder* was designed and implemented during the period of 2014-2021 (Proft, 2019; Proft et al., 2017; Vogeley et al., 2013). People who are diagnosed with ASD in adulthood are referred to as *late-diagnosed*. Within the framework of the project, a concept was developed that combines various formats of support. A scientifically evaluated group training *off-the-job* was developed in which people with ASD dealt with work-related as well as psychosocial topics under professional guidance in a fixed group lasting over a period of about four months. Topics comprised dealing with the autism diagnosis, stress management, verbal and non-verbal communication and difficulties in social interaction as well as self-organization and structuring at work. Individuals were given the opportunity to contribute and analyze their own experiences. The group training was modularized according to a fixed structure. Following the group training, participants were given the opportunity to discuss freely selectable topics in a

follow-up group that was professionally supervised as well. Throughout the project, participants were accompanied by job coaches *off-the-job* who provided support in job search. Another part of the project was *on-the-job* support as an essential component of vocational support services (Lawer et al., 2009; Westbrook et al., 2012). In *on-the-job* trainings, job coaches accompanied participants on-site at the workplace and during job interviews and provided practical support with administrations and communication issues. Additionally, within the framework of the project, a Vocational Questionnaire (Proft, 2015; Proft et al., 2016) was developed in order to determine the latest status of education and employment as well as experiences and requirements in working life of individuals with ASD on a cross-sectional basis.

2.6.2 The Vocational Questionnaire

The Vocational Questionnaire³ (Proft, 2015), applied in **study 1** and **study 3**, was designed on the basis of statements of individuals with ASD about their experiences and wishes for an ideal workplace in a prior qualitative study (Proft et al., 2016) that was conducted in the Adult Autism Outpatient Clinic of the University Hospital of Cologne. The questionnaire consists of the two parts *Professional development* and *Specific workplace characteristics*. The latter comprises the two categories *Workplace experiences* and *Wishes and requirements for an ideal workplace*. The first part which is referred to as *Professional development* covers descriptive data about formal education level, occupational skill level, employment status, psychosocial conditions, periods of unemployment, and frequency as well as reasons of terminations. The second part is referred to as *Specific workplace characteristics* and comprises two categories capturing *Workplace experiences* and *Wishes and requirements for an ideal workplace*. Ratings were performed using a 5-point Likert scale (*Workplace experiences*: ‘strongly agree’, ‘agree’, ‘undecided’, ‘disagree’, and ‘strongly disagree’; *Wishes and requirements for an ideal workplace*: ‘very important’, ‘important’, ‘moderately important’, ‘slightly important’, and ‘unimportant’).

³ The German version of the Vocational Questionnaire is attached in the Appendix. For the German translation of levels of formal qualifications see Supplementary Material to study 3 in the Appendix.

Using the Vocational Questionnaire, a preliminary study (Kemmer, 2021) showed that the desire for reducing social contacts at work and for consistent working routines emerge as ASD-specific characteristics. Individuals with and without ASD showed above-average educational attainments and increased rates of termination and unemployment compared to the general German population, and predominantly negative experiences at work were reported. Specific difficulties in working life became evident among people with interactional difficulties. Individuals with ASD weighted the reduction of social contact at work more heavily than individuals without ASD. In the present **study 3**, an exploratory approach was used to conduct the research on a larger sample (n=698) compared to the pre-study that was performed only in a small sample (n=73).

2.6.3 Results of the Project

As a key achievement of the Cologne model project *Vocational Integration of People with Autism Spectrum Disorder* (Proft, 2019; Vogeley et al., 2013), employment rates of adults with ASD increased. Furthermore, health-related quality of life could be improved (García-Villamizar et al., 2002; Proft, 2019). Participants benefited from the opportunity for self-reflection, personal development, examination of their own ASD diagnosis, and for exchange with other participants with ASD in the context of both, competent supervised group coaching *off-the-job* and individual coaching *on-site* as well as *off-the-job* (Proft, 2019). The focus on individual strengths as well as practical strategies for working life were considered helpful as well. The need for long-term support could be confirmed. During the course of the project, it became apparent that an individual fit such as respective educational and vocational qualification as well as the varying degree of the manifestation of autistic characteristics must be taken into account when arranging an adequate employment. Professionals should be educated about ASD in order to reduce unawareness and preconceptions, allowing for early diagnosis. A need-based conception of supported employment programs is strongly recommended (Proft, 2019).

2.7 Aims and Methodological Approach of the Present Thesis

The aim of the thesis was to improve the understanding of how individuals with ASD cope in working life and to consider the prerequisites of successful participation in the workplace. For this purpose, the labor market situation of individuals with ASD was analyzed and possible influencing factors and barriers were identified and examined in more detail. In order to achieve a more accurate picture of specific characteristics of interpersonal difficulties of individuals with ASD in the workplace, a focus was placed on differentiating them from people with social difficulties without ASD. The results will foster the development of tailored intervention programs.

To provide a comprehensive picture of the employment situation of individuals with ASD, the **first study** addressed a detailed quantitative characterization of the educational and employment situation of late-diagnosed individuals with ASD without intellectual disabilities compared to the general German population. The Vocational Questionnaire was used and results were compared with data from the public databases of the Federal Employment Agency and the National Education Report (Federal Employment Agency (Statistik der Bundesagentur für Arbeit), 2018a, 2018b; National Education Report, 2020). Given the rising importance of social competences in the working environment and repeatedly described symptoms of social anxiety, social insecurity, and social withdrawal in people with ASD, a precise characterization of social competence deficits focusing on social anxiety symptoms was pursued in the **second study**. Distinguishing social interaction difficulties and withdrawal tendencies from the similarly presenting symptoms of social anxiety may prevent misinterpretation of symptomatology and help in defining appropriate workplace support measures. The aim was to refine the differentiation between ASD and social anxiety and to gain a more thorough understanding of ASD-specific interpersonal difficulties discussed in relation to social anxiety in ASD. To this end, a group of individuals with ASD was compared with a group of individuals with SAD for whom social situations also present challenges and lead to avoidance behaviors, and a control group. Here, the Social Anxiety - Social Competence Deficit Scale (SASKO) (Kolbeck, 2008; Kolbeck & Maß, 2009) represents a suitable instrument, allowing to measure social anxiety and social competence deficits independently of each other. In addition, the influence of IU, measured via the Intolerance of Uncertainty Scale (IU scale) (Gerlach et al., 2008), as a potential mechanism underlying the development and maintenance of social anxiety

in adults with ASD was examined. To clarify whether ASD-specific social competence deficits and interaction difficulties are in need of specific requirements and support in the workplace, the second part of the Vocational Questionnaire was used in the **third study**. Experiences and wishes for an ideal workplace of people with interaction difficulties, with and without ASD, were assessed. A group of persons with ASD was compared with a group of individuals who also reported difficulties with social interactions and communication, but for whom an ASD diagnosis was clinically ruled out. Requirements for social skills and flexibility in the workplace were found to pose unique challenges for individuals with ASD, impeding sustainable professional integration, which demonstrates the clear need for specific support programs.

3 Empirical studies

3.1 Diagnostic Procedure

The Adult Autism Outpatient Clinic of the University Hospital of Cologne, Germany is attended by individuals for diagnostic clarification. Individuals are suspected of having ASD usually due to social emotional symptoms and/or difficulties in social and professional participation. Contacts are usually initiated by the affected persons themselves or by persons from their close environment. Registration for diagnosis in the Autism Outpatient Clinic is subject to referral and therefore based on prior consultation with a psychiatrist or clinical psychologist. Autism Spectrum Quotient (Baron-Cohen et al., 2001) values was above the clinical cut-off value of 26 for all individuals invited to the diagnostic procedure. Individuals were clinically diagnosed with ASD according to ICD-10 criteria (F84.0, F84.1, F84.5) at the Autism Outpatient Clinic. The diagnostic procedure was based on a consensus diagnosis, which includes an independent assessment by at least two experienced and qualified clinicians and follows the German guidelines on ASD (Association of the Scientific Medical Societies [Arbeitsgemeinschaft der Wissenschaftlichen Medizinischen Fachgesellschaften], 2016). Since the aim was exclusively to either verify or reject diagnosis of ASD, possible differential diagnoses could not be systematically investigated in detail because of time constraints. Neuropsychological testing was optional in the diagnostic process, so an IQ testing was not standard. Given the high level of education in our sample, it can be assumed that persons with ASD studied here do not suffer from cognitive disabilities (Ritchie & Tucker-Drob, 2018). For all three studies, individuals with ASD were recruited from the clinic's participants database.

3.2 Study 1: Alarming Large Unemployment Gap Despite of Above-Average Education in Adults With ASD Without Intellectual Disability in Germany – A Cross-Sectional Study

(Espelöer, J., Proft, J., Falter-Wagner, C. M., Vogeley, K., 2023a. *European Archives of Psychiatry and Clinical Neuroscience*, 273(3), 731–738.)

High unemployment rates and difficulties in maintaining employment among individuals with ASD are assumed to be related to deficits in social interactional skills emphasizing an essential need for specific professional support (Chen et al., 2015; Müller et al., 2003; Vogeley et al., 2013). The sustainable integration of people with ASD presents a major challenge. Deficits in social skills and difficulties in continuously adapting to flexible environments demand high cognitive efforts for individuals with ASD, which may result in increased feelings of exhaustion. As a consequence, social withdrawal and mental disorders might occur, reinforcing feelings of insecurity, although a desire for social belonging is often expressed (Bauminger et al., 2003; Bauminger & Kasari, 2000; Maddox & White, 2015; Müller et al., 2008; Tyson & Cruess, 2012; White et al., 2014; Williamson et al., 2008). Studies show that especially people with ASD with average or above average intellectual abilities tend to be aware of their own social difficulties, which increases distress and thus symptoms of mental disorders. A vicious circle emerges. In order to be able to establish specific assistance, attention should first be focused on the alarming employment situation of individuals with ASD without intellectual disabilities in Germany (Espelöer et al., 2023a).

For this purpose, the educational, vocational, and employment situation was examined in a retrospective study employing the first part of the Vocational Questionnaire referred to as *Professional development*⁴ and comparing rates of an ASD group with data from the general German population, based on the public databases of the German Federal Employment and the German National Education Report (Federal Employment Agency (Statistik der Bundesagentur für Arbeit), 2018a, 2018b; National Education Report, 2020). Data of the ASD group were

⁴ For the German translation of levels of formal qualifications see Supplementary Material to study 3 in the Appendix.

obtained retrospectively from the clinical database of the Adult Autism Outpatient Clinic of the University Hospital of Cologne.

The Vocational Questionnaire was sent by mail to individuals referred for diagnostic evaluation prior to the first diagnostic interview and thus before communicating diagnostic results. During the period of 2014-2019, a response rate of 45% was reached. After excluding data with more than five missing values, data of mentally disabled persons, and data of persons diagnosed with other pervasive developmental disorders (e.g., F84.8, F84.9), 232 individuals were included in the current analysis. The catchment area was the wider area of Cologne in 43.5%, the rest of the ASD group came from other regions in Germany. Chi-square goodness of fit tests were used for group comparisons.

Results showed that most participants (ASD group: 93.9%; general population: 92.2%) have graduated from high school. Of those remaining without completed school-leaving certificate, some may have still been in education at the time of the survey. Taking a closer look, individuals with ASD were significantly better educated than the general German population. The highest possible school education of a general or discipline-specific entrance-level qualification was achieved by a considerably higher amount of individuals in the ASD group (50.4%) than in the general German population (32.5%). Complementary, a significantly lower proportion of 16.5% of the ASD group reached a basic secondary education compared to 29.6% of the general German population (National Education Report, 2020). Beyond high levels of school-based education, significantly less individuals with ASD obtained vocational qualification with 61.7% compared to the general German population (74.2%). In the ASD group, decreased rates of completed vocational training were found (40.1%) compared to the general German population (56.3%). However, academic degrees were reached by 21.6% of individuals with ASD and 17.9% in the general population, even though differences were not significant (National Education Report, 2020). It can be assumed that requirements involving integration into the labor market increase in comparison to the educational context and are thus accompanied by challenges.

This assumption is supported by the findings that unemployed individuals in the ASD group were characterized by high levels of educational qualification with a majority (43.1%) having completed a university entrance qualification compared to the general population (17.8%), and by high rates of completed vocational qualification of at least 60 %. Again, the majority of

unemployed people with ASD was highly educated, compared to the general population. In other words, the pattern of 25% of people with ASD being affected by unemployment was found both among people who have successfully completed a school education and among people who have successfully completed a vocational qualification. In contrast, unemployment rates in the general population decreased with the increase of the level of school leaving qualifications. Taking the whole ASD group into account, 25.2% reported being unemployed, which exceeds the unemployment rate in the general German population of 5.2% by a factor of approximately five. The pattern of high levels of educational qualification as well as high level of unemployment correspond to previously published studies in Germany (F. Frank et al., 2018; Maslahati et al., 2022; Riedel et al., 2016).

Results revealed that long-term unemployment in the ASD group of unemployed individuals (79.2%) was significantly higher than among unemployed persons in the general population (34.8%), with long-term unemployment defined by a period of more than 12 months (see §18 of the Social Security Code III [*Sozialgesetzbuch III*]). In accordance with previous findings, people with ASD reported being unemployed for an average of 23 months (F. Frank et al., 2018). Terminations were mainly due to interpersonal difficulties rather than to professional problems (Hurlbutt & Chalmers, 2004) and 35% of individuals with ASD experienced at least once job termination due to interpersonal reasons. This can lead to the result that more than half of the ASD group (63%) reported struggling in the workplace due to high expectations of interpersonal relationships. Persons with ASD experienced an average of almost two terminations in their previous working life, with a range of up to twelve terminations per person.

Taken together, the results correspond with previous studies finding that higher level of educational attainment does not protect against unemployment, repeated terminations, and long-term unemployment for individuals with ASD, which is presumably due to autism-specific interpersonal difficulties (Baldwin et al., 2014; Barnard et al., 2001; Barnhill, 2007; F. Frank et al., 2018; Hendricks, 2010; Hurlbutt & Chalmers, 2004; Kirchner & Dziobek, 2014; Maslahati et al., 2022; Müller et al., 2003; Riedel et al., 2016; Scott et al., 2017; Solomon, 2020).

As the importance of social skills and the demands on communication skills in working contexts are growing, a study was conducted aiming to understand the influence of social competence deficits on difficulties in working life of people with ASD.

3.3 Study 2: Brief Report: Social Anxiety in Autism Spectrum Disorder is Based on Deficits in Social Competence

(Espelöer, J., Hellmich, M., Vogeley, K., Falter-Wagner, C. M., 2021. *Journal of Autism and Developmental Disorders*, 51(1), 315–322.)

Impairments in communicative skills may add to the risk of social exclusion. (Self-perceived) repeated difficulties and misunderstandings in social situations and working environments lead to increased insecurities and, in turn, avoidance and withdrawal behavior (Bellini, 2006; Kuusikko et al., 2008; Maddox & White, 2015; Tyson & Cruess, 2012; White et al., 2009, 2010, 2014), which often stand out as socially anxious behaviors (Beidel et al., 2010; Kerns & Kendall, 2012). Most studies examining the occurrence and expression of social anxiety symptoms in individuals with ASD have found positive relationships between autistic and social anxiety symptoms (Bejerot et al., 2014; Cath et al., 2008; Kanai et al., 2011; Spain et al., 2018). The question arises how both relate to each other and to what extent a possible association affects working life. Social anxiety symptoms also occur with other psychiatric diagnoses, challenging an accurate differential diagnosis. Particularly, individuals with ASD diagnosed late in life might be prone to a misdiagnosis of SAD. The **second study** (Espelöer et al., 2021) differentially examined social anxiety and social competence in order to further characterize the specific manifestation of social anxiety symptoms in ASD and to gain a more accurate understanding of difficulties experienced by people with ASD in working life.

The **second study** extended the research of a preliminary work (Espelöer, 2017), in which the manifestation of social anxiety symptoms in ASD were examined using the SASKO, the IU scale, and a brief 5-item scale asking for the concept of Fear of Negative Evaluation (Kemper et al., 2012; Vormbrock & Neuser, 1983). The SASKO is a self-report measure which consists of a *total* scale with the two main scales *social anxiety* and *social competence deficits* including two subscales, respectively. The main scale *social anxiety* is composed of the two subscales *anxiety of speaking and being in focus of attention* (e.g., “Being the center of attention makes me nervous”) and *anxiety of being rejected by others* (e.g., “I am afraid of embarrassing myself”). The second main scale *social competence deficits* includes the two subscales *interaction deficits* (e.g., “Places where many people are around frighten me”) and *deficits in processing of social information* (e.g., “I cannot assess in advance how my behavior affects others”). The IU scale is an abbreviated 18-item German version of the original English version

(Buhr & Dugas, 2002; Carleton et al., 2007; Freeston et al., 1994). The three scales of the questionnaire cover the perceived limitation of one's own ability to act ("When I feel uncertain, I cannot take the next step."), the uncertainty perceived as straining and stressful ("Uncertainty causes discomfort, anxiety, and stress."), and the need to be vigilant and alert due to uncertainty ("You always should look ahead in order to avoid surprises."). The sample of the preliminary work consisted of a group of individuals with ASD (n=23), individuals with axis I disorders (n=20; such as depression, bipolar disorder, psychosis, eating disorders, anxiety disorders, obsessive-compulsive disorder, schizophrenia), and a non-clinical comparison group (n=25). Individuals in the axis I group were inpatients of the Psychiatric Clinic of the University Hospital of Cologne and were diagnosed during hospitalization. Recruitment was done in person. The non-clinical comparison group consisted of individuals who were not affected by psychological impairments and was recruited from a participant database of the Adult Autism Outpatient Clinic of the University Hospital of Cologne.

Previous results (Espelöer, 2017) showed that the increased total SASKO score in the ASD group was mainly a result of social competence deficits substantially increased in clinical severity. In the axis I group, social competence deficits were less pronounced. Group differences became particularly clear with regard to impairments in information processing which stood out in people with ASD. The level of social anxiety in people with ASD and in the axis I group were in the range of slightly increased clinical severity; group differences did not emerge. Individuals with ASD showed marked difficulties in dealing with uncertainties, even compared to individuals with mental disorders in the axis I group. Fear of negative evaluation was not pronounced in people with ASD. Results showed that the lack of social competences and intolerance to uncertainty confirmed the assumption of a reciprocal relationship between the two concepts in ASD and particularly mattered in the description of social anxiety symptoms in ASD.

Assuming interdependence of ASD and SAD, whereby social anxiety symptoms are pronounced in individuals with ASD but difficulties in information processing and social skills stand out, the question of a modified manifestation of social anxiety in ASD arises. To address this, in **study 2** the axis I group was replaced by a SAD group. Individuals with axis I disorders are affected by psychological impairments but not primarily by social anxiety. To refine the delineation of ASD and social anxiety disorders and thus clearly describe support needs of

people with ASD, a group of people who primarily suffer from social anxiety was included. Thus, the question of whether the differentiation of ASD from axis I disorders can also be found in a more fine-grained comparison to SAD can be explored. In **study 2**, the question of underlying reasons for interpersonal difficulties, uncertainties, and difficulties in processing social information among people with ASD was explored. The focus was on the manifestation of social anxiety symptoms suspecting an ASD-specific characterisation and a reciprocal relationship between ASD and SAD. Uncertainty of intolerance was shown to be pronounced in people with ASD and was examined as well. The concept of fear of negative evaluation was not included. Taken together, the **second study** characterized the specific manifestation of social anxiety symptoms in ASD using the SASKO and the IU scale, as the concept of IU was described to represent a crucial mechanism underlying the development and maintenance of anxiety in adults with ASD (Boulter et al. 2014). A sample of individuals with ASD (n=23), a non-clinical comparison group (n=25), and a group of individuals with SAD (n=68) published with the SASKO manual (Kolbeck, 2008; Kolbeck & Maß, 2009) was included. Based on the data given in the manual, the data set of the SAD group was used for further calculations. Therefore, the IU scale was completed only in the ASD group and in the non-clinical comparison group. IQ scores were measured for the ASD group and the non-clinical control group as part of the data collection. The non-clinical control group was matched to the ASD group with respect to IQ and age. Individuals were included in the study when meeting criteria of an $IQ \geq 80$ and age of 18-65 years. Compared with data described in the SASKO manual, no significant age differences were found for the SAD group. Groups were not matched for gender; thus, gender was included as covariate in all analyses. One-way MANCOVA were calculated with one between-participant factor of Group (ASD, NC, SAD), the dependent variable Scale (SASKO *total*, subscales *speaking*, *rejection*, *interaction*, and *information*), and one covariate (gender, 0–1-valued). Pairwise comparisons were calculated between the SASKO scales, respectively, and the IU scale between groups.

Results revealed significantly increased social anxiety symptoms in the ASD group and the SAD group, indicating clinically relevant expressions of social anxiety in both groups. As a specific factor for ASD, social competence deficits were particularly pronounced in the ASD group, comprising increased impairments in interaction and processing social information. Thus, impairments in ASD in terms of marked deficits in social competences that impede the processing of social information and interaction could be considered as more fundamental

factors that may be associated with increased social anxiety symptoms in ASD (Bejerot et al., 2014; Cath et al., 2008; Kanai et al., 2011; Maddox & White, 2015; Spain et al., 2018; White & Schry, 2011). If social competences and information processing abilities are impaired, social interaction and communication may be associated with increased uncertainties. Results indicated increased IU in individuals with ASD, demonstrating clinically relevant levels compared with a published group of individuals with generalized anxiety disorder (Gerlach et al., 2008). This suggests that uncertainties in social situations are related to a behavioral level in individuals with ASD (White et al., 2014). Social withdrawal might be the result, which could further cause deficits in social skills to become entrenched over time due to limited opportunities for practice and improvement (Rubin & Burgess, 2001). Dealing with complex social and organizational dynamics at work might thus become increasingly challenging.

In order to prevent the risk of social exclusion in the workplace and to support satisfactory, productive professional integration of people with ASD, it is important to obtain a more comprehensive picture of the unique characteristics of people with ASD in the workplace.

3.4 Study 3: What is Specific About Employment Status, Workplace Experiences and Requirements in Individuals With Autism in Germany?

(Espelöer, J., Proft, J., Kemmer, P., Falter-Wagner, C. M., Vogeley, K., 2023b. *Autism Research*, 16(7), 1389–1402.)

With the pattern of a striking imbalance of generally high unemployment rates and high educational attainment described for individuals with ASD (**study 1**, Espelöer et al., 2023a) as well as specifically pronounced, fundamental social competence deficits and deficits in processing social information underlying social anxiety in individuals with ASD (**study 2**, Espelöer et al., 2021), it is less clear what *specific* demands are required of people with ASD in the workplace. Aiming to get an accurate picture of ASD-specific prerequisites for a successful and satisfying employment relationship, the **third study** (Espelöer et al., 2023b) investigated two groups with social interaction difficulties, with and without ASD.

A group of individuals with ASD without intellectual disabilities (n=197) was compared to a group of individuals with social difficulties for whom a diagnosis of ASD was ruled out (n=501). Individuals of both groups attended the Adult Autism Outpatient Clinic of the University Hospital of Cologne for diagnostic clarification and were invited to the diagnostic process due to values of the Autism Spectrum Quotient (Baron-Cohen et al., 2001) above the clinical cut-off value of 26. Individuals with the diagnosis ASD constituted the first group. All persons in which the diagnosis ASD was ruled out, built the second group. Both groups of persons presented with problems in social interaction or communication which motivated either themselves or their caregivers to visit the Autism Outpatient Clinic. Individuals with and without ASD thus potentially share some characteristics. Comparing those close groups provides a way of identifying an ASD-specific profile of requirements in working life. The inclusion of a comparison group that is very close to an ASD group allows for differentiation of autism-specific needs for the working environment beyond the needs for F diagnoses with social interaction disorders (Bloch et al., 2021; Falter-Wagner et al., 2022; Kemmer, 2021; Riedel et al., 2016). With regard to the collected educational level of both groups, cognitive disabilities can be excluded (Ritchie & Tucker-Drob, 2018). Additionally, 85.3% of individuals in the ASD group were diagnosed with F84.5 (n=168), 9.6% with F84.0 (n=19), and 5.1% with F84.1 (n=10), suggesting a high functional level of persons in the ASD group.

Comparable to **study 1**, the Vocational Questionnaire was used, sent prior to the first diagnostic interview and thus prior communicating diagnostic results to all individuals registered for diagnostic clarification. Data were obtained retrospectively from the clinical database of the Autism Outpatient Clinic. Data of persons included in **study 3** were partially overlapping with the group of **study 1**. However, due to the later implementation date of **study 3**, the survey period of **study 1** (2014 to 2019) was extended by covering the period of 2014 to 2021 resulting in slightly different response rates and sample sizes. Questionnaires relevant for **study 3** were returned with a response rate of 53.3%. In total, after excluding data with more than five missing values and data of individuals diagnosed with other pervasive developmental disorders such as F84.8 and F84.9, mentally disabled persons, and persons without completed school education, 698 individuals were included in the current analysis. In contrast to **study 1**, persons who had not completed their school education were excluded in **study 3**. The investigation of workplace experiences and requirements presupposes that school was completed and at least the status of vocational training beyond school was achieved. Groups did not significantly differ in gender. Individuals with ASD were younger ($M=36.5$, $SD=11.7$) compared to individuals with a ruled out ASD diagnosis ($M=39.5$, $SD=11.6$). Regarding school education, individuals with ASD showed significantly lower educational qualifications compared to individuals without ASD.

Both parts of the Vocational Questionnaire (*Professional development*⁵ and *Specific workplace characteristics*) were included in the **third study**. Groups were compared in terms of descriptive data captured by the first part of the questionnaire referred to as *Professional development*. Chi-square association tests and Mann-Whitney U tests were used for group comparisons. With data from the second part of the questionnaire, referred to as *Specific workplace characteristics*, exploratory factor analyses were conducted, covering both categories of the questionnaire *Workplace experiences* and *Wishes and requirements for an ideal workplace*, respectively, in order to reduce the complexity of the data. The exploratory approach of the data should be taken into account when describing and interpreting the results (Bender & Lange, 2001). Since the initial intention of the Vocational Questionnaire was to investigate the employment situation of individuals with ASD, the questionnaire contains nine items, which require an existing ASD diagnosis. Thus, in order to perform group comparisons

⁵ For the German translation of levels of formal qualifications see Supplementary Material to study 3 in the Appendix.

of people with and without ASD in the present study, these nine items were excluded from the analyses (seven items in questionnaire *Workplace experiences*; two items in questionnaire *Wishes and requirements for an ideal workplace*). Hence, 32 items of the questionnaire *Workplace experiences* and 42 items of the questionnaire *Wishes and requirements for an ideal workplace* were included in the present analyses. Items were reversely coded prior to calculations where required. Data of persons presenting with questionnaires with more than five missing values were excluded from the current analysis. After checking the data set using Little's Missing Completely at Random Test (Little, 1988), values were assumed to be missing at random; missing values were replaced by the multiple imputation procedure. Nonparametric tests were used because neither raw nor log transformed data did meet the normality assumptions. In order to perform an exploratory factor analysis, required assumptions were checked in advance and could be confirmed (Bartlett, 1951; Kaiser & Rice, 1974). Factor extraction was determined by Horn's parallel analysis, and the eigenvalue progression and its graphical representation, the scree plot, were examined. In addition to the statistical analysis, the practical content-related importance of the respective items was taken into account as well. Items with a main factor loading of at least .4 (Gaskin & Happell, 2014) were included in the analysis. Items were included considering differentiability, internal consistency, homogeneity, item count, and inter-item correlation⁶. After factors had been generated, post hoc comparisons were performed using reliability analyses and non-parametric Mann-Whitney U tests. Linear regressions were calculated to account for the influence of age and school education on the results.

Workplace experiences. As a result of factor extractions, a three-factor structure seemed appropriate. A reduction from 32 to 20 items could be achieved. No relevant cross-loadings (>.3) were observed, so that the following three factors with a simple structure pattern were generated (Table 1). E_Factor 1 *Social challenges* comprises difficulties in interpersonal interaction and communication, in understanding social rules, with teamwork, customer contact, flexibility, or lack of structure. E_Factor 2 *Job fit* comprises sufficiency of salary as

⁶ A detailed description of the exact procedure for checking the assumptions as well as for the exact procedure for generating, selecting, and allocating the factors can be found in the Supplementary Material to study 3 in the Appendix.

well as difficulties in finding a suitable job. E_Factor 3 *Specific needs* refers to options to bring in one's own specific, individual interests, strengths, and requirements at the workplace.

Wishes and requirements for an ideal workplace. A four-factor structure was adequate containing factors with a clear content based differentiation. A reduction from 42 to 25 items could be achieved so that the following four factors with a simple structure pattern without relevant cross-loadings ($>.3$) were generated (Table 2). W_Factor 1 *Social challenges* comprises specific requirements for social interaction and communication in the workplace such as reduced, specific, professional personal contact with colleagues, supervisors, and customers as well as structured daily schedules. W_Factor 2 *Job fit* comprises the need for sufficient salary as well as permanent employment. W_Factor 3 *Specific needs* comprises the need for individual support, strategies for dealing with excessive demands, and recognition of individual abilities. W_Factor 4 *Individual work setting* comprises the need for specific working conditions such as home office, individual office, or flexible work scheduling.

Table 1

Three Factor Structure Pattern and Factor Loadings for the Questionnaire Workplace Experiences

Items	Factor			Uniqueness
	1	2	3	
E_06 Colleagues and/or supervisors often place too high interpersonal expectations on me	0.685			0.549
E_05 Interaction with colleagues and/or supervisors is challenging most of the time	0.642			0.534
E_02 ^a I have no problems working in a team	0.628			0.623
E_08 I have problems perceiving unspoken rules	0.576			0.696
E_24 The working conditions in my professional environment are at the expense of my mental and/or physical health	0.562			0.646
E_01 ^a I mainly have a good relationship with colleagues and/or supervisors	0.533			0.699
E_22 I feel overloaded in my job	0.501			0.671
E_10 I cannot respond timely or appropriately to intrigues and power plays	0.497			0.771
E_13 Shifting appointments and changes in the daily schedule at short notice (e.g., due to unforeseen meetings) are problematic for me	0.490			0.749
E_04 I do not have common topics of conversation with colleagues	0.471			0.786
E_09 I do not perceive intrigues and power plays in a timely or appropriate manner	0.466			0.803
E_11 I have problems with contacts to customers	0.454			0.757
E_14 I have difficulties with lack of structure at work	0.428			0.790
E_38 ^a I can cover my living expenses with my salary		0.822		0.450
E_39 I cannot afford special expenses with my low salary (e.g., vacation, clothes, going to the movies, special interests)		0.783		0.500
E_37 ^a I am paid appropriately for my professional work		0.751		0.554
E_21 I have difficulties finding a suitable job		0.403		0.590
E_15 ^a My specific characteristics and/or special knowledge facilitate my work			0.659	0.542
E_16 ^a I can use my strengths at work for the benefits of my colleagues and/or the company			0.537	0.581
E_03 ^a On the positive side, I can work on my own.			0.406	0.815

Note. Three factor structure pattern and factor loadings for the questionnaire *Workplace experiences*.

E = questionnaire *Workplace experiences*; Ratings were made according to the agreement with certain experiences; Principal axis factoring extraction method was used in combination with a promax rotation

^a reverse coding

Table 2

Four Factor Structure Pattern and Factor Loadings for the Questionnaire Wishes and Requirements for an Ideal Workplace

Items	Factor				Uniqueness
	1	2	3	4	
W_15 Personal contact with colleagues only for a short time window during the day for factual communication	0.731				0.497
W_19 Structured daily work routine without interruptions (e.g., unscheduled changes, disruptions by colleagues)	0.703				0.465
W_01 No teamwork	0.681				0.490
W_02 Few people in the working environment	0.654				0.558
W_12 No contact with customers	0.641				0.631
W_14 Personal contact with colleagues and/or superiors only when I am ready for it	0.616				0.559
W_17 No phone calls at work	0.589				0.676
W_34 No business trips and/or field assignments	0.560				0.660
W_04 Exclusively professional exchange with colleagues	0.512				0.725
W_05 Positive working atmosphere with friendly and tolerant colleagues, without direct cooperation	0.503				0.725
W_10 As few contacts as possible in the company	0.491				0.692
W_13 Mostly written communication at the workplace (e.g., via e-mail)	0.480				0.697
W_43 A salary appropriate to the professional work		0.676			0.589
W_44 A salary that provides for individual living		0.620			0.694
W_42 A secure workplace (e.g., permanent position)		0.587			0.707
W_08 ^a Flat leadership style of the supervisor		0.416			0.784
W_41 Individual assistance (e.g., development concepts, coaching, support by colleagues, professional integration measures) to compensate for weaknesses			0.803		0.542

Items	Factor				Uniqueness
	1	2	3	4	
W_40 Acquiring individual strategies to compensate for deficits in order to better cope with demands and/or social difficulties in the professional context			0.584		0.716
W_11 Specific contact person outside the closer work environment who can be asked for advice in case of problems at the workplace			0.496		0.750
W_35 Retreat possibilities during breaks and/or when overstrained in the daily work routine			0.462		0.621
W_38 Higher acceptance of differences in the professional environment			0.451		0.696
W_24 Requirements at the workplace should be adapted to the individual capacity			0.435		0.744
W_39 Recognition and appreciation of individual strengths and talents in a professional context			0.408		0.645
W_30 Possibility of working at home				0.513	0.702
W_27 Individual office	0.438			0.502	0.509
W_20 Flexible time and work scheduling				0.448	0.802

Note. Four factor structure pattern and factor loadings for the questionnaire *Wishes and requirements for an ideal workplace*.

W = questionnaire *Wishes and requirements for an ideal workplace*; Ratings were made according to the importance of certain requirements; Principal axis factoring extraction method was used in combination with a promax rotation

^a Item W_08 was eliminated despite acceptable factor loading due to unconfirmed assumptions

3.3.1 Results of the First Part of the Vocational Questionnaire 'Professional Employment'

Individuals with ASD showed a lower educational level with significant less completed university entrance-level qualifications (53.3%) and significant more completed basic secondary education qualifications (18.8%) compared to the group of individuals with a ruled out ASD diagnosis (university entrance-level qualification: 65.5%; basic secondary education: 10.1%). Specifically associated with individuals with ASD was the significantly greater use of supported employment measures (6.1% vs. 1.6%). However, the similarity between groups

became evident with respect to vocational qualifications, employment status, unemployment rates and durations as well as the frequency and reason of termination (Figure 1). The latter was reported to be mostly due to interpersonal rather than professional difficulties; terminations were initiated equally often by the employer and the employee.

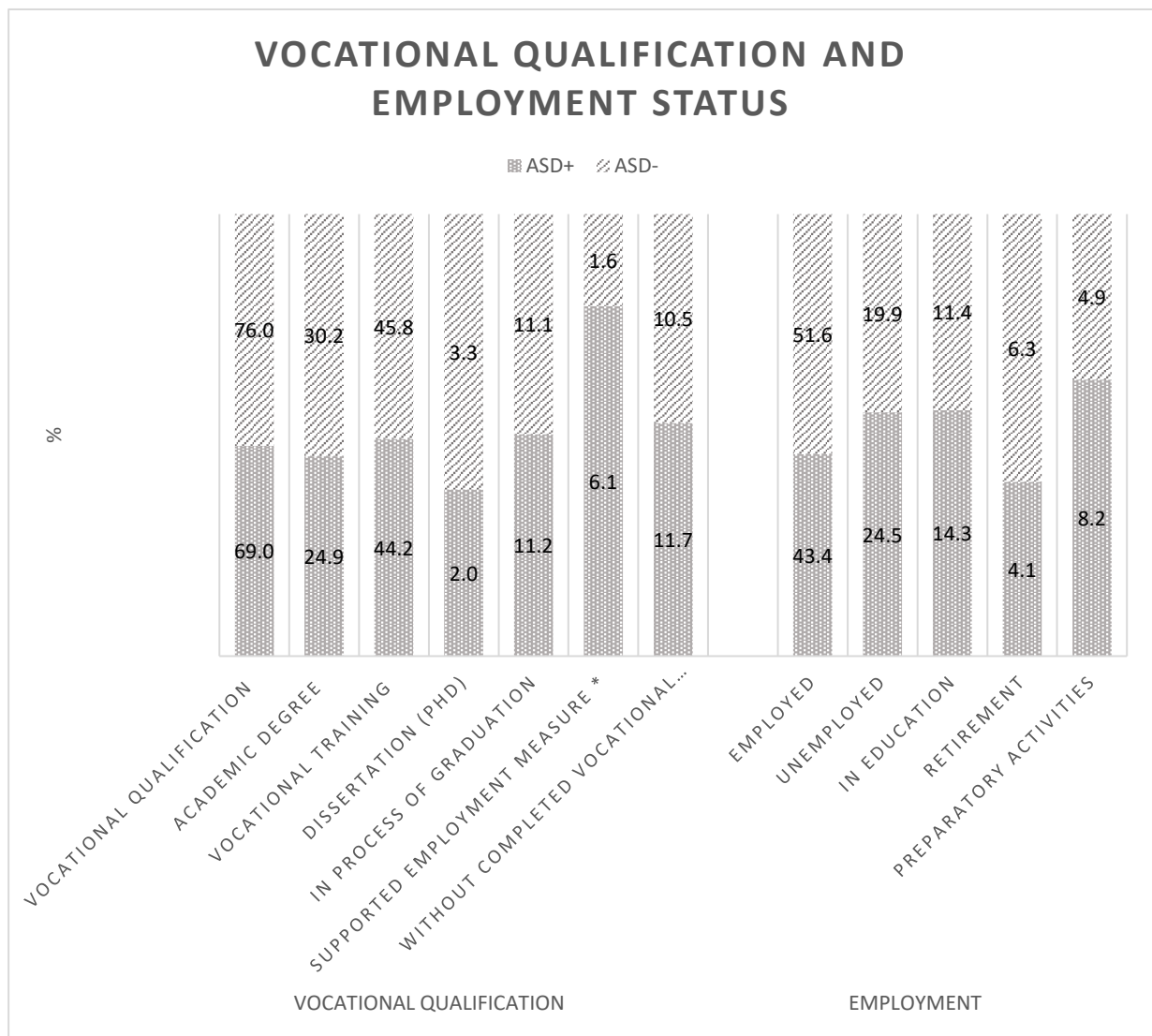


Figure 1. Vocational qualification and employment status by group, values in %. Group: ASD+ = diagnosed with autism spectrum disorder, ASD- = diagnosis of autism spectrum disorder ruled out

*p < .05; low values indicate greater impairments

3.3.2 Group Comparisons of the Second Part of the Vocational Questionnaire 'Workplace Experiences' and 'Wishes and Requirements for an Ideal Workplace'

Group comparisons showed that the ASD-specific profile for the working environment was characterized by a pronounced and specific need for reduction of social and interpersonal demands at work and for structured working conditions.

Workplace experiences. Difficulties in coping with social demands at work became evident in both groups, with a tendency to greater impairments for persons with ASD (E_Factor 1 *Social challenge*). However, individuals with ASD reported specifically pronounced challenges in social interaction, both in contact with customers and in identifying common interests and topics of conversation with colleagues. Flexible scheduling and coping with unexpected changes in daily routines also represented particular challenges. Individuals with ASD reported greater difficulties finding a suitable job that would also enable them to live on their wages (E_Factor 2 *Job fit*). Here, age and educational qualification need to be taken into account. Marginal group differences remained when including age and school education as covariates. It turned out that greater difficulties in establishing job security became apparent at younger ages and lower educational qualifications (Whittenburg et al., 2019).

Wishes and requirements for an ideal workplace. Individuals with ASD placed pronounced value on reducing social interaction and communication (W_Factor 1 *Social challenge*), more specifically on reducing social contact with customers and colleagues in general in the work context as well as beyond targeted, professional communication. Individuals with ASD preferred brief, purely content-focused interactions with a limited number of colleagues, or better yet, with a specific contact person, more than individuals without ASD. The need for reduction became clear not only in the social realm but also with respect to sensory input. Individuals with ASD aimed to avoid business trips as far as possible. In everyday working life, opportunities for retreat were needed during breaks or in situations of excessive demands (W_Factor 3 *Specific needs*). These findings are consistent with the growing importance of sensory overstimulation and associated overload in people with ASD (American Psychiatric Association, 2013). It turns out that the requirements of individuals with social interaction difficulties, whether with or without ASD, are often similarly pronounced, such as the importance of a safe and suitable workplace or the appreciation of individual characteristics (W_Factor 2 *Job fit*), but that the implementation or demand presents greater difficulties for

people with ASD (Roux et al. 2013). In sum, consistent with qualitative studies (Müller et al. 2003; Hurlbutt & Chalmers 2004), autism-specific qualitative impairments comprise the intuitive processing of social information as well as impaired competences in flexible planning and prioritization, which appears to require specific working conditions.

4 Discussion

This thesis highlights the great need of individuals with ASD without intellectual disabilities for support in working life, provides explanations for their difficulties, and identifies key factors contributing to successful and satisfactory support. Given the increasing importance of social skills in work settings, the challenge of sustainable integration of individuals with ASD into the labor market needs to become a focus of further research.

4.1 Imbalance of Education and Unemployment

Study 1 clearly showed that high levels of educational achievements of individuals with ASD do not protect them from unemployment, strongly suggesting that their unemployment status is not due to a lack of professional knowledge and competences. The striking imbalance of high levels of education and academic degrees, and high unemployment rates of people with ASD was demonstrated with unemployment rates of individuals with ASD of 25% exceeding those of the general German population approximately by a factor of five. The unemployment rate in the ASD group increased with increasing school-leaving qualification. In the general population, the opposite pattern emerged. This suggests that people with ASD struggle to take advantage of their potential benefits in the labor market, despite good educational qualifications. One explanation could be that in educational environments, routines and processes are prescribed in fixed structures, which is particularly crucial for people with ASD, as requirements for adaptation skills and flexible behavior are kept low. Once established, structures in school and private everyday life do not have to be changed much and can be adapted to ASD-specific individual needs (F. Frank et al., 2018; Maslahati et al., 2022; Müller et al., 2008). Moreover, it can be assumed that social difficulties associated with ASD were met with higher acceptance, assistance, and tolerance in school settings compared to employment environments, where awkwardness, insecurity, and differentness attracts attention, especially in adulthood, often in a negative way (DeBrabander et al., 2019; Grossman, 2015; Maslahati et al., 2022; Müller et al., 2008).

Thus, the transition from school-based education into vocational environments seems to present challenges for people with ASD. In **study 1**, less individuals with ASD completed vocational

training compared to the general German population. Comparable results are demonstrated in previous research in Germany (F. Frank et al., 2018; Maslahati et al., 2022). Results of **study 3** also indicated that supported employment programs were attended more frequently by persons with ASD than by individuals without ASD. Communicative challenges and adherence to ritualized behavior in adulthood may impede access as well as stable long-term maintaining employment. The far-reaching risk of repeated termination and long-term unemployment results (Barnard et al., 2001; Barnhill, 2007; Hendricks, 2010; Hurlbutt & Chalmers, 2004; Müller et al., 2003; Scott et al., 2017; Solomon, 2020). Unstable, fragmented career paths become evident through periods of unemployment, which in the ASD group of **study 1** and the sample of individuals with and without ASD of **study 3** were almost two years on average, which is consistent with the current literature (Ballaban-Gil et al., 1996; F. Frank et al., 2018; Müller et al., 2003; Solomon, 2020). More than twice as many unemployed people with ASD experienced long-term unemployment compared to the general German population (**study 1**). The great importance of social skills in working life presents challenges to individuals with social interaction and communication difficulties that prevent them from maintaining suitable employment. This becomes particularly clear as interpersonal difficulties – rather than professional difficulties – were cited as main reason for terminations in **study 1** and **study 3** (Hurlbutt & Chalmers, 2004). Individuals with interactional difficulties and especially individuals with ASD struggle due to the high expectations of interpersonal relationships in the context of work. In the following, the great importance of social competences in the workplace and the importance of accurately classifying the manifestation of social interaction difficulties, social withdrawal behavior, and symptoms of social anxiety are discussed.

4.2 Manifestation of Social Competence Deficits and Social Anxiety Symptoms in ASD and SAD

Growing expectations of interpersonal relationships frequently resulting in excessive demands, uncertainties, and social withdrawal. Qualitative impairments in social interaction appear to be disadvantageous in the labor market and thus represent one of the main disruptive factors for performance in the workplace (Hedley et al., 2017; Hurlbutt & Chalmers, 2002). In fact, it seems unsurprising that individuals with ASD are much more likely to develop depressive and social anxiety symptoms if they cannot experience themselves as a functional member of

society and do not feel sufficiently integrated into social networks (Chen et al., 2015; Hofvander et al., 2009; Hudson et al., 2019; Roux et al., 2013; Strunz et al., 2014). Awareness of one's own social difficulties as well as experiences of failure and social exclusion might lead to the development of depressive symptoms. Repeated failure and frustration in social situations might cause decreased self-esteem (Tantam, 2000). Social withdrawal behavior, taking timeouts for recovery, or even isolation are usually noticed negatively as it might be taken personally by colleagues or might be interpreted as avoidance behavior, especially during the transition from school into working life.

Thus, a precise classification of symptoms is important in order to correctly understand and interpret the intentions behind such behavior and to be able to establish specific supports. Social withdrawal and initiating few social exchanges are often a result of social interaction difficulties with a variety of potential underlying conditions. A link between autistic and social anxiety symptoms has been suggested (Bejerot et al., 2014; Cath et al., 2008; Kanai et al., 2011; Spain et al., 2018). The knowledge of underlying causes seems to be necessary in order to identify the most appropriate way of coping with social uncertainties and social withdrawal for both, the affected person him/herself and his or her environment. Symptoms of social anxiety may hinder professional development, which could be prevented by appropriate support and education of the surrounding environment. In ASD, social anxiety could be associated with autism-specific deficits in social skills and appeared to manifest differently. In the **second study** it was found that social anxiety symptoms were as pronounced in individuals with ASD as in persons with SAD, i.e., clinically increased. However, social competences and especially the ability to process social information were much more impaired in individuals with ASD than in individuals with SAD (**study 2**). An atypical manifestation of SAD or co-occurring anxiety symptomatology in ASD is assumed whereby a mono-dimensional model is probably obsolete to characterize the reciprocity of social anxiety symptoms and ASD (Kerns et al., 2014; Kerns & Kendall, 2012; Tyson & Cruess, 2012; Wood & Gadow, 2010).

4.2.1 Fundamental Impaired Social Competence Deficits in ASD Underlying Social Anxiety

The concept of social anxiety may need to be modified for individuals with ASD due to fundamental deficits in ASD. The model of a “hierarchy in the diagnostic value of symptoms” (p. 612, Jaspers, 1997/1959) offers an explanatory approach in this context. According to this idea, from a multitude of symptoms, it would primarily be the symptomatology of the *lowest layer* that would be decisive for making a diagnosis instead of the symptomatology visible *on the surface*. For example, if psychopathological symptoms similar to those of a personality disorder were present in a person with a brain injury, the brain injury would be the dominant diagnosis. The organic symptomatology would thus be more *fundamental* than the additional symptomatology *on the surface*. Social competence deficits can be considered as fundamental impairments associated with ASD as a pervasive developmental disorder. On this basis, social anxiety symptoms are a consequence *on the surface* of the fundamental disturbance of social skills in ASD. Thus, social withdrawal in working life may result from repeated social failure experiences which might be perceived as complex and unpredictable social interactions (Volkmar & Klin, 2000).

Uncertainty and social avoidance become more likely as the opportunities to acquire and improve social skills and interpersonal communication skills decrease (Rubin & Burgess, 2001). The importance attached to predictability, or, conversely, the intolerance to endure uncertainty (IU) can be identified as an additional aspect contributing to the development and maintenance of anxiety in people with ASD (Boulter et al., 2014). Coping with labor market demands of flexibility and adaptability poses great challenges for individuals who are qualitatively impaired in social skills and inflexible in adhering to fixed structures. In ASD, social uncertainty is associated with fundamental impairments in mentalising (Luyten & Fonagy, 2015; White et al., 2014). Impaired abilities to mentalise can be described with Jaspers’ (1997/1959) *deepest layer* of ASD as a pervasive developmental disorder. In ASD, anxiety appears to be determined rather by profound impairments in processing social information intuitively than by cognitive components as in SAD (Maddox & White, 2015). Individuals may worry about how their own behavior affects others and whether or not one's own behavior is appropriate for the particular situation rather than expecting and fearing negative evaluations of one's own self. Thus, in ASD, uncertainty in social interaction might be related to the behavioral level (e.g., whether one's behavior affects others), as mentalising deficits effectively

prevent worrying about negative evaluations of oneself (White et al., 2014). People with ASD appreciate predictability in behavior and communication. Uncertainty due to deficits in flexibly processing social information appears to affect social behavior more than anxiety. IU and the deeper layer of social competence deficits were found to be more expressed in ASD (**study 2**). In contrast, SAD is assumed to be acquired. Thus, symptoms of SAD should be localized on a more superficial level. Cognitive and temperamental components with a pronounced fear of social evaluation by others appear to be characteristic (Maddox & White, 2015; Neal & Edelman, 2003; Tyson & Cruess, 2012; White & Schry, 2011). SAD might arise from a variety of causal factors during development and has been linked to deeply rooted personality traits (Kerns et al., 2014; Neal & Edelman, 2003; Ollendick & Hirshfeld-Becker, 2002; Tyson & Cruess, 2012; White et al., 2014). Furthermore, the fundamental ability of drawing inferences about thoughts, feelings, and intentions of others (mentalising) is preserved in individuals with SAD. However, in SAD, inappropriate evaluations of social situations as well as inappropriate evaluations of others' expectations and intentions about oneself might be a barrier to successful socializing and social interaction. A vicious circle may arise as dysfunctional responses in turn increase the occurrence of unsuccessful interactions.

4.2.2 Expression of Social Anxiety Symptoms in ASD and SAD

It becomes clear that underlying processes should be included when disentangling social anxiety symptoms in ASD in order to recognize subtle differences in symptom expression and to avoid misinterpretation of symptomatology (Kerns et al., 2014; Ollendick & Hirshfeld-Becker, 2002; White et al., 2014). This can be further illustrated by the psychopathological construct of so-called equifinality, which describes the idea that various processes may result in a similar outcome. More precisely, social anxiety symptoms appear to be similar in terms of expression, but differ on the *basic level* depending on the disorder (Kerns et al., 2014). In SAD, social skills are basically preserved being covered by social anxiety symptoms on a surface level hampering successful and satisfied social interactions (Beidel et al., 2010; Maddox & White, 2015; White & Schry, 2011). Explaining SAD, the factor of social evaluation needs to be included. The fear of being negatively evaluated was identified as a distinct factor underlying social anxiety, qualitatively different from other social communication difficulties associated with ASD (Lei & Russell, 2021). In order to prevent misinterpretations of autistic symptoms in

SAD, social competence deficits need to be considered in ASD. What became apparent in the results of **study 2** in terms of pronounced deficits in processing social information in people with ASD compared to people with SAD can be characterized by ASD-specific fundamental mentalising deficits at a *deeper layer*. Social avoidance behavior often occurs as a *visible* consequence, irrespectively of the underlying mental disorder. Struggling with the complexity of social interactions, individuals with ASD may withdraw from groups due to repeated social failure (Volkmar & Klin, 2000). Uncertainty increases and may cause social isolation (Kerns et al., 2014; Maddox & White, 2015). Social isolation is at risk of being misinterpreted as a lack of interest in social contact. By contrast, individuals with ASD frequently report the desire for social belonging (Bauminger et al., 2003; Bauminger & Kasari, 2000; Maddox & White, 2015; Müller et al., 2008; Tyson & Cruess, 2012; White et al., 2014; Williamson et al., 2008). Following earlier descriptions, social belonging improves not only through social contact and an active social environment but also with successful integration into working environment (Bauminger et al., 2003; Bauminger & Kasari, 2000; Chen et al., 2015; Evans & Repper, 2000; Maddox & White, 2015; Müller et al., 2008; Tyson & Cruess, 2012; White et al., 2014; Williamson et al., 2008).

Taken together, a modified interpretation of the concept of social anxiety in ASD needs to be taken into account. Thus, a more precise, ASD-specific classification of social competence deficits and symptoms of social anxiety should be pursued accounting for the importance of social skills in the working environment. Social avoidance limits the opportunity to improve and practice interpersonal communication skills (Rubin & Burgess, 2001) and could further aggravate social competence deficits during development which may add to the risk of exclusion in working life.

4.3 ASD-Specific Conditions and Requirements in the Workplace

Again, the challenge for individuals with social competence deficits relates to the growing importance of complex social skills (Arora, 2017; Deming, 2017; Fazekas, 2020; Riggio, 2020; Schanzenbach et al., 2016). Successful employment as a socially normative activity in adult life provides desirable outcomes related to social status, financial independence, mental and physical well-being as well as quality of life (Chen et al., 2015; Roux et al., 2013). Individuals

with difficulties in social interaction and communication face particular challenges in employment entailing complex social dynamics that are constantly changing according to context and circumstances, which requires flexible adaptability (Chen et al., 2015; Hendricks, 2010; Müller et al., 2003; Shattuck & Roux, 2015). Challenges in getting access to the labor market, gaining stable foothold in working life as well as maintaining sustainable, secure, and suitable employment have already been discussed (**study 1**). Especially adults with ASD without intellectual disabilities are at risk of being overlooked in supported employment services. Subsequently, given the unique characteristic of ASD, the question arises which conditions and specific requirements are needed in order to improve challenges at the workplace for individuals with ASD (**study 3**).

People with ASD identify job demands with a ratio of 80% social and 20% working skills as a misfit in relation to their own strengths and weaknesses (see introductory quote, Hurlbutt & Chalmers, 2004). As a reason for misunderstandings in communication it may be assumed that individuals with ASD, especially in the working context, may rather communicate on the factual level than on the relational level (see Schulz von Thun, 2008). According to Watzlawick (Watzlawick et al., 1967), every behavior in a social interaction has a communicative value, with the relational and content levels influencing each other. Individuals with ASD seem to ascribe a different importance to the relational level in communication. Social difficulties and relationship conflicts actually overwrite existing strengths and abilities. As already described, the expectations for social skills in the workplace are continuously increasing over time. Specific strengths associated with ASD, such as efficiency, accuracy, and honesty (Müller et al., 2003) move into the background when interpersonal difficulties arise. Particularly in adulthood, adequate behavior in line with valid hierarchies, social norms, and unspoken rules is expected. Inflexible, ritualized as well as socially insecure or even inappropriate behavior in adulthood may be an obstacle during the access to professional environments (Baldwin et al., 2014; Barnard et al., 2001; DeBrabander et al., 2019; Grossman, 2015; Howlin et al., 2004; Hurlbutt & Chalmers, 2004; Müller et al., 2003; Solomon, 2020).

Results of **study 3** support this assumption. A pronounced and specific need for reduced social and interpersonal demands at work could be identified. Reports reveal pronounced difficulties in coping with social and interpersonal requirements such as teamwork and customer contact, where social perceptiveness in the sense of anticipatory, thoughtful communication is

particularly required (Klein et al., 2006; Riggio, 2020). When asking about wishes in the workplace, people with ASD expressed the desire to avoid customer contact. Moreover, essential interactions with colleagues or supervisors should be brief, concise, and factual. The focus should be on content only and interaction should happen only with a limited number or preferably one specific person. Furthermore, pronounced difficulties in understanding social rules were found to be specific for individuals with ASD. Conversational challenges in identifying shared interests and common topics with colleagues were emphasized and could contribute to mutual miscommunication. The autism-specific profile was complemented by the finding of a distinctive need for structured working conditions. Difficulties in responding flexibly to unforeseen schedules and adapting quickly to new circumstances emerge as autism-specific challenges. The waiver of business trips and the need for retreat during breaks and situations of overstimulation are considered more important by persons with ASD than by persons with a ruled out ASD diagnosis. Sensory overstimulation and overloads in situation of excessive demands were frequently reported in individuals with ASD and have thus gained focus of attention. In the workplace, sensory hyper-reactivity may cause interruptions in the work process and affect work performance (Hurlbutt & Chalmers, 2004; Kirchner & Dziobek, 2014; Müller et al., 2003).

4.4 Conditions for Satisfaction in the Workplace

Due to rising expectations of interpersonal as well as the demand for flexible skills in professional life (Arora, 2017; Deming, 2017; Fazekas, 2020; Riggio, 2020; Schanzenbach et al., 2016), a lack of job fit contributes substantially to dissatisfaction in the workplace of individuals with ASD (Herzberg, 1968). In order to understand satisfaction and dissatisfaction in working life, the Two-Factor Motivation theory was introduced by Herzberg in 1968. Two independent factors were included that are not complementary to each other. A lack of one factor cannot be compensated for by the abundance of the other. “The opposite of job satisfaction is not dissatisfaction, but, rather, no job satisfaction; and similarly, the opposite of job dissatisfaction is not satisfaction, but no job dissatisfaction.” (p. 9, Herzberg, 1968). The so-called *motivators*, e.g., achievement, recognition, responsibility, might increase job satisfaction. According to Herzberg, dissatisfaction might be increased by a lack of the second factor of this theory, the so-called *hygiene factors*, e.g., salary, job security, supervision,

relationships at work. In the **third study**, a lack of *hygiene factors* became apparent in reports of workplace experiences of individuals with ASD, as autism-specific impairments in social skills as well as inflexible behaviors affect the successful integration into working life. In comparison to individuals with other disabilities, young adults with ASD show poor psychosocial outcomes (Chen et al., 2015; Howlin, 2013; Howlin & Moss, 2012; Roux et al., 2013; Shattuck et al., 2012). The **third study** clearly showed that compared to individuals with social interaction difficulties without ASD, persons with ASD were less likely to find suitable employment with a salary sufficient to cover their living expenses (**study 3**) (Roux et al., 2013). Especially younger adults with lower educational levels were found to have greater difficulties in finding a suitable job ensuring economic security (**study 3**) (Whittenburg et al., 2019). A secure job that would offer an adequate wage according to performance was considered important by all persons with interaction difficulties, with and without ASD. What emerged as a particular and marked challenge for people with ASD is the difficulty of finding, obtaining, and maintaining a suitable employment.

Taken together, social competence deficits in people with ASD were specified by deficits in intuitively processing social information characterized by the *deeper layer* of fundamental mentalising deficits. More precisely, difficulties in recognizing implicit and explicit statements of supervisors, colleagues, or customers, as well as reduced competences in flexible planning and prioritization require specific working conditions (Baldwin et al., 2014; Hurlbutt & Chalmers, 2004; Kirchner & Dziobek, 2014; Müller et al., 2003; Proft et al., 2016). A marked discrepancy between individual wishes and requirements at work and experienced workplace conditions could be identified. Comparable to the findings of the **first study** of an imbalance between pronounced unemployment rates and above-average educational attainment among individuals with ASD compared to the general German population, an over-qualification in individuals with and without ASD emerged in the **third study** (Baldwin et al., 2014; F. Frank et al., 2018; Kirchner & Dziobek, 2014; Maslahati et al., 2022; Riedel et al., 2016). Individuals with and without ASD were comparable regarding vocational qualifications and employment status. What can be confirmed again are high unemployment rates among people with ASD which does not disappear despite high levels of educational and vocational qualifications (Baldwin et al., 2014; F. Frank et al., 2018; Riedel et al., 2016).

4.5 Influence of Job Demands and Resources on Work Motivation

Employment provides recognition of individual skills and effort (Evans & Repper, 2000), and opportunities for responsibility and development, which may intrinsically motivate (Herzberg, 1968). Intrinsic motivation may suffer from the clear discrepancy in employment patterns among autistic individuals compared to people without ASD (individuals in the general German population, **study 1**; persons with a ruled out ASD diagnosis, **study 3**), decreasing job satisfaction. Extending Herzberg's (1968) Two-Factor Motivation theory, the Job-Demand Resources model by Hackman and Oldham (Demerouti et al., 2001; Demerouti & Bakker, 2011; Hackman & Oldham, 1980; Schaufeli, 2017) is described in order to understand motivational processes underlying work engagement, its impact on job performance, and the development of health impairments such as stress. The Job-Demand Resources model is an empirically supported theoretical trans-sectoral (applicable regardless of the occupational setting) concept. The concept was developed in order to analyze workplace conditions with the aim of increasing work engagement and preventing burnout (Schaufeli, 2017). The two components *job demands* and *job resources* are differentiated. *Job demands* are related to conflicts with colleagues, workload, unsuitable physical environment, financial security as well as job fit and thus require cognitive, emotional, and social skills. This demands psychological and physiological costs and draws energy. Permanently elevated *job demands* without adequate compensation through *job resources* can result in exhaustion as well as psychological and physical health problems, which in turn may have a negative impact on job performance (Bakker & Demerouti, 2007; Demerouti et al., 2001; Demerouti & Bakker, 2011; Meijman & Mulder, 1998; Schaufeli, 2017). *Job resources* such as social support, team climate, feedback, financial security, and job control promote work engagement, achievement of work goals, personal growth and development, as well as the reduction of work demands and associated costs. Both, intrinsic (need for autonomy and competence, development opportunities, growth) and extrinsic (achievement of work goals, success) motivation may be addressed by specific job resources (Bakker & Demerouti, 2007). Abundant job resources provide inherent motivational qualities and contribute to work engagement and stress reduction, even when job demands are low. Low job demands prevent exhaustion and strain, but do not automatically increase work engagement (Bakker & Demerouti, 2007; Demerouti et al., 2001; Demerouti & Bakker, 2011; Schaufeli, 2017). Suitable job resources affect the individual motivation even in the context of high job demands, which is described as a buffer effect (Bakker et al., 2005;

Demerouti & Bakker, 2011; Schaufeli, 2017). A suitable working environment even increases the willingness to exert effort, which has been proposed as the coping hypothesis. According to this, job resources unfold their motivational potential especially when job demands are high and are used as coping mechanisms (Bakker et al., 2010; Bakker & Demerouti, 2007; Demerouti & Bakker, 2011).

4.6 Future Directions

Following the Job-Demand Resources model, the current findings suggest autism-specific workplace support structures that address individual resources. Awareness for ASD-specific workplace requirements appears to be crucial. A suitable job that stimulates growth and development, that provides financial security as well as social support and the opportunity to shape working conditions to an individual degree can contribute to a successful and sustainable integration into the social work environment. It is repeatedly emphasized that intellectual demands at work must not lose importance either (Baldwin et al., 2014; Hillier et al., 2007; Kirchner & Dziobek, 2014; Müller et al., 2003). Thus, employers may also benefit if an individualized fit in the workplace can help harness intrinsic motivation and effort to increase job performance. Establishing appropriate support measures in order to integrate people with ASD into work, employers and colleagues should be involved as well (Chen et al., 2015; Müller et al., 2003; Scott et al., 2015, 2019; Westbrook et al., 2012). It may cause irritation among colleagues and employers if well-qualified individuals behave in socially unusual, if not awkward ways or avoid social situations (Vogeley et al., 2013). Employers' knowledge and attitudes about ASD-specific needs are shown to impact successful collaboration. On the one hand, raising awareness of ASD by educating employers about autistic behaviors and how to potentially interact with employees with ASD is desired and considered helpful by individuals with ASD. On the other hand, employers also benefit from knowledge about autism-specific characteristics (Hagner & Cooney, 2003; Keel et al., 1997; Kirchner & Dziobek, 2014; Maslahati et al., 2022; Mawhood & Howlin, 1999; Müller et al., 2003; Scott et al., 2015; Vogeley et al., 2013). As uncertainties in contact, lack of knowledge about ASD, concerns about costs and loss of job performance, and the feeling of being unprepared for approaching employees with ASD may lead employers to be reluctant to hire individuals with ASD, even educating people about ASD and increasing awareness and knowledge of ASD-specific

potential contributes to reduce uncertainty and counteract reservations (Dreaver et al., 2020; Hernandez et al., 2000; Krämer, 2015; Mawhood & Howlin, 1999; Scott et al., 2017, 2019). Challenges in hiring individuals with ASD could be successfully addressed by adapting processes in everyday work, such as structuring procedures, maintaining specificity and transparency in communicating expectations and requirements, ensuring proper understanding in communication, or assigning specific contact persons, which could be further beneficial to the entire team (Hagner & Cooney, 2005; Hillier et al., 2007; Keel et al., 1997; Müller et al., 2003; Scott et al., 2015). Prior experiences in hiring people with ASD reduces concerns and misconceptions and promotes a positive attitude toward future cooperation (Gilbride et al., 2000; Hernandez et al., 2000; Ju et al., 2013; Krämer, 2015; Scott et al., 2015; Unger, 2002). In addition, reciprocal collaboration with external support services seems to be crucial (Dreaver et al., 2020; Hagner & Cooney, 2003; Ju et al., 2013; Scott et al., 2015). Knowledge and consideration of autism-specific characteristics at work, such as reducing social and interpersonal demands and providing a structured and undisturbed workplace appear to contribute greatly to successful integration into a social work environment (**study 3**) (Dreaver et al., 2020; Hurlbutt & Chalmers, 2004; Mawhood & Howlin, 1999; Müller et al., 2003). Raising awareness of autism in the working environment could reduce employers' and colleagues' hesitation toward employees with ASD, adjust their attitude regarding norms in social interactions, and could enable them to recognize (ASD-specific) strengths of employees, thereby giving people with ASD the opportunity to raise their potential (Black et al., 2019). Thus, consistent, external professional support for entering and maintaining employment seems to be effective whereby environmental factors need to be taken into account (Chen et al., 2015; García-Villamizar et al., 2002; Howlin et al., 2005; Mawhood & Howlin, 1999; Müller et al., 2003; Scott et al., 2015, 2019; Unger, 2002; Westbrook et al., 2012).

Already the preparation of individuals with ASD for working life should be accompanied (Cimera et al., 2013; Lei et al., 2020; Solomon, 2020; Wehman et al., 2012). Especially the first two years after school graduation indicate high need for support, which, however, is poorly covered for adults with ASD without intellectual disabilities (Chen et al., 2015; Cimera et al., 2013; Shattuck et al., 2012). For adults with ASD without intellectual disabilities in particular, complaints include a distinct lack of appropriate support services leading to continued parental involvement. Parental support still remains highly valued and often remains as the only possibility after leaving school, because support ends after school at the latest making autonomy

and disengagement from the parental home impossible (Baldwin et al., 2014; Barnard et al., 2001; Chen et al., 2015; Howlin et al., 2004; Shattuck et al., 2012). Early intervention measures need to be established to guide the transition from school to work (Anderson et al., 2019; Chen et al., 2015; Cimera et al., 2013; Howlin & Moss, 2012). *Off-the-job* support could promote the development and practice of communicative, social, and vocational skills and address uncertainties. This provides to discuss and reflect on social challenges and difficulties in interpersonal interactions. Better conversational abilities increase the likelihood of finding employment (Roux et al., 2013). Following supported preparation for the transition to work, supported employment programs including *on-the-job* support have proven to be successful (Mawhood & Howlin, 1999; Vogeley et al., 2013; Wehman et al., 2014) and are frequently recommended (F. Frank et al., 2018; Maslahati et al., 2022; Müller et al., 2003; Westbrook et al., 2012) and required (**study 3**). Supporting both, employers and colleagues likewise to employees seems to be of mutual interest. In supported employment programs, job coaches should be available *on-the-job* as contact persons and *mediators* for the whole team. However, this assumes that job coaches themselves are well versed in the topic of ASD. Thus, educating and, in the course of employment, supervising job coaches as well as supervisors and colleagues seems to be an important part of the integration process of employees with ASD.

Supporting company-integrated workplaces avoids segregated settings and thus social exclusion (Nicholas et al., 2015). The approach of placing and training *on-the-job* is recommended (Hurlbutt & Chalmers, 2004). However, specified support for highly qualified adults with ASD is often hampered by funding difficulties, as assistance is provided to individuals who are currently employed, but not to those in the process of job search and job matching or placement (Mawhood & Howlin, 1999). Future research need to address this crucial issue of financial implementation. A holistic approach may prove successful incorporating consistent, comprehensive long-term support and broad knowledge and understanding of ASD allowing for the development of individual potential (Dreaver et al., 2020; Ju et al., 2013; Scott et al., 2015, 2019; Wehman et al., 2013; Westbrook et al., 2012).

4.7 Conclusion

The thesis demonstrates that social difficulties entail several barriers for individuals with ASD, which, however, can be overcome by increasing societal knowledge and awareness about autism-specific strengths and weaknesses addressing public authorities, potential employers, and colleagues. Taken together, the current thesis reveals two mismatches. On the one hand, an ASD-specific profile of a clear imbalance between high educational attainment and high unemployment rates was confirmed. On the other hand, a mismatch between growing social demands in working environments and ASD-specific needs for reduction of social and interpersonal demands and for structured working conditions could be identified. Distinct deficits in social competencies and in social information processing are suggested to present an ASD-specific pattern associated with social anxiety symptoms that can be considered as a consequence of fundamental competence impairments. Results clearly emphasize the marked need for improved support structures across highly qualified adults with ASD. In order to prevent social exclusion and given the unique characteristics of ASD, professional, ASD-specific support needs to be established to enable successful integration into suitable, sustainable, and economically secure working environment.

5 Summary

Entering the working life provides autonomy and social participation and requires social skills, which may hinder the sustainable vocational integration of individuals with ASD with qualitative impairments in social interaction and communication as well as inflexible behavior. Interpersonal difficulties are commonly associated with social withdrawal behavior and social anxiety symptoms, which could further aggravate professional development. The aim of this thesis was to examine the employment situation of individuals with ASD without intellectual disabilities in Germany. It investigated the ASD-specific manifestation of social competences, social anxiety symptoms, and social insecurities as well as specific needs and requirements of individuals with ASD for a suitable workplace based on self-report.

In the **first study**, it was demonstrated that individuals with ASD without intellectual disabilities showed increased unemployment rates by a factor of approximately five despite above-average educational qualifications compared to the general German population. Results showed that interpersonal difficulties often led to termination of employment for people with ASD. In order to characterize ASD-specific interpersonal difficulties, individuals with ASD and individuals with SAD were compared in the **second study**. Results demonstrated that social anxiety was clinically increased in both groups, but that social competence deficits and deficits in processing social information were substantially more pronounced in the ASD group. Individuals with ASD showed distinct difficulties in tolerating uncertainty, which could further increase withdrawal behavior. A specific manifestation of social anxiety in ASD became apparent, based on fundamentally impaired social competences and difficulties in processing social information. In the **third study**, it was then shown that coping with social demands at work is particularly challenging for people with ASD. A group of individuals with ASD was compared to a group of individuals sharing the characteristics of social interaction difficulties, but for whom an ASD diagnosis was clinically ruled out. A specifically pronounced need for the reduction of social and interactional demands in the workplace and for structured working conditions became apparent among individuals with ASD. Results showed that people with ASD reported distinct difficulties in obtaining and maintaining suitable employment that offers economic security compared to people without ASD.

This thesis highlights the need for specific professional support for individuals with ASD without intellectual disabilities in order to provide sustainable, satisfactory social and vocational integration. It provides insights into the specific needs, weaknesses, and strengths of people with ASD that are necessary for the holistic support of people with ASD in accessing social working life and increasing work engagement.

6 References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5*. American Psychiatric Association.
- Anderson, A. H., Stephenson, J., Carter, M., & Carlon, S. (2019). A systematic literature review of empirical research on postsecondary students with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 49(4), 1531–1558.
<https://doi.org/10.1007/s10803-018-3840-2>
- Arora, B. (2017). Importance of emotional intelligence in the workplace. *International Journal of Engineering and Applied Sciences*, 4(4).
- Asperger, H. (1944). Die „Autistischen Psychopathen“ im Kindesalter [The “autistic psychopaths” in childhood]. *Archiv Für Psychiatrie Und Nervenkrankheiten*, 117(1), 76–136. <https://doi.org/https://doi.org/10.1007/BF01837709>
- Asselmann, E., Beesdo-Baum, K., Hamm, A., Schmidt, C. O., Hertel, J., Grabe, H. J., & Pané-Farré, C. A. (2019). Lifetime and 12-month prevalence estimates for mental disorders in northeastern Germany: findings from the Study of Health in Pomerania. *European Archives of Psychiatry and Clinical Neuroscience*, 269(3), 341–350.
<https://doi.org/10.1007/s00406-018-0911-5>
- Association of the Scientific Medical Societies [Arbeitsgemeinschaft der Wissenschaftlichen Medizinischen Fachgesellschaften]. (2016). *Autismus-Spektrum-Störungen im Kindes-, Jugend- und Erwachsenenalter - Teil 1: Diagnostik, Interdisziplinäre S3-Leitlinie der DGKJP und der DGPPN sowie der beteiligten Fachgesellschaften, Berufsverbände und Patientenorganisationen, Langversion [Autism spectrum disorder in childhood, adolescence, and adulthood - Part 1: Diagnostics, interdisciplinary S3 guideline of DGKJP and DGPPN and the participating professional societies, professional associations, and patient organizations, long version]*. AWMF online.
- Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309–328.
<https://doi.org/10.1108/02683940710733115>

- Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005). Job Resources buffer the impact of Job Demands on burnout. *Journal of Occupational Health Psychology, 10*(2), 170–180. <https://doi.org/10.1037/1076-8998.10.2.170>
- Bakker, A. B., van Veldhoven, M., & Xanthopoulou, D. (2010). Beyond the Demand-Control Model. *Journal of Personnel Psychology, 9*(1), 3–16. <https://doi.org/10.1027/1866-5888/a000006>
- Baldwin, S., Costley, D., & Warren, A. (2014). Employment activities and experiences of adults with high-functioning autism and Asperger’s disorder. *Journal of Autism and Developmental Disorders, 44*(10), 2440–2449. <https://doi.org/10.1007/s10803-014-2112-z>
- Ballaban-Gil, K., Rapin, I., Tuchman, R., & Shinnar, S. (1996). Longitudinal examination of the behavioral, language, and social changes in a population of adolescents and young adults with autistic disorder. *Pediatric Neurology, 15*(3), 217–223. [https://doi.org/https://doi.org/10.1016/s0887-8994\(96\)00219-6](https://doi.org/https://doi.org/10.1016/s0887-8994(96)00219-6)
- Barnard, J., Harvey, V., Potter, D., & National Autistic Society. (2001). *Ignored or ineligible? The reality for adults with autism spectrum disorders*. National Autistic Society.
- Barnhill, G. P. (2007). Outcomes in adults with Asperger syndrome. *Focus on Autism and Other Developmental Disabilities, 22*(2), 116–126. <https://doi.org/https://doi.org/10.1177/10883576070220020301>
- Baron-Cohen, S., Leslie, A. M., & Frith, U. (1985). Does the autistic child have a “theory of mind”? *Cognition, 21*(1), 37–46. [https://doi.org/https://doi.org/10.1016/0010-0277\(85\)90022-8](https://doi.org/https://doi.org/10.1016/0010-0277(85)90022-8)
- Baron-Cohen, S., Wheelwright, S., & Jolliffe, T. (1997). Is there a “language of the eyes”? Evidence from normal adults, and adults with autism or Asperger syndrome. *Visual Cognition, 4*(3), 311–331. <https://doi.org/10.1080/713756761>
- Baron-Cohen, S., Wheelwright, S., Skinner, R., Martin, J., & Clubley, E. (2001). The Autism-Spectrum Quotient (AQ): Evidence from Asperger syndrome/high-functioning autism,

- males and females, scientists and mathematicians. *Journal of Autism and Developmental Disorders*, 31(1), 5–17. <https://doi.org/10.1023/A:1005653411471>
- Bartlett, M. S. (1951). The effect of standardization on a χ^2 approximation in factor analysis. *Biometrika*, 38(3–4), 337–344. <https://doi.org/https://doi.org/10.1093/biomet/38.3-4.337>
- Bauminger, N., & Kasari, C. (2000). Loneliness and friendship in high-functioning children with autism. *Child Development*, 71(2), 447–456. <https://doi.org/10.1111/1467-8624.00156>
- Bauminger, N., Shulman, C., & Agam, G. (2003). Peer interaction and loneliness in high-functioning children with autism. *Journal of Autism and Developmental Disorders*, 33(5), 489–507. <https://doi.org/10.1023/A:1025827427901>
- Beidel, D. C., Rao, P. A., Scharfstein, L., Wong, N., & Alfano, C. A. (2010). Social skills and social phobia: An investigation of DSM-IV subtypes. *Behaviour Research and Therapy*, 48(10), 992–1001. <https://doi.org/10.1016/j.brat.2010.06.005>
- Bejerot, S., Eriksson, J. M., & Mörtberg, E. (2014). Social anxiety in adult autism spectrum disorder. *Psychiatry Research*, 220(1–2), 705–707. <https://doi.org/10.1016/j.psychres.2014.08.030>
- Bellini, S. (2006). The development of social anxiety in adolescents with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, 21(3), 138–145. <https://doi.org/10.1177/10883576060210030201>
- Bender, R., & Lange, S. (2001). Adjusting for multiple testing - when and how? *Journal of Clinical Epidemiology*, 54(4), 343–349. [https://doi.org/https://doi.org/10.1016/s0895-4356\(00\)00314-0](https://doi.org/https://doi.org/10.1016/s0895-4356(00)00314-0)
- Black, M. H., Mahdi, S., Milbourn, B., Thompson, C., D’Angelo, A., Ström, E., Falkmer, M., Falkmer, T., Lerner, M., Halladay, A., Gerber, A., Esposito, C., Girdler, S., & Bölte, S. (2019). Perspectives of key stakeholders on employment of autistic adults across the United States, Australia, and Sweden. *Autism Research*, 12(11), 1648–1662. <https://doi.org/10.1002/aur.2167>

- Bloch, C., Burghof, L., Lehnhardt, F.-G., Vogeley, K., & Falter-Wagner, C. M. (2021). Alexithymia traits outweigh autism traits in the explanation of depression in adults with autism. *Scientific Reports*, *11*(1). <https://doi.org/10.1038/s41598-021-81696-5>
- Bottema-Beutel, K., Kapp, S. K., Lester, J. N., Sasson, N. J., & Hand, B. N. (2021). Avoiding ableist language: Suggestions for autism researchers. *Autism in Adulthood*, *3*(1), 18–29. <https://doi.org/10.1089/aut.2020.0014>
- Boulter, C., Freeston, M., South, M., & Rodgers, J. (2014). Intolerance of uncertainty as a framework for understanding anxiety in children and adolescents with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, *44*(6), 1391–1402. <https://doi.org/10.1007/s10803-013-2001-x>
- Brunello, G., & Schlotter, M. (2011). Non cognitive skills and personality traits: Labour market relevance and their development in education & training systems. *Institute for the Study of Labor (IZA)*, *5743*. <https://doi.org/http://dx.doi.org/10.2139/ssrn.1858066>
- Buhr, K., & Dugas, M. J. (2002). The intolerance of uncertainty scale: Psychometric properties of the English version. *Behaviour Research and Therapy*, *40*(8), 931–945. [https://doi.org/10.1016/S0005-7967\(01\)00092-4](https://doi.org/10.1016/S0005-7967(01)00092-4)
- Buijsman, R., Begeer, S., & Scheeren, A. M. (2023). ‘Autistic person’ or ‘person with autism’? Person-first language preference in Dutch adults with autism and parents. *Autism*, *27*(3), 788–795. <https://doi.org/10.1177/13623613221117914>
- Bury, S. M., Jellett, R., Spoor, J. R., & Hedley, D. (2023). “It defines who I am” or “It’s something I have”: What language do [autistic] Australian adults [on the autism spectrum] prefer? *Journal of Autism and Developmental Disorders*, *53*(2), 677–687. <https://doi.org/10.1007/s10803-020-04425-3>
- Carleton, R. N. (2012). The intolerance of uncertainty construct in the context of anxiety disorders: Theoretical and practical perspectives. *Expert Review of Neurotherapeutics*, *12*(8), 937–947. <https://doi.org/10.1586/ern.12.82>

- Carleton, R. N., Norton, M. A. P. J., & Asmundson, G. J. G. (2007). Fearing the unknown: A short version of the Intolerance of Uncertainty Scale. *Journal of Anxiety Disorders*, *21*(1), 105–117. <https://doi.org/10.1016/j.janxdis.2006.03.014>
- Cath, D. C., Ran, N., Smit, J. H., van Balkom, A. J. L. M., & Comijs, H. C. (2008). Symptom overlap between autism spectrum disorder, generalized social anxiety disorder and obsessive-compulsive disorder in adults: A preliminary case-controlled study. *Psychopathology*, *41*(2), 101–110. <https://doi.org/10.1159/000111555>
- Cederlund, M., Hagberg, B., Billstedt, E., Gillberg, I. C., & Gillberg, C. (2008). Asperger syndrome and autism: A comparative longitudinal follow-up study more than 5 years after original diagnosis. *Journal of Autism and Developmental Disorders*, *38*(1), 72–85. <https://doi.org/10.1007/s10803-007-0364-6>
- Chamberlain, P. D., Rodgers, J., Crowley, M. J., White, S. E., Freston, M. H., & South, M. (2013). A potentiated startle study of uncertainty and contextual anxiety in adolescents diagnosed with autism spectrum disorder. *Molecular Autism*, *4*(1), 31. <https://doi.org/10.1186/2040-2392-4-31>
- Chen, J. L., Sung, C., & Pi, S. (2015). Vocational rehabilitation service patterns and outcomes for individuals with autism of different ages. *Journal of Autism and Developmental Disorders*, *45*(9), 3015–3029. <https://doi.org/10.1007/s10803-015-2465-y>
- Cimera, R. E., Burgess, S., & Wiley, A. (2013). Does providing transition services early enable students with ASD to achieve better vocational outcomes as adults? *Research and Practice for Persons with Severe Disabilities*, *38*(2), 88–93. <https://doi.org/10.2511/027494813807714474>
- Croen, L. A., Zerbo, O., Qian, Y., Massolo, M. L., Rich, S., Sidney, S., & Kripke, C. (2015). The health status of adults on the autism spectrum. *Autism*, *19*(7), 814–823. <https://doi.org/10.1177/1362361315577517>
- DeBrabander, K. M., Morrison, K. E., Jones, D. R., Faso, D. J., Chmielewski, M., & Sasson, N. J. (2019). Do first impressions of autistic adults differ between autistic and nonautistic observers? *Autism in Adulthood*, *1*(4), 250–257. <https://doi.org/10.1089/aut.2019.0018>

- Demerouti, E., & Bakker, A. B. (2011). The Job Demands-Resources model: Challenges for future research. In *SA Journal of Industrial Psychology* (Vol. 37, Issue 2). AOSIS (pty) Ltd. <https://doi.org/10.4102/sajip.v37i2.974>
- Demerouti, E., Nachreiner, F., Bakker, A. B., & Schaufeli, W. B. (2001). The Job Demands-Resources model of burnout. *Journal of Applied Psychology*, *86*(3), 499–512. <https://doi.org/10.1037/0021-9010.86.3.499>
- Deming, D. J. (2017). The growing importance of social skills in the labor market. *Quarterly Journal of Economics*, *132*(4), 1593–1640. <https://doi.org/10.1093/qje/qjx022>
- Dreaver, J., Thompson, C., Girdler, S., Adolfsson, M., Black, M. H., & Falkmer, M. (2020). Success factors enabling employment for adults on the autism spectrum from employers' perspective. *Journal of Autism and Developmental Disorders*, *50*(5), 1657–1667. <https://doi.org/10.1007/s10803-019-03923-3>
- Dugas, M. J., Gagnon, F., Ladouceur, R., & Freeston, M. H. (1998). Generalized anxiety disorder: A preliminary test of a conceptual model. *Behaviour Research and Therapy*, *36*(2), 215–226. [https://doi.org/10.1016/S0005-7967\(97\)00070-3](https://doi.org/10.1016/S0005-7967(97)00070-3)
- Dugas, M. J., Schwartz, A., & Francis, K. (2004). Brief Report: Intolerance of uncertainty, worry, and depression. *Cognitive Therapy and Research*, *28*(6), 835–842. <https://doi.org/10.1007/s10608-004-0669-0>
- Dwyer, P. (2022). Stigma, incommensurability, or both? Pathology-first, person-first, and identity-first language and the challenges of discourse in divided autism communities. *Journal of Developmental and Behavioral Pediatrics : JDBP*, *43*(2), 111–113. <https://doi.org/https://doi.org/10.1097/DBP.0000000000001054>
- Espelöer, J. (2017). *Autism and social anxiety - A differentiation by including intolerance of uncertainty and fear of negative evaluation*. [Unpublished master thesis]. Heinrich-Heine University Düsseldorf.

- Espelöer, J., Hellmich, M., Vogeley, K., & Falter-Wagner, C. M., (2021). Brief Report: Social anxiety in autism spectrum disorder is based on deficits in social competence. *Journal of Autism and Developmental Disorders*, 51(1), 315–322. <https://doi.org/10.1007/s10803-020-04529-w>
- Espelöer, J., Proft, J., Falter-Wagner, C. M., & Vogeley, K. (2023a). Alarmingly large unemployment gap despite of above-average education in adults with ASD without intellectual disability in Germany: A cross-sectional study. *European Archives of Psychiatry and Clinical Neuroscience*, 273(3), 731–738. <https://doi.org/10.1007/s00406-022-01424-6>
- Espelöer, J., Proft, J., Kemmer, P., Falter-Wagner, C. M., & Vogeley, K. (2023b). What is specific about employment status, workplace experiences and requirements in individuals with autism in Germany? *Autism Research*, 16(7), 1389–1402. <https://doi.org/10.1002/aur.2958>
- Evans, J., & Repper, J. (2000). Employment, social inclusion and mental health. *Journal of Psychiatric and Mental Health Nursing*, 7(1), 15–24. <https://doi.org/10.1046/j.1365-2850.2000.00260.x>
- Falter-Wagner, C. M., Bloch, C., Burghof, L., Lehnhardt, F.-G., & Vogeley, K. (2022). Autism traits outweigh alexithymia traits in the explanation of mentalising performance in adults with autism but not in adults with rejected autism diagnosis. *Molecular Autism*, 13(1), 32. <https://doi.org/10.1186/s13229-022-00510-9>
- Fazekas, K. (2020). The growing importance of non-cognitive skills in job search and at work. In K. Fazekas, M. Csillag, Z. Hermann, & A. Scharle (Eds.), *The Hungarian Labour Market 2019* (pp. 134–136). Institute of Economics, Centre for Economic and Regional Studies. Budapest.
- Federal Employment Agency (Statistik der Bundesagentur für Arbeit). (2018a). *Arbeitsmarkt nach Qualifikationen [Labor market by qualifications]*. Retrieved February 11, 2021, from „Einzelheftsuche - Statistik Der Bundesagentur Für Arbeit“ - https://statistik.arbeitsagentur.de/SiteGlobals/Forms/Suche/Einzelheftsuche_Formular.Html?Nn=20918&topic_f=amq.

Federal Employment Agency (Statistik der Bundesagentur für Arbeit). (2018b).

Langzeitarbeitslosigkeit [Long-term unemployment]. Retrieved February 18, 2021, from „Einzelheftsuche - Statistik Der Bundesagentur Für Arbeit“ -

https://Statistik.Arbeitsagentur.de/SiteGlobals/Forms/Suche/Einzelheftsuche_Formular.

[Html?Gtp=15084_list%253D3&topic_f=langzeitarbeitslosigkeit](https://Statistik.Arbeitsagentur.de/SiteGlobals/Forms/Suche/Einzelheftsuche_Formular?Gtp=15084_list%253D3&topic_f=langzeitarbeitslosigkeit).

Frank, F., Jablotschkin, M., Arthen, T., Riedel, A., Fangmeier, T., Hölzel, L. P., & Tebartz van Elst, L. (2018). Education and employment status of adults with autism spectrum disorders in Germany - A cross-sectional-survey. *BMC Psychiatry, 18*(1).

<https://doi.org/10.1186/s12888-018-1645-7>

Frank, M. R., Autor, D., Bessen, J. E., Brynjolfsson, E., Cebrian, M., Deming, D. J., Feldman, M., Groh, M., Lobo, J., Moro, E., Wang, D., Youn, H., & Rahwan, I. (2019). Toward understanding the impact of artificial intelligence on labor. *Proceedings of the National Academy of Sciences of the United States of America, 116*(14), 6531–6539.

<https://doi.org/10.1073/pnas.1900949116>

Freeston, M. H., Rhéaume, J., Letarte, H., Dugas, M. J., & Ladouceur, R. (1994). Why do people worry? *Personality and Individual Differences, 17*(6), 791–802.

[https://doi.org/10.1016/0191-8869\(94\)90048-5](https://doi.org/10.1016/0191-8869(94)90048-5)

Frith, U., Morton, J., & Leslie, A. M. (1991). The cognitive basis of a biological disorder: Autism. *Trends in Neurosciences, 14*(10), 433–438.

[https://doi.org/https://doi.org/10.1016/0166-2236\(91\)90041-r](https://doi.org/https://doi.org/10.1016/0166-2236(91)90041-r)

García-Villamizar, D., Wehman, P., & Navarro, M. D. (2002). Changes in the quality of autistic people's life that work in supported and sheltered employment. A 5-year follow-up study. *Journal of Vocational Rehabilitation, 17*(4), 309–312.

Gaskin, C. J., & Happell, B. (2014). On exploratory factor analysis: A review of recent evidence, an assessment of current practice, and recommendations for future use.

International Journal of Nursing Studies, 51(3), 511–521.

<https://doi.org/10.1016/j.ijnurstu.2013.10.005>

- Gawronski, A., Kuzmanovic, B., Georgescu, A., Kockler, H., Lehnhardt, F.-G., Schilbach, L., Volpert, K., & Vogeley, K. (2011). Erwartungen an eine Psychotherapie von hochfunktionalen erwachsenen Personen mit einer Autismus-Spektrum-Störung [Expectations of psychotherapy for high-functioning adults with autism spectrum disorder]. *Fortschritte Der Neurologie · Psychiatrie*, *79*(11), 647–654. <https://doi.org/10.1055/s-0031-1281734>
- Gawronski, A., Pfeiffer, K., & Vogeley, K. (2012). *Hochfunktionaler Autismus im Erwachsenenalter: Verhaltenstherapeutisches Gruppenmanual [High-functioning autism in adulthood: Behavioral therapy group manual]* (1st ed.). Beltz, Weinheim.
- Gentes, E. L., & Ruscio, A. M. (2011). A meta-analysis of the relation of intolerance of uncertainty to symptoms of generalized anxiety disorder, major depressive disorder, and obsessive–compulsive disorder. *Clinical Psychology Review*, *31*(6), 923–933. <https://doi.org/10.1016/j.cpr.2011.05.001>
- Gerlach, A. L., Andor, T., & Patzelt, J. (2008). Die Bedeutung von Unsicherheitsintoleranz für die Generalisierte Angststörung - Modellüberlegungen und Entwicklung einer deutschen Version der Unsicherheitsintoleranz-Skala [The importance of intolerance of uncertainty for generalized anxiety disorder - model considerations and development of a German version of the intolerance of uncertainty scale]. *Zeitschrift für Klinische Psychologie und Psychotherapie*, *37*(3), 190–199. <https://doi.org/10.1026/1616-3443.37.3.190>
- Gilbride, D., Stensrud, R., Ehlers, C., Evans, E., & Peterson, C. (2000). Employers' attitudes toward hiring persons with disabilities and vocational rehabilitation services. *The Journal of Rehabilitation*, *66*, 17–23.
- Gillott, A., Furniss, F., & Walter, A. (2001). Anxiety in high-functioning children with autism. *Autism*, *5*(3), 277–286. <https://doi.org/10.1177/1362361301005003005>
- Grossman, R. B. (2015). Judgments of social awkwardness from brief exposure to children with and without high-functioning autism. *Autism*, *19*(5), 580–587. <https://doi.org/10.1177/1362361314536937>

- Hackman, J. R., & Oldham, G. R. (1980). *Work redesign*. Addison-Wesley.
<https://doi.org/10.1177/105960118200700110>
- Hagner, D., & Cooney, B. (2003). Building employer capacity to support employees with severe disabilities in the workplace. In *Work* (Vol. 21). IOS Press.
- Hagner, D., & Cooney, B. F. (2005). “I do that for everybody”: Supervising employees with autism. *Focus on Autism and Other Developmental Disabilities*, 20(2), 91–97.
<https://doi.org/10.1177/10883576050200020501>
- Heckman, J. J., & Kautz, T. (2012). Hard evidence on soft skills. *Labour Economics*, 19(4), 451–464. <https://doi.org/10.1016/j.labeco.2012.05.014>
- Hedley, D., Uljarević, M., & Hedley, D. F. E. (2017). Employment and living with autism: Personal, social and economic impact. In S. Halder & L. Assaf (Eds.), *Inclusion, Disability and Culture. Inclusive Learning and Educational Equity* (Vol. 3, pp. 295–311). Springer International Publishing. https://doi.org/10.1007/978-3-319-55224-8_19
- Hendricks, D. (2010). Employment and adults with autism spectrum disorders: Challenges and strategies for success. *Journal of Vocational Rehabilitation*, 32(2), 125–134.
<https://doi.org/10.3233/JVR-2010-0502>
- Hernandez, B., Keys, C., & Balcazar, F. (2000). Employer attitudes toward workers with disabilities and their ADA employment rights: A literature review. *Journal of Rehabilitation*, 66, 4–16.
- Herzberg, F. (1968). *One more time: How do you motivate employees?* (Vol. 65). Harvard Business Review. Boston, MA.
- Hillier, A., Campbell, H., Mastriani, K., Vreeburg Izzo, M., Kool-Tucker, A. K., Cherry, L., & Beversdorf, D. Q. (2007). Two-year evaluation of a vocational support program for adults on the autism spectrum. *Career Development for Exceptional Individuals*, 30(1), 35–47. <https://doi.org/https://doi.org/10.1177/08857288070300010501>

- Hofvander, B., Delorme, R., Chaste, P., Nydén, A., Wentz, E., Ståhlberg, O., Herbrecht, E., Stopin, A., Anckarsäter, H., Gillberg, C., Råstam, M., & Leboyer, M. (2009). Psychiatric and psychosocial problems in adults with normal-intelligence autism spectrum disorders. *BMC Psychiatry*, 9(35). <https://doi.org/10.1186/1471-244X-9-35>
- Holaway, R. M., Heimberg, R. G., & Coles, M. E. (2006). A comparison of intolerance of uncertainty in analogue obsessive-compulsive disorder and generalized anxiety disorder. *Journal of Anxiety Disorders*, 20(2), 158–174. <https://doi.org/10.1016/j.janxdis.2005.01.002>
- Howlin, P. (2013). Social disadvantage and exclusion: Adults with autism lag far behind in employment prospects. *Journal of the American Academy of Child and Adolescent Psychiatry*, 52(9), 897–899. <https://doi.org/10.1016/j.jaac.2013.06.010>
- Howlin, P., Alcock, J., & Burkin, C. (2005). An 8 year follow-up of a specialist supported employment service for high-ability adults with autism or Asperger syndrome. *Autism*, 9(5), 533–549. <https://doi.org/10.1177/1362361305057871>
- Howlin, P., Goode, S., Hutton, J., & Rutter, M. (2004). Adult outcome for children with autism. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 45(2), 212–229. <https://doi.org/10.1111/j.1469-7610.2004.00215.x>
- Howlin, P., & Moss, P. (2012). Adults with autism spectrum disorders. *Canadian Journal of Psychiatry*, 57(5), 275–283. <https://doi.org/10.1177/070674371205700502>
- Hudson, C. C., Hall, L., & Harkness, K. L. (2019). Prevalence of depressive disorders in individuals with autism spectrum disorder: A meta-analysis. *Journal of Abnormal Child Psychology*, 47(1), 165–175. <https://doi.org/10.1007/s10802-018-0402-1>
- Hurlbutt, K., & Chalmers, L. (2002). Adults with autism speak out. *Focus on Autism and Other Developmental Disabilities*, 17(2), 103–111. <https://doi.org/https://doi.org/10.1177/10883576020170020501>

- Hurlbutt, K., & Chalmers, L. (2004). Employment and adults with Asperger syndrome. *Focus on Autism and Other Developmental Disabilities, 19*(4), 215–222.
<https://doi.org/https://doi.org/10.1177/10883576040190040301>
- Jaspers, K. (1997). *General Psychopathology: Vol. I* (J. Hoenig, M. W. Hamilton, & Trans., Eds.). The Johns Hopkins University Press. London, Baltimore. (Original work published 1959).
- Ju, S., Roberts, E., & Zhang, D. (2013). Employer attitudes toward workers with disabilities: A review of research in the past decade. *Journal of Vocational Rehabilitation, 38*(2), 113–123. <https://doi.org/10.3233/JVR-130625>
- Kaiser, H. F., & Rice, J. (1974). Little Jiffy, Mark Iv. *Educational and Psychological Measurement, 34*(1), 111–117. <https://doi.org/10.1177/001316447403400115>
- Kamp-Becker, I., Smidt, J., Ghahreman, M., Heinzl-Gutenbrunner, M., Becker, K., & Remschmidt, H. (2010). Categorical and dimensional structure of autism spectrum disorders: The nosologic validity of Asperger syndrome. *Journal of Autism and Developmental Disorders, 40*(8), 921–929. <https://doi.org/10.1007/s10803-010-0939-5>
- Kanai, C., Iwanami, A., Hashimoto, R., Ota, H., Tani, M., Yamada, T., & Kato, N. (2011). Clinical characterization of adults with Asperger's syndrome assessed by self-report questionnaires based on depression, anxiety, and personality. *Research in Autism Spectrum Disorders, 5*(4), 1451–1458. <https://doi.org/10.1016/j.rasd.2011.02.005>
- Kanner, L. (1943). Autistic disturbances of affective contact. *Nervous Child, 2*(3), 217–250.
- Kapp, S. K., Gillespie-Lynch, K., Sherman, L. E., & Hutman, T. (2013). Deficit, difference, or both? Autism and neurodiversity. *Developmental Psychology, 49*(1), 59–71.
<https://doi.org/10.1037/a0028353>
- Keel, J. H., Mesibov, G. B., & Woods, A. V. (1997). TEACCH-supported employment program. *Journal of Autism and Developmental Disorders, 27*(1), 3–8.
<https://doi.org/https://doi.org/10.1023/A:1025813020229>

- Kemmer, P. L. (2021). *Autismus und Beruf - Ein Gruppenvergleich aus einer Spezialambulanz [Autism and occupation - A group comparison from a special outpatient clinic]*. (Publication No. HT021593683) [Doctoral dissertation, University of Cologne].
- Kemper, C., Lutz, J., & Neuser, J. (2012). Konstruktion und Validierung einer Kurzform der Skala Angst vor Negativer Bewertung (SANB-5) [Construction and validation of a short version of the Scale of Fear of Negative Evaluation]. *Klinische Diagnostik und Evaluation, 4*, 343–360.
- Kenny, L., Hattersley, C., Molins, B., Buckley, C., Povey, C., & Pellicano, E. (2016). Which terms should be used to describe autism? Perspectives from the UK autism community. *Autism, 20*(4), 442–462. <https://doi.org/10.1177/1362361315588200>
- Kerns, C. M., & Kendall, P. C. (2012). The presentation and classification of anxiety in autism spectrum disorder. *Clinical Psychology: Science and Practice, 19*(4), 323–347. <https://doi.org/10.1111/cpsp.12009>
- Kerns, C. M., Kendall, P. C., Berry, L., Souders, M. C., Franklin, M. E., Schultz, R. T., Miller, J., & Herrington, J. (2014). Traditional and atypical presentations of anxiety in youth with autism spectrum disorder. *Journal of Autism and Developmental Disorders, 44*(11), 2851–2861. <https://doi.org/10.1007/s10803-014-2141-7>
- Kessler, R. C., Berglund, P., Demler, O., Ma, R., Jin, M. A., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. *Archives of General Psychiatry, 62*(6), 593–602. <https://doi.org/https://doi.org/10.1001/archpsyc.62.6.593>
- Kirchner, J. C., & Dziobek, I. (2014). Toward the successful employment of adults with autism: A first analysis of special interests and factors deemed important for vocational performance. *Scandinavian Journal of Child and Adolescent Psychiatry and Psychology, 2*(2), 77–85. <https://doi.org/https://doi.org/10.21307/sjcapp-2014-011>

- Klein, C., DeRouin, R. E., & Salas, E. (2006). Uncovering workplace interpersonal skills: A review, framework, and research agenda. In G. P. Hodgkinson & J. K. Ford (Eds.), *International Review of Industrial and Organizational Psychology* (pp. 79–126). <https://doi.org/https://doi.org/10.1002/9780470696378.ch3>
- Kleinhans, N. M., Richards, T., Weaver, K., Johnson, L. C., Greenson, J., Dawson, G., & Aylward, E. (2010). Association between amygdala response to emotional faces and social anxiety in autism spectrum disorders. *Neuropsychologia*, *48*(12), 3665–3670. <https://doi.org/10.1016/j.neuropsychologia.2010.07.022>
- Klin, A., Jones, W., Schultz, R., & Volkmar, F. (2003). The enactive mind, or from actions to cognition: Lessons from autism. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *358*(1430), 345–360. <https://doi.org/10.1098/rstb.2002.1202>
- Klin, A., & Volkmar, F. R. (2003). Asperger syndrome: Diagnosis and external validity. *Child and Adolescent Psychiatric Clinics of North America*, *12*(1), 1–13. [https://doi.org/10.1016/S1056-4993\(02\)00052-4](https://doi.org/10.1016/S1056-4993(02)00052-4)
- Kolbeck, S. (2008). *Zur psychometrischen Differenzierbarkeit von sozialen Ängsten und sozialen Defiziten - Eine empirische Studie an nichtklinischen und klinischen Stichproben [On the psychometric differentiability of social anxieties and social deficits - An empirical study on non-clinical and clinical samples]*. (Publication No. urn:nbn:de:gbv:18-36427) [Doctoral dissertation, University of Hamburg].
- Kolbeck, S., & Maß, R. (2009). *SASKO - Fragebogen zu sozialer Angst und sozialen Kompetenzdefiziten [SASKO – The Social Anxiety – Social Competence Deficit Scale]*. Göttingen: Hogrefe. Retrieved May 20, 2023, from <https://www.testzentrale.de/Shop/Fragebogen-Zu-Sozialer-Angst-Und-Sozialen-Kompetenzdefiziten.Html>.
- Krämer, K. (2015). *Asperger Syndrome and Supported Employment. A Qualitative Analysis of Needs among Employers*. Presented at the Interdisciplinary College, Günne, Germany.
- Krämer, K., Gawronski, A., Falter-Wagner, C., & Vogeley, K. (2015). Die „doppelte Unsichtbarkeit“ autistischer Störungen und ihre Herausforderungen für

- Psychotherapeuten und Angehörige [The double invisibility of autism disorders and their challenges for psychotherapy and family members]. *Psychotherapeutenjournal*, 3/2015, 231–239.
- Kuusikko, S., Pollock-Wurman, R., Jussila, K., Carter, A. S., Mattila, M.-L., Ebeling, H., Pauls, D. L., & Moilanen, I. (2008). Social anxiety in high-functioning children and adolescents with autism and Asperger syndrome. *Journal of Autism and Developmental Disorders*, 38(9), 1697–1709. <https://doi.org/10.1007/s10803-008-0555-9>
- Ladouceur, R., Talbot, F., & Dugas, M. J. (1997). Behavioral expressions of intolerance of uncertainty in worry. *Behavior Modification*, 21(3), 355–371. <https://doi.org/10.1177/01454455970213006>
- Lawer, L., Brusilovskiy, E., Salzer, M. S., & Mandell, D. S. (2009). Use of vocational rehabilitative services among adults with autism. *Journal of Autism and Developmental Disorders*, 39(3), 487–494. <https://doi.org/10.1007/s10803-008-0649-4>
- Leekam, S., Libby, S., Wing, L., Gould, J., & Gillberg, C. (2000). Comparison of ICD-10 and Gillberg's criteria for Asperger syndrome. *Autism*, 4(1), 11–28. <https://doi.org/10.1177/1362361300004001002>
- Lehnhardt, F.-G., Gawronski, A., Volpert, K., Schilbach, L., Tepest, R., & Vogeley, K. (2012). Das psychosoziale Funktionsniveau spät diagnostizierter Patienten mit Autismus-Spektrum-Störungen – Eine retrospektive Untersuchung im Erwachsenenalter [Psychosocial functioning of adults with late diagnosed autism spectrum disorders - A retrospective study]. *Fortschritte Der Neurologie · Psychiatrie*, 80(02), 88–97. <https://doi.org/10.1055/s-0031-1281642>
- Lei, J., Brosnan, M., Ashwin, C., & Russell, A. (2020). Evaluating the role of autistic traits, social anxiety, and social network changes during transition to first year of university in typically developing students and students on the autism spectrum. *Journal of Autism and Developmental Disorders*, 50(8), 2832–2851. <https://doi.org/10.1007/s10803-020-04391-w>

- Lei, J., & Russell, A. (2021). I have a fear of negative evaluation, get me out of here! Examining latent constructs of social anxiety and autistic traits in neurotypical and autistic young people. *Journal of Autism and Developmental Disorders*, *51*(5), 1729–1747. <https://doi.org/10.1007/s10803-020-04657-3>
- Lin, L. Y., Yu, S. N., & Yu, Y. T. (2012). A study of activities of daily living and employment in adults with autism spectrum disorders in Taiwan. *International Journal of Rehabilitation Research*, *35*(2), 109–115. <https://doi.org/10.1097/MRR.0b013e32835108b1>
- Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association*, *83*(404), 1198–1202. <https://doi.org/10.1080/01621459.1988.10478722>
- Lord, C., Petkova, E., Hus, V., Gan, W., Lu, F., Martin, D. M., Ousley, O., Guy, L., Bernier, R., Gerds, J., Algermissen, M., Whitaker, A., Sutcliffe, J. S., Warren, Z., Klin, A., Saulnier, C., Hanson, E., Hundley, R., Piggot, J., ... Risi, S. (2012). A multisite study of the clinical diagnosis of different autism spectrum disorders. *Archives of General Psychiatry*, *69*(3), 306. <https://doi.org/10.1001/archgenpsychiatry.2011.148>
- Luyten, P., & Fonagy, P. (2015). The neurobiology of mentalizing. *Personality Disorders: Theory, Research, and Treatment*, *6*(4), 366–379. <https://doi.org/10.1037/per0000117>
- Maddox, B. B., & White, S. W. (2015). Comorbid social anxiety disorder in adults with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, *45*(12), 3949–3960. <https://doi.org/10.1007/s10803-015-2531-5>
- Maslahati, T., Bachmann, C. J., Höfer, J., Küpper, C., Stroth, S., Wolff, N., Poustka, L., Roessner, V., Kamp-Becker, I., Hoffmann, F., & Roepke, S. (2022). How do adults with autism spectrum disorder participate in the labor market? A German multi-center survey. *Journal of Autism and Developmental Disorders*, *52*(3), 1066–1076. <https://doi.org/10.1007/s10803-021-05008-6>
- Mawhood, L., & Howlin, P. (1999). *The Outcome of a Supported Employment Scheme for High-Functioning Adults with Autism or Asperger Syndrome*.

- Mazefsky, C. A., & Herrington, J. (2014). Autism and anxiety: Etiologic factors and transdiagnostic processes. In T. E. Davis III, S. W. White, & T. H. Ollendick (Eds.), *Handbook of Autism and Anxiety. Autism and Child Psychopathology Series* (pp. 91–103). Springer. https://doi.org/10.1007/978-3-319-06796-4_7
- Meijman, T. F., & Mulder, G. (1998). Psychological aspects of workload. In P. J. D. Drenth, H. Thierry, & C. J. de Wolff (Eds.), *Handbook of Work and Organisational Psychology: Work Psychology* (2nd ed., Vol. 2, pp. 5–33). Psychology Press. Hove, UK.
- Miller, J. N., & Ozonoff, S. (2000). The external validity of Asperger disorder: Lack of evidence from the domain of neuropsychology. *Journal of Abnormal Psychology, 109*(2), 227–238. <https://doi.org/10.1037//0021-843X.109.2.227>
- Monk, R., Whitehouse, A. J. O., & Waddington, H. (2022). The use of language in autism research. *Trends in Neurosciences, 45*(11), 791–793. <https://doi.org/10.1016/j.tins.2022.08.009>
- Müller, E., Schuler, A., Burton, B. A., & Yates, G. B. (2003). Meeting the vocational support needs of individuals with Asperger syndrome and other autism spectrum disabilities. *Journal of Vocational Rehabilitation, 18*, 163–175.
- Müller, E., Schuler, A., & Yates, G. B. (2008). Social challenges and supports from the perspective of individuals with Asperger syndrome and other autism spectrum disabilities. *Autism, 12*(2), 173–190. <https://doi.org/10.1177/1362361307086664>
- National Education Report. (2020). *Bildung in Deutschland: Ein indikationsgestützter Bericht mit einer Analyse zu Bildung in einer digitalisierten Welt [Education in Germany: An indication-based report with an analysis of education in a digitized world]* (Autorengruppe Bildungsberichterstattung [Authors' Group Educational Reporting], Ed.). wbv Media GmbH & Co. KG 2020, <https://doi.org/10.3278/6001820gw>.
- Neal, J. A., & Edelman, R. J. (2003). The etiology of social phobia: Toward a developmental profile. *Clinical Psychology Review, 23*(6), 761–786. [https://doi.org/10.1016/S0272-7358\(03\)00076-X](https://doi.org/10.1016/S0272-7358(03)00076-X)

- Nicholas, D. B., Attridge, M., Zwaigenbaum, L., & Clarke, M. (2015). Vocational support approaches in autism spectrum disorder: A synthesis review of the literature. *Autism, 19*(2), 235–245. <https://doi.org/10.1177/1362361313516548>
- Ohl, A., Sheff, M. G., Little, S., Nguyen, J., Paskor, K., & Zanjirian, A. (2017). Predictors of employment status among adults with Autism Spectrum Disorder. *Work, 56*(2), 345–355. <https://doi.org/10.3233/WOR-172492>
- Olesen, S. C., Butterworth, P., Leach, L. S., Kelaher, M., & Pirkis, J. (2013). Mental health affects future employment as job loss affects mental health: Findings from a longitudinal population study. *BMC Psychiatry, 13*(1), 144. <https://doi.org/10.1186/1471-244X-13-144>
- Ollendick, T. H., & Hirshfeld-Becker, D. R. (2002). The developmental psychopathology of social anxiety disorder. *Biological Psychiatry, 51*(1), 44–58. [https://doi.org/10.1016/S0006-3223\(01\)01305-1](https://doi.org/10.1016/S0006-3223(01)01305-1)
- Pilling, S., Baron-Cohen, S., Megnin-Viggars, O., Lee, R., & Taylor, C. (2012). Recognition, referral, diagnosis, and management of adults with autism: Summary of NICE guidance. *BMJ, 344*(e4082). <https://doi.org/10.1136/bmj.e4082>
- Proft, J. (2015). *Validierung eines Fragebogens zur Erfassung der Erfahrungen im Berufsleben von Menschen mit Autismus-Spektrum-Störungen und deren Wünsche an einen idealen Arbeitsplatz [Validation of a questionnaire to measure experiences in working life of people with autism spectrum disorders and their wishes for an ideal workplace]*. [Unpublished master thesis]. University of Cologne.
- Proft, J. (2019). *Berufliche und soziale Teilhabe erwachsener Menschen mit Autismus-Spektrum-Störungen [Vocational and social participation of adults with autism spectrum disorder]*. (Publication No. HT020348329) [Doctoral dissertation, University of Cologne].
- Proft, J., Gawronski, A., Krämer, K., Schoofs, T., Kockler, H., & Vogeley, K. (2016). Autismus im Beruf: Eine qualitative Analyse berufsbezogener Erfahrungen und Wünsche von Menschen mit Autismus-Spektrum-Störungen [Autism at work: A

- qualitative analysis of work-related experiences and wishes of people with autism spectrum disorder]. *Zeitschrift Für Psychiatrie, Psychologie und Psychotherapie*, 64(4), 277–285. <https://doi.org/10.1024/1661-4747/a000289>
- Proft, J., Schoofs, T., Krämer, K., & Vogeley, K. (2017). *Autismus im Beruf, Coaching-Manual [Autism at work, coaching manual]* (Vol. 1). Beltz. Weinheim.
- Riedel, A., Schröck, C., Ebert, D., Fangmeier, T., Bubl, E., & Tebartz Van Elst, L. (2016). Überdurchschnittlich ausgebildete Arbeitslose - Bildung, Beschäftigungsverhältnisse und Komorbiditäten bei Erwachsenen mit hochfunktionalem Autismus in Deutschland [Well educated unemployed – On education, employment and comorbidities in adults with high-functioning autism spectrum disorder in Germany]. *Psychiatrische Praxis*, 43(1), 38–44. <https://doi.org/10.1055/s-0034-1387494>
- Riggio, R. E. (2020). Social skills in the workplace. In B. J. Carducci, C. S. Nave, J. S. Mio, & R. E. Riggio (Eds.), *The Wiley Encyclopedia of Personality and Individual Differences* (pp. 527–531). Wiley. <https://doi.org/10.1002/9781119547181.ch352>
- Ritchie, S. J., & Tucker-Drob, E. M. (2018). How much does education improve intelligence? A meta-analysis. *Psychological Science*, 29(8), 1358–1369. <https://doi.org/10.1177/0956797618774253>
- Rodgers, J., Glod, M., Connolly, B., & McConachie, H. (2012). The relationship between anxiety and repetitive behaviours in autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 42(11), 2404–2409. <https://doi.org/10.1007/s10803-012-1531-y>
- Roux, A. M., Shattuck, P. T., Cooper, B. P., Anderson, K. A., Wagner, M., & Narendorf, S. C. (2013). Postsecondary employment experiences among young adults with an autism spectrum disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 52(9), 931–939. <https://doi.org/10.1016/j.jaac.2013.05.019>
- Roux, A. M., Shattuck, P. T., Rast, J. E., Raven, J. A., & Anderson, K. A. (2015). National autism indicators report: transition into young adulthood. Philadelphia, PA: Life course

- outcomes research program. In *National Autism Indicators Report: Transition into Young Adulthood*. Philadelphia. A. J. Drexel Autism Institute. Drexel University.
- Rubin, K. H., & Burgess, K. B. (2001). Social withdrawal and anxiety. In M. W. Vasey & M. R. Dadds (Eds.), *The Developmental Psychopathology of Anxiety* (pp. 407–434). Oxford University Press. <https://doi.org/10.1093/med:psych/9780195123630.003.0018>
- Sarrett, J. (2017). Interviews, disclosures, and misperceptions: autistic adults' perspectives on employment related challenges. *Disability Studies Quarterly*, 37(2). <https://doi.org/10.18061/dsq.v37i2.5524>
- Schaller, J., & Yang, N. K. (2005). Competitive employment for people with autism: Correlates of successful closure in competitive and supported employment. *Rehabilitation Counseling Bulletin*, 49(1), 4–16. <https://doi.org/https://doi.org/10.1177/00343552050490010201>
- Schanzenbach, D. W., Nunn, R., Bauer, L., Mumford, M., & Breitwieser, A. (2016). *Seven facts on noncognitive skills from education to the labor market*. Hamilton Project.
- Schaufeli, W. B. (2017). Applying the Job Demands-Resources model: A 'how to' guide to measuring and tackling work engagement and burnout. *Organizational Dynamics*, 46(2), 120–132. <https://doi.org/10.1016/j.orgdyn.2017.04.008>
- Schulz von Thun, F. (2008). *Miteinander reden 2. Stile, Werte und Persönlichkeitsentwicklung: Differentielle Psychologie der Kommunikation [Talking to each other 2. Styles, values, and personality development: Differential psychology of communication]* (29th ed.). Rowohlt-Taschenbuch-Verlag. Reinbek.
- Scott, M., Falkmer, M., Girdler, S., & Falkmer, T. (2015). Viewpoints on factors for successful employment for adults with autism spectrum disorder. *PLoS ONE*, 10(10). <https://doi.org/10.1371/journal.pone.0139281>
- Scott, M., Jacob, A., Hendrie, D., Parsons, R., Girdler, S., Falkmer, T., & Falkmer, M. (2017). Employers' perception of the costs and the benefits of hiring individuals with autism

- spectrum disorder in open employment in Australia. *PLoS ONE*, 12(5).
<https://doi.org/10.1371/journal.pone.0177607>
- Scott, M., Milbourn, B., Falkmer, M., Black, M., Bölte, S., Halladay, A., Lerner, M., Taylor, J. L., & Girdler, S. (2019). Factors impacting employment for people with autism spectrum disorder: A scoping review. *Autism*, 23(4), 869–901.
<https://doi.org/10.1177/1362361318787789>
- Shattuck, P. T., Narendorf, S. C., Cooper, B., Sterzing, P. R., Wagner, M., & Taylor, J. L. (2012). Postsecondary education and employment among youth with an autism spectrum disorder. *Pediatrics*, 129(6), 1042–1049. <https://doi.org/10.1542/peds.2011-2864>
- Shattuck, P. T., & Roux, A. M. (2015). Commentary on employment supports research. *Autism*, 19(2), 246–247. <https://doi.org/10.1177/1362361313518996>
- Solomon, C. (2020). Autism and employment: Implications for employers and adults with ASD. *Journal of Autism and Developmental Disorders*, 50(11), 4209–4217.
<https://doi.org/10.1007/s10803-020-04537-w>
- Spain, D., Sin, J., Linder, K. B., McMahon, J., & Happé, F. (2018). Social anxiety in autism spectrum disorder: A systematic review. *Research in Autism Spectrum Disorders*, 52, 51–68. <https://doi.org/10.1016/j.rasd.2018.04.007>
- Strunz, S., Dziobek, I., & Roepke, S. (2014). Komorbide psychiatrische Störungen und Differenzialdiagnostik bei nicht-intelligenzgeminderten Erwachsenen mit Autismus-Spektrum-Störung [Comorbid psychiatric disorders and differential diagnosis in adults with autism spectrum disorder without intellectual disability]. *PPmP Psychotherapie Psychosomatik Medizinische Psychologie*, 64(6), 206–213. <https://doi.org/10.1055/s-0033-1358708>
- Tantam, D. (2000). Psychological disorder in adolescents and adults with Asperger syndrome. *SAGE Publications and The National Autistic Society*, 4(1), 47–62.
<https://doi.org/https://doi.org/10.1177/1362361300004001004>

- Taylor, J. L., & Seltzer, M. M. (2011). Employment and post-secondary educational activities for young adults with autism spectrum disorders during the transition to adulthood. *Journal of Autism and Developmental Disorders, 41*(5), 566–574.
<https://doi.org/10.1007/s10803-010-1070-3>
- Tepest, R. (2021). The meaning of diagnosis for different designations in talking about autism. *Journal of Autism and Developmental Disorders, 51*(2), 760–761.
<https://doi.org/10.1007/s10803-020-04584-3>
- Tolin, D. F., Abramowitz, J. S., Brigidi, B. D., & Foa, E. B. (2003). Intolerance of uncertainty in obsessive-compulsive disorder. *Journal of Anxiety Disorders, 17*(2), 233–242.
[https://doi.org/10.1016/S0887-6185\(02\)00182-2](https://doi.org/10.1016/S0887-6185(02)00182-2)
- Tyson, K. E., & Cruess, D. G. (2012). Differentiating high-functioning autism and social phobia. *Journal of Autism and Developmental Disorders, 42*(7), 1477–1490.
<https://doi.org/10.1007/s10803-011-1386-7>
- U.N. (1948). *Universal Declaration of Human Rights, GA Res 217(III)[A], UN. General Assembly, U.N. GAOR, 3rd Sess., Part 1.* [https://undocs.org/en/A/RES/217\(III\)](https://undocs.org/en/A/RES/217(III))
- Unger, D. D. (2002). Employers' attitudes toward persons with disabilities in the workforce. *Focus on Autism and Other Developmental Disabilities, 17*(1), 2–10.
<https://doi.org/10.1177/108835760201700101>
- Vogeley, K. (2015). Zur Sichtbarkeit von Autismus-Spektrum-Störungen im Erwachsenenalter im DSM-5 [On the visibility of autism spectrum disorders in adulthood according to DSM-5]. *Die Psychiatrie, 12*(02), 94–100.
<https://doi.org/10.1055/s-0038-1669892>
- Vogeley, K., Kirchner, J. C., Gawronski, A., Van Elst, L. T., & Dziobek, I. (2013). Toward the development of a supported employment program for individuals with high-functioning autism in Germany. *European Archives of Psychiatry and Clinical Neuroscience, 263*(Suppl 2). <https://doi.org/10.1007/s00406-013-0455-7>

- Volkmar, F. R., & Klin, A. (2000). Diagnostic issues in Asperger syndrome. In S. S. Sparrow (Ed.), *Asperger syndrome* (pp. 25–71). The Guilford Press.
- Vormbrock, F., & Neuser, J. (1983). Konstruktion zweier spezifischer Trait-Fragebögen zur Erfassung von Angst in sozialen Situationen (SANB und SVSS) [Construction of two specific trait questionnaires to assess anxiety in social situations]. *Diagnostica*, 29, 165–182.
- Watzlawick, P., Bavelas, J. B., & Jackson, D. D. (1967). *Pragmatics of human communication: A study of international patterns, pathologies and paradoxes*. WW Norton & Company. New York.
- Wehman, P., Lau, S., Molinelli, A., Brooke, V., Thompson, K., Moore, C., & West, M. (2012). Supported employment for young adults with autism spectrum disorder: Preliminary data. *Research and Practice for Persons with Severe Disabilities*, 37(3), 160–169. <https://doi.org/10.2511/027494812804153606>
- Wehman, P., Schall, C., Carr, S., Targett, P., West, M., & Cifu, G. (2014). Transition from school to adulthood for youth with autism spectrum disorder: What we know and what we need to know. *Journal of Disability Policy Studies*, 25(1), 30–40. <https://doi.org/10.1177/1044207313518071>
- Wehman, P., Schall, C., McDonough, J., Molinelli, A., Riehle, E., Ham, W., & Thiss, W. R. (2013). Project SEARCH for youth with autism spectrum disorders: Increasing competitive employment on transition from high school. *Journal of Positive Behavior Interventions*, 15(3), 144–155. <https://doi.org/10.1177/1098300712459760>
- Westbrook, J. D., Nye, C., Fong, C. J., Wan, J. T., Cortopassi, T., & Martin, F. H. (2012). Adult employment assistance services for persons with autism spectrum disorders: Effects on employment outcomes. *Campbell Systematic Reviews*, 8(1), 1–68. <https://doi.org/10.4073/csr.2012.5>
- White, S. W., Albano, A. M., Johnson, C. R., Kasari, C., Ollendick, T., Klin, A., Oswald, D., & Scahill, L. (2010). Development of a cognitive-behavioral intervention program to

- treat anxiety and social deficits in teens with high-functioning autism. *Clinical Child and Family Psychology Review*, 13(1), 77–90. <https://doi.org/10.1007/s10567-009-0062-3>
- White, S. W., Oswald, D., Ollendick, T., & Scahill, L. (2009). Anxiety in children and adolescents with autism spectrum disorders. *Clinical Psychology Review*, 29(3), 216–229. <https://doi.org/10.1016/j.cpr.2009.01.003>
- White, S. W., & Schry, A. R. (2011). Social anxiety in adolescents on the autism spectrum. In C. A. Alfano & D. C. Beidel (Eds.), *Social anxiety in adolescents and young adults: Translating developmental science into practice*. (pp. 183–201). American Psychological Association. <https://doi.org/https://doi.org/10.1037/12315-010>
- White, S. W., Schry, A. R., & Kreiser, N. L. (2014). Social worries and difficulties: Autism and/or social anxiety disorder? In T. E. Davis III, S. W. White, & T. H. Ollendick (Eds.), *Handbook of Autism and Anxiety. Autism and Child Psychopathology Series* (pp. 121–136). Springer. https://doi.org/https://doi.org/10.1007/978-3-319-06796-4_9
- Whittenburg, H. N., Cimera, R. E., & Thoma, C. A. (2019). Comparing employment outcomes of young adults with autism: Does postsecondary educational experience matter? *Journal of Postsecondary Education and Disability*, 32(2), 159–172.
- Williamson, S., Craig, J., & Slinger, R. (2008). Exploring the relationship between measures of self-esteem and psychological adjustment among adolescents with Asperger syndrome. *Autism*, 12(4), 391–402. <https://doi.org/10.1177/1362361308091652>
- Wood, J. J., & Gadow, K. D. (2010). Exploring the nature and function of anxiety in youth with autism spectrum disorders. *Clinical Psychology: Science and Practice*, 17(4), 281–292. <https://doi.org/10.1111/j.1468-2850.2010.01220.x>
- World Health Organization. (2016). *International Statistical Classification of Diseases and Related Health Problems*. <https://icd.who.int/Browse10/2016/En>.
- World Health Organization. (2019). *International Statistical Classification of Diseases and Related Health Problems*. <https://icd.who.int/>.

Wright, N., & Stickley, T. (2013). Concepts of social inclusion, exclusion and mental health: A review of the international literature. *Journal of Psychiatric and Mental Health Nursing*, 20(1), 71–81. <https://doi.org/10.1111/j.1365-2850.2012.01889.x>

Zaccaro, S. J., Gilbert, J. A., Thor, K. K., & Mumford, M. D. (1991). Leadership and social intelligence: Linking social perspectiveness and behavioral flexibility to leader effectiveness. *The Leadership Quarterly*, 2(4), 317–342. [https://doi.org/10.1016/1048-9843\(91\)90018-W](https://doi.org/10.1016/1048-9843(91)90018-W)

7 Appendix

Supplementary Material to Study 3

A. Levels of Formal Qualifications

School Education, summarized	School Education	German		Required School attendance
University entrance qualification	General university entrance-level qualification	“Allgemeine Hochschulreife”	Upper secondary level	12 or 13 years
University entrance qualification	Discipline-specific university entrance-level qualification	“Fachhochschulreife”	Upper secondary level	12 or 13 years
Other qualifications	General certificate of secondary education	”Realschulabschluss”	Lower secondary level	10 years
Other qualifications	Basic secondary education ^a	“Hauptschulabschluss”	Lower secondary level	9 years

Note. Levels of formal qualifications with related German translation.

^a Compulsory education lasts 9 or 10 years, depending on the federal state of the Federal Republic of Germany. Equivalent Table is provided in study 1 (Espelöer et al., 2023a) and study 3 (Espelöer et al., 2023b).

B. Factor Analysis

Following, a detailed description of the exact procedure for checking the assumptions as well as for generating, selecting, and allocating the factors of the factor analysis in **study 3** (Espelöer et al., 2023b) is provided.

In order to perform an exploratory factor analysis, required assumptions were checked in advance and could be confirmed: The Kaiser-Meyer-Olkin coefficient (Kaiser & Rice, 1974) showed high values greater than .8, respectively (E: KMO = .831, W: KMO = .883), all MSA-coefficients showed values greater .5, and results of the Bartlett's tests of sphericity (Bartlett, 1951) were significant (E: $X^2(496) = 6997$, $p < .001$, W: $X^2(861) = 8914$, $p < .001$). The assumption that each item should achieve sufficient variance and thus a standard deviation of $SD > 1.0$ in order to select items that were as informative as possible could not be fulfilled in some cases (E: 10, 12, 14, 25; W: 5, 6, 9, 16, 21-26, 28, 31, 35, 38-40, 42-44) ($SD = .991 - .456$). Retaining the items with low standard deviation was tolerated in the current analysis, since even small differences in response behavior between the two groups were considered relevant for the group comparison performed. The number of factors to be extracted was determined using Horn's parallel analysis. Here, the eigenvalue progression and its graphical representation, the scree plot, were examined. In addition to the statistical analysis, the practical content-related importance of the respective items was taken into account as well. The extraction method of principal axis factoring was used and data were rotated by promax.

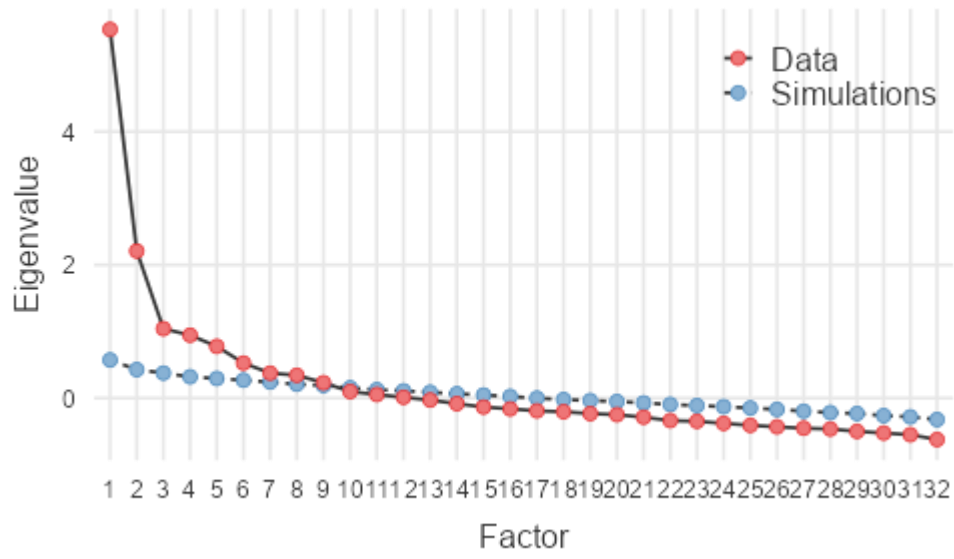
Items with a main factor loading of at least .4 (Gaskin & Happell, 2013) were included in the analysis. An item-rest correlation of $\geq .3$ is suggested for an item to be included in a factor. Thus, the differentiation achieved with the item shows a sufficient correlation with the differentiation ability of the factor (Moosbrugger & Kelava, 2012). The internal consistency of a factor is indicated by the reliability coefficient Cronbach alpha whereby values greater than .7 are considered sufficient (Watkins 2018). The homogeneity of the factors is determined by the mean inter-item correlation and is expected to be between .2 and .4. Increased values indicate homogeneous factor containing items that measure the same characteristic. For factors with a low item count of three or four items, it is reasonable to tolerate mean inter-item correlations $> .4$ in order to measure a specific domain (Bühner, 2011).

B.1 Basic Statistic of the Questionnaire ‘Workplace Experiences’

Factor extraction by Horn's parallel analysis suggested a nine factor structure which, however, contained four factors assigned fewer than three items with a minimum main loading of .4. When the analysis of the eigenvalues was included, a three-factor structure emerged with at least three items loaded on each factor with a main factor loading of at least .4 (Watkins 2018). Including a content-based interpretation, a four-factor structure could be considered with the aim of precise differentiation, as the factors could be clearly delineated from one another. However, less than three items with a minimum loading of $>.4$ loaded on one factor. The result of the eigenvalue analysis, the screeplot (see **B.1.1**), the content interpretation as well as the assumption of a minimum loading of .4 and a minimum number of three items per factor taken together, a three-factor structure seemed most appropriate. A reduction from 32 to 20 items could be achieved by eliminating items with low main loadings. No relevant cross-loadings ($>.3$) were obtained, so that the following three factors with a simple structure pattern were generated (see **B.1.2**). E_Factor 1 *Social challenges* comprises difficulties in interpersonal interaction and communication, in understanding social rules, with teamwork, customer contact, flexibility, or lack of structure. E_Factor 2 *Job fit* comprises sufficiency of salary as well as difficulties in finding a suitable job. E_Factor 3 *Specific needs* refers to options to bring in one's own specific, individual interests, strengths, and requirements at the workplace.

Item E_03 was included in factor 3 despite a low item-rest correlation of .178 (see **B.1.5**). However, the item showed an acceptable factor loading of .406 and contributed content-related to the factor (see **B.1.2**). The internal consistency of factor 1 and factor 2 were in the acceptable range of $>.7$. Factor 3 did not meet sufficient, but acceptable internal consistency with Cronbach α of .576. The average inter-item correlation was in the acceptable range of .2 to .4 for factors 1 and factor 3. An increased value for factor 2 ($r = .45$) indicated a homogeneous factor containing items that measure the same characteristic (see **B.1.4**). For a factor with a low item count of three items it is reasonable to tolerate mean inter-item correlations $>.4$ in order to measure a specific domain (Bühner, 2011).

B.1.1 Scree Plot



B.1.2 Three-Factor Structure Pattern

Items	Factor			Uniqueness
	1	2	3	
E_06 Colleagues and/or supervisors often place too high interpersonal expectations on me	0.685			0.549
E_05 Interaction with colleagues and/or supervisors is challenging most of the time	0.642			0.534
E_02 ^a I have no problems working in a team	0.628			0.623
E_08 I have problems perceiving unspoken rules	0.576			0.696
E_24 The working conditions in my professional environment are at the expense of my mental and/or physical health	0.562			0.646
E_01 ^a I mainly have a good relationship with colleagues and/or supervisors	0.533			0.699
E_22 I feel overloaded in my job	0.501			0.671
E_10 I cannot respond timely or appropriately to intrigues and power plays	0.497			0.771
E_13 Shifting appointments and changes in the daily schedule at short notice (e.g., due to unforeseen meetings) are problematic for me	0.490			0.749
E_04 I do not have common topics of conversation with colleagues	0.471			0.786
E_09 I do not perceive intrigues and power plays in a timely or appropriate manner	0.466			0.803
E_11 I have problems with contacts to customers	0.454			0.757
E_14 I have difficulties with lack of structure at work	0.428			0.790
E_38 ^a I can cover my living expenses with my salary		0.822		0.450
E_39 I cannot afford special expenses with my low salary (e.g., vacation, clothes, going to the movies, special interests)		0.783		0.500
E_37 ^a I am paid appropriately for my professional work		0.751		0.554
E_21 I have difficulties finding a suitable job		0.403		0.590
E_15 ^a My specific characteristics and/or special knowledge facilitate my work			0.659	0.542
E_16 ^a I can use my strengths at work for the benefits of my colleagues and/or the company			0.537	0.581
E_03 ^a On the positive side, I can work on my own.			0.406	0.815

Note. Three-factor structure pattern for the questionnaire *Workplace experiences*.

E = questionnaire *Workplace experiences*;

Principal axis factoring extraction method was used in combination with a promax rotation

^a reverse coding

B.1.3 Factor Structure for E_Factor 1 ‘Social Challenges’ of the Questionnaire ‘Workplace Experiences’

Items	<i>M</i>	<i>SD</i>	<i>r</i>	α
E_06 Colleagues and/or supervisors often place too high interpersonal expectations on me	2.40	1.166	0.612	0.803
E_05 Interaction with colleagues and/or supervisors is challenging most of the time	2.76	1.202	0.608	0.803
E_02 ^a I have no problems working in a team	2.46	1.132	0.547	0.809
E_08 I have problems perceiving unspoken rules	2.09	1.098	0.469	0.815
E_24 The working conditions in my professional environment are at the expense of my mental and/or physical health	2.21	1.277	0.492	0.813
E_01 ^a I mainly have a good relationship with colleagues and/or supervisors	3.22	1.012	0.478	0.814
E_22 I feel overloaded in my job	3.10	1.303	0.405	0.821
E_10 I cannot respond timely or appropriately to intrigues and power plays	1.74	0.967	0.433	0.817
E_13 Shifting appointments and changes in the daily schedule at short notice (e.g., due to unforeseen meetings) are problematic for me	2.05	1.117	0.476	0.814
E_04 I do not have common topics of conversation with colleagues	2.60	1.074	0.426	0.818
E_09 I do not perceive intrigues and power plays in a timely or appropriate manner	1.95	1.107	0.349	0.823
E_11 I have problems with contacts to customers	2.54	1.240	0.415	0.819
E_14 I have difficulties with lack of structure at work	1.63	0.893	0.389	0.820

Note. Factor structure for E_Factor 1 *Social challenges* of the questionnaire *Workplace experiences*.

E = questionnaire *Workplace experiences*;

Principal axis factoring extraction method was used in combination with a promax rotation;

M = mean value; SD = standard deviation; r = item-rest correlation; α = Cronbach's alpha (internal consistency) if item dropped

^a reverse coding

B.1.4 Factor Structure for E_Factor 2 ‘Job Fit’ of the Questionnaire ‘Workplace Experiences’

Items	<i>M</i>	<i>SD</i>	<i>r</i>	α
E_38 ^a I can cover my living expenses with my salary	3.31	1.58	0.680	0.648
E_39 I cannot afford special expenses with my low salary (e.g., vacation, clothes, going to the movies, special interests)	3.58	1.52	0.663	0.660
E_37 ^a I am paid appropriately for my professional work	3.06	1.36	0.545	0.726
E_21 I have difficulties finding a suitable job	2.16	1.39	0.404	0.793

Note. Factor structure for E_Factor 2 *Job fit* of the questionnaire *Workplace experiences*.

E = questionnaire *Workplace experiences*;

Principal axis factoring extraction method was used in combination with a promax rotation;

M = mean value; SD = standard deviation; r = item-rest correlation; α = Cronbach’s alpha (internal consistency) if item dropped

^a reverse coding

B.1.5 Factor Structure for E_Factor 3 ‘Specific Needs’ of the Questionnaire ‘Workplace Experiences’

Items	<i>M</i>	<i>SD</i>	<i>r</i>	α
E_15 ^a My specific characteristics and/or special knowledge facilitate my work	3.77	1.17	0.555	0.186
E_16 ^a I can use my strengths at work for the benefits of my colleagues and/or the company	3.42	1.20	0.460	0.352
E_03 ^a On the positive side, I can work on my own.	4.24	1.04	0.178	0.739

Note. Factor structure for E_Factor 3 *Specific needs* of the questionnaire *Workplace experiences*.

E = questionnaire *Workplace experiences*;

Principal axis factoring extraction method was used in combination with a promax rotation;

M = mean value; SD = standard deviation; r = item-rest correlation; α = Cronbach’s alpha (internal consistency) if item dropped

^a reverse coding

B.2 Results of Single Item Comparisons

B.2.1 E_Factor 1 ‘Social Challenges’

Items	ASD+ (N = 197)		ASD- (N = 501)		U	p	r
	M	Mdn	M	Mdn			
E_06 Colleagues and/or supervisors often place too high interpersonal expectations on me	2.27	2.00	2.45	2.00	45222	0.075	.084
E_05 Interaction with colleagues and/or supervisors is challenging most of the time	2.65	3.00	2.80	3.00	46278	0.188	.062
E_02 ^a I have no problems working in a team	2.37	2.00	2.49	2.00	46056	0.156	.067
E_08 I have problems perceiving unspoken rules	2.04	2.00	2.10	2.00	47800	0.497	.031
E_24 The working conditions in my professional environment are at the expense of my mental and/or physical health	2.31	2.00	2.17	2.00	46050	0.150	.067
E_01 ^a I mainly have a good relationship with colleagues and/or supervisors	3.21	3.00	3.22	3.00	49076	0.905	.006
E_22 I feel overloaded in my job	3.08	3.00	3.11	3.00	48856	0.833	.010
E_10 I cannot respond timely or appropriately to intrigues and power plays	1.73	1.00	1.75	1.00	49297	0.981	.001
E_13 Shifting appointments and changes in the daily schedule at short notice (e.g., due to unforeseen meetings) are problematic for me	1.92	2.00	2.11	2.00	44089	0.021*	.107
E_04 I do not have common topics of conversation with colleagues	2.45	2.00	2.65	3.00	43927	0.018*	.110
E_09 I do not perceive intrigues and power plays in a timely or appropriate manner	1.85	2.00	1.98	2.00	46707	0.240	.054
E_11 I have problems with contacts to customers	2.25	2.00	2.65	3.00	40389	< .001*	.182
E_14 I have difficulties with lack of structure at work	1.57	1.00	1.65	1.00	47087	0.288	.046

Note. Single item comparisons for E_Factor 1 *Social challenges* of the questionnaire *Workplace experiences*. Group: ASD+ = diagnosed with autism spectrum disorder, ASD- = diagnosis of autism spectrum disorder ruled out; E = questionnaire *Workplace experiences*; M = mean value; Mdn = median; U = Mann Whitney U test value; r = effect size

* $p < .05$; low values indicate greater impairments

^a reverse coding

B.2.2 E_Factor 2 ‘Job Fit’

Items	ASD+		ASD-		U	p	r
	(N = 197)		(N = 501)				
	M	Mdn	M	Mdn			
E_38 ^a I can cover my living expenses with my salary	3.01	3.00	3.42	4.00	42214	0.002*	.145
E_39 I cannot afford special expenses with my low salary (e.g., vacation, clothes, going to the movies, special interests)	3.51	4.00	3.61	4.00	47328	0.376	.041
E_37 ^a I am paid appropriately for my professional work	2.94	3.00	3.10	3.00	46111	0.167	.066
E_21 I have difficulties finding a suitable job	1.92	1.00	2.25	2.00	42885	0.004*	.013

Note. Single item comparisons for E_Factor 2 *Job fit* of the questionnaire *Workplace experiences*.

Group: ASD+ = diagnosed with autism spectrum disorder, ASD- = diagnosis of autism spectrum disorder ruled out; E = questionnaire *Workplace experiences*; M = mean value; Mdn = median; U = Mann Whitney U test value; r = effect size

* $p < .05$; low values indicate greater impairments

^a reverse coding

B.2.3 E_Factor 3 ‘Specific Needs’

Items	ASD+		ASD-		U	p	r
	(N = 197)		(N = 501)				
	M	Mdn	M	Mdn			
E_15 ^a My specific characteristics and/or special knowledge facilitate my work	3.71	4.00	3.79	4.00	48169	0.609	.024
E_16 ^a I can use my strengths at work for the benefits of my colleagues and/or the company	3.30	3.00	3.46	4.00	45679	0.115	.074
E_03 ^a On the positive side, I can work on my own.	4.21	5.00	4.25	5.00	48932	0.847	.008

Note. Single item comparisons for E_Factor 3 *Specific needs* of the questionnaire *Workplace experiences*.

Group: ASD+ = diagnosed with autism spectrum disorder, ASD- = diagnosis of autism spectrum disorder ruled out; E = questionnaire *Workplace experiences*; M = mean value; Mdn = median; U = Mann Whitney U test value; r = effect size

* $p < .05$; low values indicate greater impairments

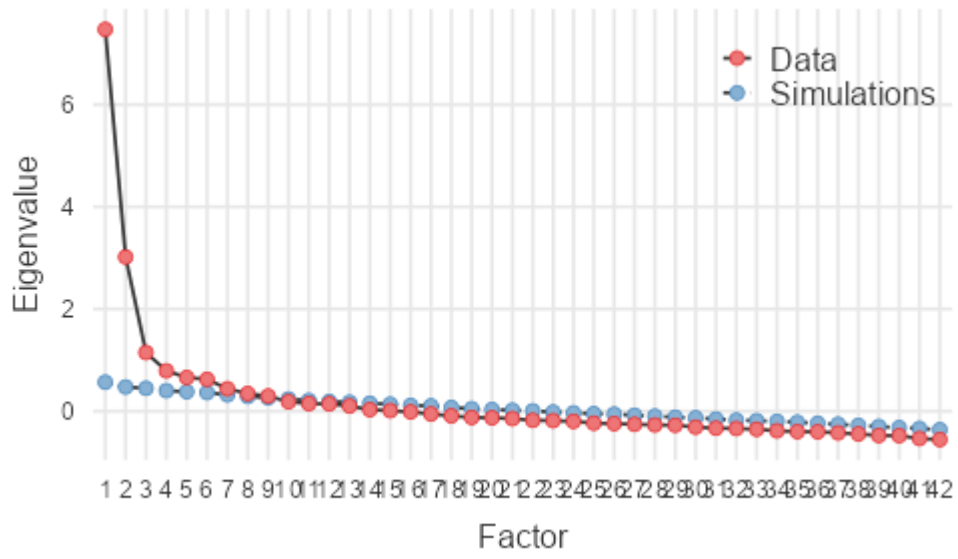
^a reverse coding

B.3 Basic Statistic of the Questionnaire ‘Wishes and Requirements for an Ideal Workplace’

Factor extraction by Horn's parallel analysis suggested a nine factor structure which, however, contained four factors assigned fewer than three items with a minimum main loading of .4. The inclusion of the eigenvalue analysis resulted in a three-factor structure, which, however, led to an unclear definition of the individual factors. Including a content-based interpretation, a four-factor structure could be considered containing factors could with a clear content based differentiation. A reduction from 42 to 25 items could be achieved by eliminating items with low main loadings so that the following four factors with a simple structure pattern were generated (see **B.3.2**). W_Factor 1 *Social challenges* comprises specific requirements for social interaction and communication in the workplace such as reduced, specific, professional personal contact with colleagues, supervisors, and customers as well as structured daily schedules. W_Factor 2 *Job fit* comprises the need for sufficient salary as well as permanent employment. W_Factor 3 *Specific needs* comprises the need for individual support, strategies for dealing with excessive demands, and recognition of individual abilities. W_Factor 4 *Individual work setting* comprises the need for specific working conditions such as home office, individual office, or flexible work scheduling.

Only one relevant cross-loading ($>.3$) was obtained for item W_27 with a factor loading of .438 on factor 1 and a factor loading of .502 on factor 4 (see **B.3.2**). With regard to content-related fit, higher factor loading, sufficient item-rest correlation of .367, and a loss of internal consistency of the factor when the item was dropped (Cronbach's α if item dropped = .456), the item was assigned to factor 4 (see **B.3.6**). Item W_08 was eliminated despite a factor loading greater than .4 (.416) due to a low item-rest correlation of less than .3 (.249) as well as an increased internal consistency of the factor when the item was dropped (Cronbach's α = .598 vs. Cronbach's α if item dropped = .646) (see **B.3.4**). Item W_20 was assigned to factor 4 despite a low item-rest correlation of .274. However, the item showed an acceptable factor loading of .448 and contributed content-related to the factor (see **B.3.6**). The internal consistency of factor 1 and 2 were in the acceptable range of $>.7$. Factor 3 (Cronbach α = .646) and factor 4 (Cronbach α = .557) did not meet sufficient internal consistency probably due to the small number of items. Both factors included only three items, which, however, showed acceptable factor loadings greater than .4 as well as content-related fit. The homogeneity of all factors was in the acceptable range of .2 to .4.

B.3.1 Scree Plot



B.3.2 Four-Factor Structure Pattern

Items	Factor				Uniqueness
	1	2	3	4	
W_15 Personal contact with colleagues only for a short time window during the day for factual communication	0.731				0.497
W_19 Structured daily work routine without interruptions (e.g., unscheduled changes, disruptions by colleagues)	0.703				0.465
W_01 No teamwork	0.681				0.490
W_02 Few people in the working environment	0.654				0.558
W_12 No contact with customers	0.641				0.631
W_14 Personal contact with colleagues and/or superiors only when I am ready for it	0.616				0.559
W_17 No phone calls at work	0.589				0.676
W_34 No business trips and/or field assignments	0.560				0.660
W_04 Exclusively professional exchange with colleagues	0.512				0.725
W_05 Positive working atmosphere with friendly and tolerant colleagues, without direct cooperation	0.503				0.725
W_10 As few contacts as possible in the company	0.491				0.692
W_13 Mostly written communication at the workplace (e.g., via e-mail)	0.480				0.697
W_43 A salary appropriate to the professional work		0.676			0.589
W_44 A salary that provides for individual living		0.620			0.694
W_42 A secure workplace (e.g., permanent position)		0.587			0.707
W_08 ^b Flat leadership style of the supervisor		0.416			0.784
W_41 Individual assistance (e.g., development concepts, coaching, support by colleagues, professional integration measures) to compensate for weaknesses			0.803		0.542
W_40 Acquiring individual strategies to compensate for deficits in order to better cope with demands and/or social difficulties in the professional context			0.584		0.716
W_11 Specific contact person outside the closer work environment who can be asked for advice in case of problems at the workplace			0.496		0.750
W_35 Retreat possibilities during breaks and/or when overstrained in the daily work routine			0.462		0.621
W_38 Higher acceptance of differences in the professional environment			0.451		0.696
W_24 Requirements at the workplace should be adapted to the individual capacity			0.435		0.744

Items	Factor				Uniqueness
	1	2	3	4	
W_39 Recognition and appreciation of individual strengths and talents in a professional context			0.408		0.645
W_30 Possibility of working at home				0.513	0.702
W_27 Individual office	0.438			0.502	0.509
W_20 Flexible time and work scheduling				0.448	0.802

Note. Four-factor structure pattern for the questionnaire *Wishes and requirements for an ideal workplace*.

W = questionnaire *Wishes and requirements for an ideal workplace*;

Principal axis factoring extraction method was used in combination with a promax rotation

^bexcluded

B.3.3 Factor Structure for W_Factor 1 ‘Social Challenges’ of the Questionnaire ‘Wishes and Requirement for an Ideal Workplace’

Items	<i>M</i>	<i>SD</i>	<i>r</i>	α
W_15 Personal contact with colleagues only for a short time window during the day for factual communication	2.75	1.28	0.649	0.845
W_19 Structured daily work routine without interruptions (e.g., unscheduled changes, disruptions by colleagues)	1.97	1.08	0.623	0.848
W_01 No teamwork	2.44	1.17	0.621	0.847
W_02 Few people in the working environment	1.84	1.01	0.622	0.848
W_12 No contact with customers	2.64	1.35	0.601	0.848
W_14 Personal contact with colleagues and/or superiors only when I am ready for it	2.17	1.18	0.593	0.849
W_17 No phone calls at work	2.72	1.41	0.530	0.854
W_34 No business trips and/or field assignments	2.45	1.36	0.457	0.859
W_04 Exclusively professional exchange with colleagues	2.59	1.17	0.450	0.858
W_05 Positive working atmosphere with friendly	1.72	.897	0.480	0.857

and tolerant colleagues, without direct cooperation				
W_10 As few contacts as possible in the company	2.18	1.23	0.469	0.857
W_13 Mostly written communication at the workplace (e.g., via e- mail)	2.69	1.33	0.480	0.857
W_27 ^b Individual office	2.28	1.29	0.479	0.863

Note. Factor structure for W_Factor 1 *Social challenges* of the questionnaire *Wishes and requirements for an ideal workplace*.

W = questionnaire *Wishes and requirements for an ideal workplace*;

Principal axis factoring extraction method was used in combination with a promax rotation;

M = mean value; SD = standard deviation; r = item-rest correlation; α = Cronbach's alpha (internal consistency) if item dropped

^b excluded

B.3.4 Factor Structure for W_Factor 2 'Job Fit' of the Questionnaire 'Wishes and Requirement for an Ideal Workplace'

Items	<i>M</i>	<i>SD</i>	<i>r</i>	α
W_43 A salary appropriate to the professional work	1.38	.680	.429	.490
W_44 A salary that provides for individual living	1.29	.669	.462	.467
W_42 A secure workplace (e.g., permanent position)	1.32	.672	.412	.503
W_08 ^b Flat leadership style of the supervisor	1.56	.837	.249	.646

Note. Factor structure for W_Factor 2 *Job fit* of the questionnaire *Wishes and requirements for an ideal workplace*.

W = questionnaire *Wishes and requirements for an ideal workplace*;

Principal axis factoring extraction method was used in combination with a promax rotation;

M = mean value; SD = standard deviation; r = item-rest correlation; α = Cronbach's alpha (internal consistency) if item dropped

^b excluded

B.3.5 Factor Structure for W_Factor 3 ‘Specific Needs’ of the Questionnaire ‘Wishes and Requirement for an Ideal Workplace’

Items	<i>M</i>	<i>SD</i>	<i>r</i>	α
W_41 Individual assistance (e.g., development concepts, coaching, support by colleagues, professional integration measures) to compensate for weaknesses	2.09	1.15	0.550	0.674
W_40 Acquiring individual strategies to compensate for deficits in order to better cope with demands and/or social difficulties in the professional context	1.69	.906	0.468	0.697
W_11 Specific contact person outside the closer work environment who can be asked for advice in case of problems at the workplace	2.31	1.28	0.402	0.722
W_35 Retreat possibilities during breaks and/or when overstrained in the daily work routine	1.59	.886	0.403	0.711
W_38 Higher acceptance of differences in the professional environment	1.70	.982	0.492	0.690
W_24 Requirements at the workplace should be adapted to the individual capacity	1.52	.737	0.378	0.717
W_39 Recognition and appreciation of individual strengths and talents in a professional context	1.50	.795	0.483	0.697

Note. Factor structure for W_Factor 3 *Specific needs* of the questionnaire *Wishes and requirements for an ideal workplace*.

W = questionnaire *Wishes and requirements for an ideal workplace*;

Principal axis factoring extraction method was used in combination with a promax rotation;

M = mean value; SD = standard deviation; r = item-rest correlation; α = Cronbach's alpha (internal consistency) if item dropped

B.3.6 Factor Structure for W_Factor 4 ‘Individual Work Setting’ of the Questionnaire ‘Wishes and Requirement for an Ideal Workplace’

Items	<i>M</i>	<i>SD</i>	<i>r</i>	α
W_30 Possibility of working at home	2.69	1.40	.473	0.270
W_27 Individual office	2.28	1.29	.367	0.456
W_20 Flexible time and work scheduling	2.18	1.19	.274	0.585

Note. Factor structure for W_Factor 4 *Individual work setting* of the questionnaire *Wishes and requirements for an ideal workplace*.

W = questionnaire *Wishes and requirements for an ideal workplace*;

Principal axis factoring extraction method was used in combination with a promax rotation;

M = mean value; SD = standard deviation; r = item-rest correlation; α = Cronbach’s alpha (internal consistency) if item dropped

B.4 Results of Single Item Comparisons

B.4.1 W_Factor 1 ‘Social Challenges’

Items	ASD+		ASD-		U	p	r
	(N = 197)		(N = 501)				
	M	Mdn	M	Mdn			
W_15 Personal contact with colleagues only for a short time window during the day for factual communication	2.55	3.0	2.82	3.0	43408	0.011*	.120
W_19 Structured daily work routine without interruptions (e.g., unscheduled changes, disruptions by colleagues)	1.88	2.00	2.00	2.00	46190	0.162	.064
W_01 No teamwork	2.35	2.00	2.48	2.00	45497	0.096	.078
W_02 Few people in the working environment	1.65	1.00	1.92	2.00	41450	< .001*	.160
W_12 No contact with customers	2.36	2.00	2.75	3.00	41073	< .001*	.168
W_14 Personal contact with colleagues and/or superiors only when I am ready for it	2.11	2.00	2.19	2.00	47441	0.406	.039
W_17 No phone calls at work	2.61	3.00	2.76	3.00	46474	0.220	.058
W_34 No business trips and/or field assignments	2.18	2.00	2.55	3.00	41547	< .001*	.158
W_04 Exclusively professional exchange with colleagues	2.54	2.00	2.61	3.00	47286	0.375	.042
W_05 Positive working atmosphere with friendly and tolerant colleagues, without direct cooperation	1.66	1.00	1.74	2.00	46895	0.262	.050
W_10 As few contacts as possible in the company	2.04	2.00	2.23	2.00	43949	0.018*	.109
W_13 Mostly written communication at the workplace (e.g., via e-mail)	2.71	3.00	2.68	3.00	49129	0.925	.005

Note. Single item comparisons for W_Factor 1 *Social challenges* of the questionnaire *Wishes and requirements for an ideal workplace*.

Group: ASD+ = diagnosed with autism spectrum disorder, ASD- = diagnosis of autism spectrum disorder ruled out; W = questionnaire *Wishes and requirements for an ideal workplace*; M = mean value; Mdn = median; U = Mann Whitney U test value; r = effect size

* $p < .05$; low values indicate greater impairments

B.4.2 W_Factor 2 'Job Fit'

Items	ASD+		ASD-		U	p	r
	(N = 197)		(N = 501)				
	M	Mdn	M	Mdn			
W_43 A salary appropriate to the professional work	1.39	1.00	1.37	1.00	48676	0.700	.014
W_44 A salary that provides for individual living	1.27	1.00	1.30	1.00	48663	0.718	.023
W_42 A secure workplace (e.g., permanent position)	1.31	1.00	1.32	1.00	48226	0.504	.014

Note. Single item comparisons for W_Factor 2 *Job fit* of the questionnaire *Wishes and requirements for an ideal workplace*.

Group: ASD+ = diagnosed with autism spectrum disorder, ASD- = diagnosis of autism spectrum disorder ruled out; W = questionnaire *Wishes and requirements for an ideal workplace*; M = mean value; Mdn = median; U = Mann Whitney U test value; r = effect size

* $p < .05$; low values indicate greater impairments

B.4.3 W_Factor 3 'Specific Needs'

Items	ASD+		ASD-		U	p	r
	(N = 197)		(N = 501)				
	M	Mdn	M	Mdn			
W_41 Individual assistance (e.g., development concepts, coaching, support by colleagues, professional integration measures) to compensate for weaknesses	1.98	2.00	2.14	2.00	45691	0.109	.074
W_40 Acquiring individual strategies to compensate for deficits in order to better cope with demands and/or social difficulties in the professional context	1.68	1.00	1.69	1.00	48195	0.594	.023
W_11 Specific contact person outside the closer work environment who can be asked for advice in case of problems at the workplace	2.26	2.00	2.34	2.00	47825	0.510	.031
W_35 Retreat possibilities during breaks and/or when overstrained in the daily work routine	1.50	1.00	1.62	1.00	45245	0.049*	.083
W_38 Higher acceptance of differences in the professional environment	1.62	1.00	1.72	1.00	46990	0.272	.048

W_24 Requirements at the workplace should be adapted to the individual capacity	1.46	1.00	1.54	1.00	46371	0.153	.060
W_39 Recognition and appreciation of individual strengths and talents in a professional context	1.56	1.00	1.48	1.00	48251	0.590	.022

Note. Single item comparisons for W_Factor 3 *Specific needs* of the questionnaire *Wishes and requirements for an ideal workplace*.

Group: ASD+ = diagnosed with autism spectrum disorder, ASD- = diagnosis of autism spectrum disorder ruled out; W = questionnaire *Wishes and requirements for an ideal workplace*;
M = mean value; Mdn = median; U = Mann Whitney U test value; r = effect size

**p* < .05; low values indicate greater impairments

B.4.4 W_Factor 4 ‘Individual Work Setting’

Items	ASD+ (N = 197)		ASD- (N = 501)		U	p	r
	M	Mdn	M	Mdn			
W_30 Possibility of working at home	2.80	3.00	2.65	3.00	46672	0.253	.054
W_27 Individual office	2.22	2.00	2.30	2.00	48016	0.563	.027
W_20 Flexible time and work scheduling	2.13	2.00	2.20	2.00	47310	0.374	.041

Note. Single item comparisons for W_Factor 4 *Individual work setting* of the questionnaire *Wishes and requirements for an ideal workplace*.

Group: ASD+ = diagnosed with autism spectrum disorder, ASD- = diagnosis of autism spectrum disorder ruled out; W = questionnaire *Wishes and requirements for an ideal workplace*;
M = mean value; Mdn = median; U = Mann Whitney U test value; r = effect size

**p* < .05; low values indicate greater impairments

C. German Version of the Vocational Questionnaire

Fragebogen „Erfahrungen im Berufsleben“ und Wünsche an einen „idealen Arbeitsplatz“

Wir führen eine systematische Erhebung zu Erfahrungen im Arbeitsleben von Personen durch, die im Rahmen unserer Autismus-Sprechstunde die Diagnose Hochfunktionaler Autismus oder Asperger-Syndrom erhalten haben.

Dafür versenden wir den vorliegenden Fragebogen. Im Folgenden finden Sie Aussagen, die sich auf Erfahrungen und Rahmenbedingungen am Arbeitsplatz beziehen. Der Fragebogen gliedert sich in neun Teile und umfasst Nennungen bzw. Aussagen zu den folgenden Themen:

- I) Angaben zu Ihrem schulischen und beruflichen Werdegang,
- II) Angaben zu Ihrer aktuellen Beschäftigung,
- III) Erfahrungen am aktuellen oder früheren Arbeitsplatz,
- IV) Aussagen zu Wünschen an Ihren „idealen Arbeitsplatz“,
- V) Erfahrungen während Ihres beruflichen Werdegangs,
- VI) Erwünschte Kontaktzeit mit Vorgesetzten, Kollegen und Mitarbeitern,
- VII) Begleiterkrankungen,
- VIII) Angaben zur Person.

Zusätzlich haben Sie die Möglichkeit unter Ziffer IX) auf der letzten Seite des Fragebogens einzelne Aussagen bzw. Nennungen zu erläutern oder auch weitere eigene Kommentare hinzuzufügen.

Die Bearbeitung des Fragebogens wird ungefähr 25 Minuten in Anspruch nehmen. Bitte lesen Sie jede Frage bzw. Aussage sorgfältig durch. Natürlich können mit diesen kurzen Aussagen nicht alle Besonderheiten berücksichtigt werden. Vielleicht treffen deshalb einige Auswahlmöglichkeiten nicht gut auf sie zu. Kreuzen Sie aber bitte trotzdem immer eine Antwort an und zwar die, die Ihnen am ehesten entspricht. Um den Fragebogen auswerten zu können ist es wichtig, dass Sie in den vorgegeben Feldern/Spalten ankreuzen. Sie können uns den ausgefüllten Fragebogen als Datei per E-Mail (kai.vogeley@uk-koeln.de) oder auf dem traditionellen Postweg zusenden.

Alle Formulierungen, die sich auf Personen beziehen (z.B. „Kollegen“, „Kunden“, etc.), werden zur besseren Lesbarkeit nur im männlichen Geschlecht verwendet, damit sind aber immer sowohl das männliche als auch das weibliche Geschlecht gemeint.

Vielen Dank für Ihre Mitarbeit!

I) Nachfolgend finden Sie eine Abfrage zu Ihrem schulischen und beruflichen Werdegang.

Bitte kreuzen Sie diejenigen Nennungen an, die auf Sie zutreffen.

Höchster Schulabschluss

- Allgemeine Hochschulreife
- Fachhochschulreife
- Realschulabschluss/Mittlere Reife
- Hauptschulabschluss
- Ohne Schulabschluss

Berufsqualifizierende Abschlüsse (Mehrfachnennungen möglich)

- Promotion
- Hochschulabschluss
- Voraussichtlicher Hochschulabschluss
- Meisterausbildung
- Berufsausbildung
- Voraussichtlicher Abschluss einer Berufsausbildung
- Berufsbildende Maßnahmen
- Ohne Abschluss
- Sonstige:
.....
.....

II) Im Folgenden finden Sie eine Abfrage zu Ihrer derzeitigen Beschäftigungssituation.

Bitte kreuzen Sie diejenigen Nennungen an, die auf Sie zutreffen.

Aktuelle Beschäftigungssituation

- Geschäftsführer
- Leitender Angestellter in Vollzeit
- Leitender Angestellter in Teilzeit
- Angestellter in Vollzeit
- Angestellter in Teilzeit
- Freiberufliche Tätigkeit (ohne eigene Mitarbeiter)
- Selbstständig mit eigenem Betrieb (ohne eigene Mitarbeiter)
- Selbstständig mit eigenem Betrieb (mit eigenen Mitarbeitern)
- Beamter im einfachen bzw. mittleren Dienst
- Beamter im gehobenen bzw. höheren Dienst
- Facharbeiter mit Prüfung
- Tätigkeit auf Aushilfsbasis nach abgeschlossener Ausbildung und/oder Studium
- Student
- Arbeitslos/arbeitssuchend
- Frührentner
- Sonstige:
.....
In welcher Branche sind Sie derzeit tätig?.....

III) Die folgenden Aussagen beziehen sich auf aktuelle und frühere Erfahrungen am Arbeitsplatz. Bitte lesen Sie diese sehr sorgfältig durch und geben sie auf einer 5-Punkte-Skala den Grad an, mit dem Sie der Aussage zustimmen.

(1 = stimme voll zu, 2 = stimme eher zu, 3 = teils/teils, 4 = stimme eher nicht zu, 5 = stimme nicht zu)

Erfahrungen am Arbeitsplatz		1	2	3	4	5
1.	Ich habe die überwiegende Zeit ein gutes Verhältnis zu Kollegen und/oder Vorgesetzten.					
2.	Ich habe keine Probleme, in einem Team zu arbeiten.					
3.	Positiv ist, dass ich allein arbeiten kann.					
4.	Ich habe keine gemeinsamen Gesprächsthemen mit Kollegen.					
5.	Der Umgang mit Kollegen und/oder Vorgesetzten ist die meiste Zeit schwierig.					
6.	Kollegen und/oder Vorgesetzte stellen im zwischenmenschlichen Bereich oft zu hohe Erwartungen an mich.					
7.	Mir wird häufig gesagt, dass ich arrogant und überheblich wirke.					
8.	Ich habe Probleme, unausgesprochene Regeln wahrzunehmen.					
9.	Ich nehme Intrigen und Machtspiele nicht rechtzeitig oder angemessen wahr.					
10.	Ich kann auf Intrigen und Machtspiele nicht rechtzeitig oder angemessen reagieren.					
11.	Ich habe Probleme mit Kundenkontakt.					
12.	Klare Strukturen, klar definierte Zuständigkeits- und Arbeitsbereiche im Unternehmen erleichtern mir das Arbeiten.					
13.	Terminliche Verschiebungen und kurzfristige Änderungen im Tagesablauf (z.B. durch ungeplante Meetings) sind problematisch für mich.					
14.	Fehlende Strukturen am Arbeitsplatz erschweren mir das Arbeiten.					
15.	Meine spezifischen Eigenschaften und/oder Spezialkenntnisse erleichtern mir das Arbeiten.					
16.	Ich kann bei meiner Arbeit meine Stärken zum Nutzen meiner Kollegen und/oder des Unternehmens einbringen					
17.	Meine autistischen Schwächen erschweren mir das Arbeiten.					
18.	Meine autistischen Schwächen hindern mich daran, beruflich erfolgreich zu sein.					
19.	Ich bin mit meiner beruflichen Situation zufrieden.					
20.	Ich habe einen Beruf, der zu mir passt.					

21.	Ich habe Schwierigkeiten, eine passende Arbeitsstelle zu finden.					
Erfahrungen am Arbeitsplatz (Fortsetzung)		1	2	3	4	5
22.	Ich fühle mich in meinem Beruf überfordert.					
23.	Ich fühle mich in meinem Beruf unterfordert.					
24.	Die Arbeitsbedingungen in meinem beruflichen Umfeld gehen zu Lasten meiner seelischen und/oder körperlichen Gesundheit.					
25.	Ich empfinde es als angenehm, wenn ich selbständig arbeiten kann und/oder meine Arbeitszeiten selbst einteilen kann.					
26.	Die räumlichen Bedingungen am Arbeitsplatz (z.B. Größe des Büros, Beleuchtung, Lautstärke) entsprechen meinen Bedürfnissen.					
27.	Die Ausstattung (z.B. Technik, Einrichtung, Möbel) des Arbeitsplatzes entspricht meinen Bedürfnissen.					
28.	Ich habe Kollegen und/oder Vorgesetzte über meine Diagnose informiert und überwiegend positive Reaktionen erhalten.					
29.	Mein Arbeitgeber versucht überwiegend meinen autistischen Bedürfnissen durch konkrete Maßnahmen (z.B. Einzelbüro) gerecht zu werden.					
30.	Ich habe Kollegen und/oder Vorgesetzte über meine Diagnose informiert und überwiegend negative Reaktionen erhalten.					
31.	Meinem Arbeitgeber ist meine Diagnose bekannt, jedoch werden für mich keine notwendigen Rahmenbedingungen geschaffen bzw. die Arbeitsbedingungen nicht verbessert.					
32.	Meine Kollegen und/oder Vorgesetzten haben Kenntnis von der Diagnose und haben Vorbehalte hinsichtlich meiner Leistungsfähigkeit.					
33.	Ich werde in meiner beruflichen Laufbahn durch Institutionen unterstützt (z.B. Arbeitsamt, Integrationsfachdienst).					
34.	Ich werde in meiner schulischen/beruflichen Laufbahn von meinem privaten Umfeld unterstützt (Familie, Freunde).					
35.	Ich werde in meiner schulischen/beruflichen Laufbahn von meinem schulischen/beruflichen Umfeld unterstützt (Lehrer, Mitschüler, <u>Vorgesetzte, Kollegen etc.</u>).					
36.	Ich werde unzureichend von Institutionen (z.B. Arbeitsamt) in meiner beruflichen Laufbahn unterstützt.					
37.	Ich werde für meine berufliche/n Tätigkeit/en angemessen bezahlt.					
38.	Ich kann mit meinem Gehalt meinen Lebensunterhalt bestreiten.					
39.	Mein Gehalt ist so gering, dass ich mir keine Sonderausgaben leisten kann (z.B. Urlaub, Kleidung, Kinobesuche, spezielle Interessen).					

IV) Die folgenden Aussagen beziehen sich auf den idealen Arbeitsplatz. Bitte lesen Sie diese sehr sorgfältig durch und geben Sie auf einer 5-Punkte-Skala an, wie wichtig Ihnen die einzelnen Merkmale sind.

(1 = wichtig, 2 = eher wichtig, 3 = teils/teils, 4 = weniger wichtig, 5 = unwichtig)

Wünsche und Anforderungen hinsichtlich meines idealen Arbeitsplatzes		1	2	3	4	5
1.	Keine Teamarbeit					
2.	Nur wenige Menschen im Arbeitsumfeld					
3.	Arbeiten in einem kleinen Team					
4.	Ausschließlich fachlicher Austausch mit Kollegen					
5.	Positives Arbeitsklima mit freundlichen und toleranten Kollegen, ohne direkte Zusammenarbeit					
6.	Verständnisvoller und/oder kooperativer Vorgesetzter					
7.	Konstruktiver Austausch mit Vorgesetzten					
8.	Klarer Führungsstil des Vorgesetzten					
9.	Fester Ansprechpartner im Unternehmen/in der Organisation					
10.	Möglichst wenige Ansprechpartner im Unternehmen/in der Organisation					
11.	Fester Ansprechpartner, der nicht aus dem näheren Arbeitsumfeld stammt und bei Problemen am Arbeitsplatz um Rat gefragt werden kann					
12.	Kein Kundenkontakt					
13.	In der Regel schriftliche Kommunikation am Arbeitsplatz (z.B. per E-Mail)					
14.	Persönlicher Kontakt zu Kollegen und/oder Vorgesetzten nur zu Zeiten, in denen ich dazu bereit bin					
15.	Persönlicher Kontakt zu Kollegen lediglich für ein kurzes Zeitfenster am Tag für den sachlichen Austausch.					
16.	Eindeutige und zielgerichtete Kommunikation am Arbeitsplatz					
17.	Keine Telefonate am Arbeitsplatz					
18.	Für alle Personen einheitlich geltende Regeln am Arbeitsplatz (ggf. schriftlich fixiert)					
19.	Geregelter Berufsalltag ohne Unterbrechungen (z.B. unplanmäßige Terminänderungen, Störungen durch Kollegen)					
20.	Freie und flexible Zeit- und Arbeitseinteilung					

21.	Ausreichend Zeit für die Erledigung aller Aufgaben (kein Zeitdruck)					
Wünsche und Anforderungen hinsichtlich meines idealen Arbeitsplatzes (Fortsetzung)		1	2	3	4	5
22.	Eine Arbeitsstelle bzw. Tätigkeit, die zu mir passt					
23.	Eine sinnhafte berufliche Tätigkeit					
24.	Anforderungen am Arbeitsplatz sollten dem individuellen Leistungsvermögen angepasst sein					
25.	Kontrolle über äußere Reize am Arbeitsplatz (z.B. Geräuschpegel, Beleuchtung, Gerüche)					
26.	Möglichst reizarme Arbeitsumgebung					
27.	Einzelbüro					
28.	Ordnung und Funktionalität am Arbeitsplatz					
29.	Optisch ansprechende Arbeitsumgebung (z.B. Blumen, persönliche Gegenstände, Bilder)					
30.	Möglichkeit der Heimarbeit					
31.	Büroausstattung ohne materielle und technische Mängel					
32.	Büroausstattung, die meinen individuellen Bedürfnissen entspricht					
33.	Räumlich konstanter Arbeitsplatz innerhalb des Unternehmens/in der Organisation (z.B. derselbe Schreibtisch)					
34.	Keine Reisen und/oder Außendienste im Rahmen der beruflichen Tätigkeit					
35.	Rückzugsmöglichkeiten in den Pausen und/oder bei Überforderung im Berufsalltag					
36.	Aufklärung des Arbeitsumfeldes über die autistische Problematik					
37.	Erhöhung des Bekanntheitsgrades autistischer Störungen					
38.	Mehr Akzeptanz der Andersartigkeit im beruflichen Umfeld					
39.	Anerkennung und Wertschätzung individueller Stärken und Talente im beruflichen Kontext					
40.	Erwerb von individuellen Strategien zur Kompensation von Defiziten, um so die Anforderungen und/oder sozialen Schwierigkeiten im <u>beruflichen Kontext besser bewältigen zu können</u>					
41.	Individuelle Hilfestellungen (z.B. Entwicklungskonzepte, Coaching, Hilfe von Kollegen, berufliche Integrationsmaßnahmen), um Schwächen zu kompensieren					
42.	Ein sicherer Arbeitsplatz (z.B. Festanstellung)					

43.	Eine Vergütung, die der beruflichen Tätigkeit angemessen ist						
44.	Eine Vergütung, die den individuellen Lebensunterhalt sicherstellt						

V) Im Folgenden finden Sie Fragen zu Ihrem beruflichen Werdegang. Bitte tragen Sie Ihre Antworten in die dafür vorgegebenen Kästchen ein.

Wie viele Monate bis einschließlich heute sind Sie im Verlauf Ihres Erwerbslebens insgesamt arbeitslos gewesen?

Monate

Wie häufig haben Sie aufgrund zwischenmenschlicher Probleme Ihre Arbeitsstelle auf eigenen Wunsch gekündigt?

Wie häufig haben Sie aufgrund fachlicher Probleme Ihre Arbeitsstelle auf eigenen Wunsch gekündigt?

Wie häufig haben Sie aufgrund zwischenmenschlicher Probleme vom Arbeitgeber die Kündigung erhalten?

Wie häufig haben Sie aufgrund fachlicher Probleme vom Arbeitgeber die Kündigung erhalten?

Haben Sie bisher an einer (oder an mehreren) Maßnahme(n) zur beruflichen Wiedereingliederung teilgenommen?

Ja, Welche?.....

Nein

Planen Sie in naher Zukunft an einer Maßnahme zur beruflichen Wiedereingliederung teilzunehmen?

Ja, Welche?.....

Nein

VI) Die nachfolgenden Fragen beziehen sich auf die von Ihnen erwünschte Kontaktzeit mit Vorgesetzten, Kollegen und Mitarbeitern. Bitte tragen Sie Ihre Antworten in die dafür vorgegebenen Kästchen ein.

Wie viel persönlichen Kontakt zu Vorgesetzten empfinden Sie an einem regulären Arbeitstag als angemessen?

Std.

Wie viel persönlichen Kontakt zu Kollegen empfinden Sie an einem regulären Arbeitstag als angemessen?

Std.

Sollten Sie sich aktuell in einer leitenden Position befinden: Wie viel persönlichen Kontakt zu Ihren Mitarbeitern empfinden Sie an einem regulären Arbeitstag als angemessen?

Std.

VII) Ist im Verlauf Ihres Lebens eine der folgenden psychiatrischen und/oder neurologischen Erkrankungen diagnostiziert worden?

- Alexithymie (Gefühlsblindheit)
- Angststörungen/Phobie/n
- Aufmerksamkeitsdefizit-/Hyperaktivitätsstörung
- Bipolare Störung
- Depressionen
- Epilepsie
- Essstörung/en
- Nonverbale Lernstörung
- Persönlichkeitsstörung, ängstlich-vermeidende
- Persönlichkeitsstörung, antisoziale
- Persönlichkeitsstörung, emotional-instabile
- Persönlichkeitsstörung, narzisstische
- Persönlichkeitsstörung, schizoide
- Persönlichkeitsstörung, schizotype
- Persönlichkeitsstörung, zwanghafte
- Posttraumatische Belastungsstörung/en
- Prosopagnosie (Gesichtsblindheit)
- Psychose/n
- Schizophrenie
- Schlafstörung/en
- Substanz-/Alkoholmissbrauch
- Tourette-Syndrom/Tic-Störung
- Zwangsstörungen
- Sonstige:

.....

VIII) Bitte tragen Sie einige Angaben zu Ihrer Person ein.

Angaben zur Person

- Männlich
- Weiblich
- Verheiratet/Eingetragene Lebensgemeinschaft
- Ledig
- Verwitwet
- Geschieden
- Getrennt

Haushalt

- Allein lebend
- Zusammenlebend mit Partner
- Zusammenlebend mit Kindern und Partner
- Zusammenlebend mit Eltern
- Wohngemeinschaft mit Freunden und/oder Bekannten
- Betreutes Wohnen

Alter und Bildungsjahre

Ihr Alter in Jahren

Bildungsjahre einschließlich schulischer und berufsqualifizierender Ausbildung bis heute
(z.B. „13“ nach 4 Jahren Grundschule, 6 Jahren weiterführender Schule, 3 Jahren Berufsausbildung;
z.B. „19“ nach 4 Jahren Grundschule, 9 Jahren weiterführender Schule, 6 Jahren Studium)

IX) Abschließend haben Sie die Möglichkeit, ggf. Erläuterungen zu den jeweiligen Teilen des Fragebogens zu machen.

