

# Mental Well-being of Adults with Autism Spectrum Disorder

Fouzia Rehman<sup>1</sup>, Shahida Sajjad<sup>2</sup>, Saira Saleem<sup>3</sup>

<sup>1</sup>Student Counselor, Dow University of Health Sciences, Karachi, Pakistan

<sup>2</sup>Vice Chancellor, Metropolitan University Karachi, Pakistan

<sup>3</sup>Assistant Professor, Department of Special Education, University of Karachi, Pakistan

Correspondence: [fouziarehman\\_786@yahoo.com](mailto:fouziarehman_786@yahoo.com)<sup>1</sup>

## ABSTRACT

**Aim of the Study:** Autism Spectrum Disorder (ASD) is a unique disorder that cannot be easily diagnosed; every individual with autism is different from another individual, and faces different issues in their life span such as lacking in social communication, socialization, cognition, and behavioral issues, etc. These problems may vary from individual to individual and differ in severity level. However, adults with autism tackled more mental health problems in their adulthood as compared to their childhood. For this purpose, it was hypothesized that adults with ASD faced many more mental health issues in their social settings.

**Methodology:** This survey research used a quantitative approach and the data was collected through convenience sampling method. The sample was adults with autism (N=90), having the age ranged from 17 years and above with mild to moderate severity levels and Asperger. The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) was used to collect the data, which was analyzed through descriptive statistics and ANOVA test to find the gender differences.

**Findings:** Results showed that adults with ASD faced multifarious mental health problems in different areas of their lives, especially in social settings. Low scores were observed in almost all items of the WEMWBS, which indicates low mental well-being in adults with ASD.

**Conclusion:** The main reason for low mental-health and well-being is stigmatization, isolation, bullying, incantation/black-magic as treatment, etc., instead of medical or therapeutic services. It was recommended that the barrier of stigma should be removed through awareness related programs at different governmental levels, elementary level at school and start campaigns through media.

**Keywords:** Mental Health, Well-being, Adults with Autism Spectrum Disorder (ASD), Stigma.

## Article History

Received:  
September 16, 2022

Revised:  
December 21, 2022

Accepted:  
December 23, 2022

Published:  
December 30, 2022

## Introduction

Every individual in this world is unique and different from others in their nature, attitude, personality, fingerprints; and various other aspects. Similarly, every individual with Autism Spectrum Disorder (ASD) is different from another person with ASD with some unique qualities. Autism Spectrum Disorder is a combination of chronic neuro-developmental impairment & pervasive difficulties that involve impairments or lack of social communication, social interaction, restricted interest in different activities, repetitive behavior patterns, attention deficits, hyperactive issues, as well as sensory issues in early life (Adamou et al., 2021; APA, 2013; Kölves et al., 2021). However, there is no specific cause found for ASD among individuals, but different types of perceptive, anatomical and functional changes were observed in the post mortem studies (Lord et al., 2020). Having no specific cause, the ratio of ASD is increasing day by day. By that time the worldwide prevalence rate of ASD was about 1 billion population of the world (WHO, 2020). However, there is no cure for this lifelong disorder and/or not a single treatment works for every individual with ASD.

### *Autism Spectrum Disorder and Mental Health & Well-Being*

Mental well-being is a dynamic condition of self-acceptance that relates to the individual's own ability to acquire their potential ability; meaningfully & creatively as well as the life-satisfaction that develops positive, strong and beneficial relationships with others in society (Beddington et al., 2008). It has been observed that individuals with ASD may have inadequate outcomes in all areas of their life, due to the weak aspects of their mental health and well-being (Hedley et al., 2019). The reason for this low mental health and well-being was the children with ASD suffer a wide range of psychiatric disorders comorbid with behavioral problems in their life span, such as depression & anxiety related to Attention Deficit Hyperactivity Disorder and OCD (Ghaziuddin, 2005). Individuals with ASD with comorbid conditions are strikingly high for their low mental health and well-being (Cage et al., 2018), which not only affects their physical health but their psychological health also affected (Forde et al., 2022). Another survey report showed that 77% of the adults with ASD were diagnosed with comorbid conditions for their mental health problems including; depression, bipolar disorder, and anxiety (Eave & Ho, 2008), and this prevalence rate of mental health problems together with depression & anxiety in adults with ASD was found 34% (Stewart et al., 2006), which is increasing by the time.

Furthermore, it has been observed that adults with ASD face much more mental health issues in their life compared to their childhood (Forde et al., 2022). Previous researches mentioned that adults with ASD have poor outcomes in all areas of their life as compared to their childhood, especially in social contexts such as an employment and outdoor meetups or gatherings (Hedley et al., 2019), they may experience social anxiety, depression (Underwood et al., 2010), communication barriers, labeling, unacceptable from the society for stigma and camouflaging experiences that may lead to mental stress and related problems (Cage et al., 2018; Russell et al., 2016) with poor quality of life (Robertson, 2009).

Nevertheless, many other research findings also suggest that adults with ASD may experience more stress, anxiety and less social support from society which are the result of unacceptance by other non-autistic individuals (Cage et al., 2018; Bishop-Fitzpatrick et al., 2017). A study showed that non-autistic individuals make negative judgments toward autistic individuals; this unfavorable judgment of non-autistic toward autistic individuals is the result of poor societal acceptance that causes stigma and related issues. These unfavorable judgments include; not as attractive, lack in socialization, less affable, different from others, etc. (Sasson et al., 2017). Cage et al. (2018) further described in their study that stigma is one of the leading causes; to make unfavorable verdicts by non-autistic individuals that results in mental health related issues in adults with ASD. According to Hull et al. (2019), stigmatization affects the mental health and well-being of adults with ASD and camouflaging activities to avoid stigmatization is one of the sturdy reasons for low mental health and well-being.

### ***Purpose of the Present Study***

Mental health and well-being is a comprehensive term especially for individuals with ASD in social settings. In Pakistan, where people live with their conservative thoughts; having limited awareness related to autism or other types of disabilities/disorders, they don't accept them as a member of their society just because of their different behavior and appearance. In this regard, this study was designed to evaluate the mental health and well-being of adults with ASD in social settings within Pakistan. To evaluate the mental health and well-being of adults with ASD, different emotions, feelings and functioning of adults with ASD within the community were observed through WEMWBS, which helped to find out the lowest areas of the mental health and well-being of adults with ASD. The study will be helpful for caretakers, special educators, counselors, parents and other professionals to help build confidence in adults with ASD in social settings and create awareness among non-autistic individuals about how to overcome mental health problems to avoid stigma.

### **Research Methodology**

This descriptive study used a quantitative approach to evaluate the mental health & well-being of adults with Autism Spectrum Disorder (ASD) in social settings.

### ***Sample Size***

The data was collected through a convenient sampling method from 14 major cities in Pakistan. The sample of the study included 90 adults (male = 49, female = 41) with ASD having age seventeen years (17) and above (shown in Table 1). However, ASD is an umbrella term that has different sub categories from pure Autism to Autism Spectrum Disorder Not Otherwise Described (ASD-NOS), for this study, the data was gathered from adults with Asperger syndrome and mild to moderate Autistic individuals; who can communicate their thoughts with little or no assistance. It was a challenging task to find adults with ASD in Pakistan, because there is no data found in the last census. According to the last Pakistan census of 2017, the total disability population was about 0.48% and only a few were registered as the Person with Disabilities on their national identity cards (Arsh & Darain, 2019). Though the disabilities are not categorized in the census, it's not easy to find the statistics of the adults with ASD in the Pakistan population data sheet. However, special needs schools and vocational training institutes have some data on individuals with ASD. Though for this study, social media played an important role, online autism societies and communities were very helpful to approach the adults with ASD directly or through parents or special educators. Again, one of the big issues in data collection was family affection for individuals with ASD who hide their child from society just to avoid stigma and labeling.

### ***Instrument***

The tool 'Warwick-Edinburgh Mental Well-Being Scale' (WEMWBS-14 items) was used to collect data from adults with ASD without any changes. During the initial phase of the research, the tool was adopted with the permission of researcher Hull, Laura (she used the tool in her research; development and validation of CAT-Q in 2018), but for authenticity, further permission has been taken from Warwick Medical School. It is a useful measuring tool that determines the feelings of any individual and finds operative facets of the positive mental health and well-being of any individual within the society. It measures positive emotions as well as psychological functioning that includes; happiness, usefulness, relaxed, cheerful, confidence, independence, agency, optimism, energy, and positive relationship with others. The tool has 14 items, and the responses were based on five Likert scales; *none of the time*, *rarely*, *some of the time*, *often*, and *all of the time*. Participants were instructed to choose one option from each item of the tool. After positive feedback from the pilot testing on 10 adults with ASD, the tool was used to collect the data through Google online survey form and through telephonic conversation where applicable, as it was the most convenient method during COVID-19 period. Test-retest reliability of the tool was calculated (Cronbach's alpha value 0.83) which indicates high reliability (Stewart-Brown et al., 2011; Tennant et al., 2007).

### ***Data Analysis***

The data was analyzed through descriptive statistics and ANOVA test, by using the software Statistical Package for Social Sciences (SPSS).

### **Results**

#### ***Mental well-being of the adults with Autism Spectrum Disorder in social settings***

There were 49 (54.4%) male participants and 41 (45.6%) female out of 90 adults with ASD, though the survey was not targeted to any gender. The mean score of the gender observed 1.45 (SD = .501), mean scores of the age of the adults with ASD at the time of this research, was 2.07 (SD = 1.058) and for the severity level (Asperger or mild to moderate autism) mean score was observed 2.13 (SD = .997) respectively (see Table 1).

Table 1: *Descriptive Statistic of Adults with ASD (N=90)*

		<i>N</i>	<i>%</i>	<i>M</i>	<i>SD</i>
Gender	Male	49	54.4		
	Female	41	45.6		
	Total	90	100.0 %	1.46	.501
Age	18 – 21	35	38.9		
	22 – 25	26	28.9		
	26 – 29	17	18.9		
	30 or above	12	13.3		
	Total	90	100.0 %	2.07	1.058
Severity Level	Mild Autism	39	43.3		
	Asperger Syndrome	51	56.7		
	Total	90	100.0%	2.13	.997

Table 2: *Item Analysis of WEMWBS (N = 90)*

	<b>Mental Health &amp; Well-Beings Items</b>	<b>None of the time</b>	<b>Rarely</b>	<b>Some of the time</b>	<b>Often</b>	<b>All time</b>	<b>of Total</b>	<b>M</b>	<b>SD</b>
1	I have been feeling optimistic about my future	13 (14.4 %)	39 (43.3 %)	30 (33.3 %)	6 (6.7 %)	2 (2.2 %)	90	2.39	.896
2	I have been feeling more useful	24 (26.7 %)	44 (48.9 %)	21 (23.3 %)	1 (1.1 %)	0	90	1.99	.742
3	I have been feeling more relaxed now	18 (20 %)	43 (47.8 %)	28 (31.1 %)	1 (1.1 %)	0	90	2.13	.737
4	I feel more interested in different people	26 (28.9 %)	35 (38.9 %)	28 (31.1 %)	1 (1.1 %)	0	90	2.04	.806
5	I have more energy in my spare	22 (24.4 %)	37 (41.1 %)	29 (32.2 %)	2 (2.2 %)	0	90	2.12	.805
6	I am dealing normally with different kinds of problems very well	25 (27.8 %)	43 (47.8 %)	20 (22.2 %)	2 (2.2 %)	0	90	1.99	.772
7	I am thinking more clearly	11 (12.2 %)	57 (63.3 %)	19 (21.1 %)	2 (2.2 %)	1 (1.1 %)	90	2.17	.707
8	I feel good about myself	19 (21.1 %)	43 (47.8 %)	27 (30 %)	1 (1.1 %)	0	90	2.11	.741
9	I feel myself close to people	22 (24.4 %)	41 (45.6 %)	25 (27.8 %)	2 (2.2 %)	0	90	2.08	.782
10	I feel confident in my personality/myself	10 (11.1 %)	53 (58.9 %)	25 (27.8 %)	1 (1.1 %)	1 (1.1 %)	90	2.22	.700
11	I have to make my mind to different kind of things	12 (13.3 %)	56 (62.2 %)	16 (17.8 %)	6 (6.7 %)	0	90	2.18	.743
12	I have been feeling more loved	14 (15.6 %)	33 (36.7 %)	33 (36.7 %)	9 (10 %)	1 (1.1 %)	90	2.44	.913
13	I have been interested in different/new things	10 (11.1 %)	41 (45.6 %)	31 (34.4 %)	8 (8.9 %)	0	90	2.41	.806
14	I have been feeling more cheerful	12 (13.3 %)	42 (46.7 %)	27 (30 %)	8 (8.9 %)	1 (1.1 %)	90	2.38	.869
	Total	238 (18.89%)	607 (48.2%)	359 (28.49%)	50 (3.97%)	6 (0.48%)	1260	30.66	2.34

Results in Table 2 showed that the majority of the adults with ASD had low mental well-being on all aspects of WEMWBS and this result was also supported by other research scholars concluding that the adults with ASD were having a low mental state on the mental well-being scale (Hull et al., 2020a; 2019b; Lai & Baron-Cohen, 2015). The highest mean score was observed for the behavior which was pointed out by most of the adults with ASD with relatively low scores on the Likert scale; elected rarely and some of the time. The highest mean scores were observed 2.44 for their feelings for being loved (SD = 0.913), followed by their interest in different or new things (mean 2.41, SD = 0.806), and their feelings of being optimistic about their future (mean 2.39, SD = 0.896). The overall scores of the WEMWBS showed that the majority of adults with ASD (48.2 %) responded to the option 'rarely' for each item of the scale. Though 28.5 % of adults responded to 'some of the time' and a few (18.9 %) chose the option 'none of the time'. Very few respondents were reported for the option 'often' (3.97 %) and 'all of the time' (0.48 %).

Table 3: *Gender Differences and Mental Well-Being Scores Range*

		WEMWBS (Score Ranges)									Total
		14 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	
Gender	Male	0	1	22	17	5	3	1	0	0	49
	Female	0	0	13	15	11	2	0	0	0	41
Total		0	1	35	32	16	5	1	0	0	90

Though the tool WEMWBS has its own scoring system and calculations which range in between 14 to 70, the highest scores mean the strong mental health and well-being and low scores mean low mental health and well-being. Where 14 score means the lowest score on mental health and 70 is the highest score. Mental health and well-being scores of adults with ASD with respect to their gender differences (see table 3 & figure 1), showed that the majority of adults with ASD (N=35) have scores between 26-30, among them male adults with ASD scores more as compared to females. However, 32 adults with ASD were found in the score range of 31-35 with an almost equal ratio (17:15). However, 16 adults with ASD were found in the score range of 36-40, among them there were 11 female adults with ASD and only 5 were male adults with ASD. Very few (N=5) were laid in the 41-45 range with a 3:2 ratio and only one male adult with ASD was found in the 46-50 score range and one male in the 21-25 score range. The results of ANOVA showed that the majority of adults with ASD have a low mental well-being scale. Similarly, the results showed that no gender differences exist when facing mental health issues in social settings, both male and female adults with ASD face mental health and well-being issues in their daily lives (see table 4).

Table 4: *One Way Analysis of Variance of Gender and Mental Health & Well-Being Scores*

Gender	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1.545	5	.309	1.249	.294
Within Groups	20.778	84	.247		
Total	22.322	89			

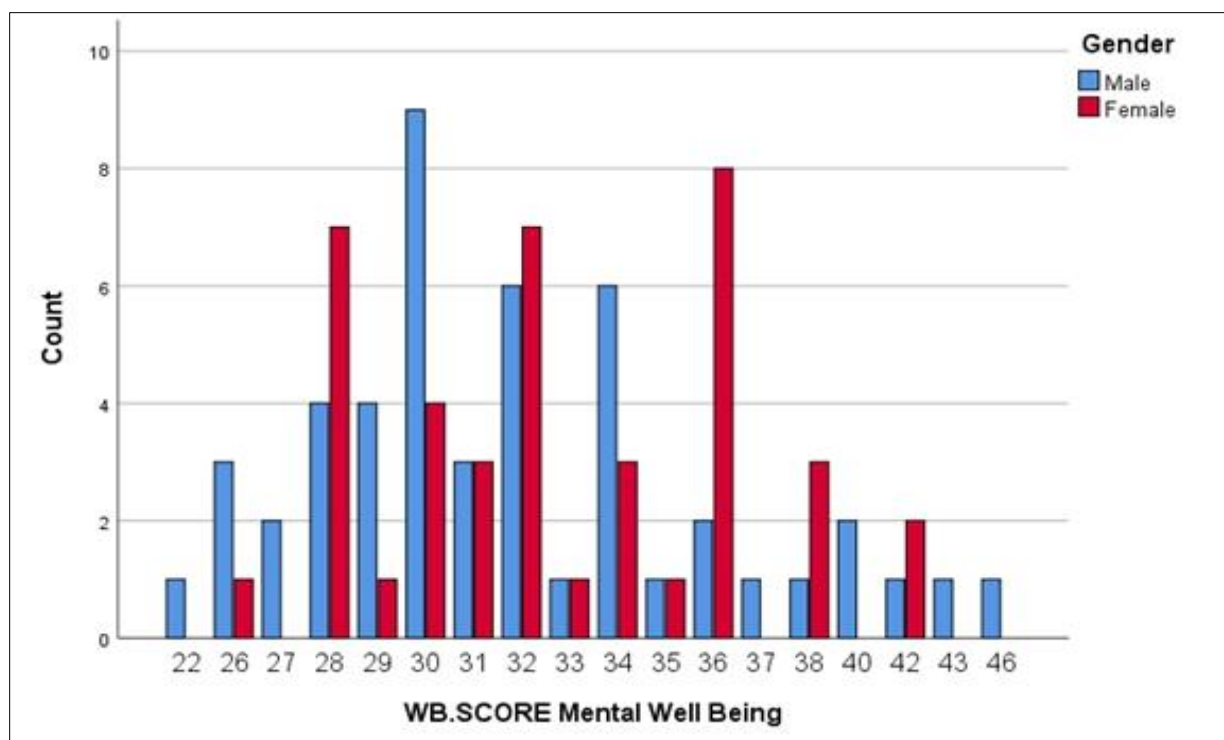


Figure 1: represents the gender differences with respect to their mental health & well-being scores on WEMWBS

## Discussion

This study aims to evaluate the mental health and well-being of adults with ASD in social settings. The findings of the tool WEMWBS suggest that adults with ASD faced mental health and well-being issues in their social settings, as low scores were observed in all items of the WEMWBS. The findings were also supported by the previous research, that adults with ASD found at higher risk of mental health issues related to social anxiety, depression and obsessive compulsive disorder compared to adults without ASD (Hull et al., 2020; Russell et al., 2016). The mental well-being of adults with ASD is affected in different manners especially in social settings and there could be different reasons behind this. A phenomenological analysis of Griffith et al. (2012), on eleven adults with Asperger syndrome for four different perspectives including experiences of mainstream, employment issues, living with disability, and future aspects; study results found that adults with Asperger syndrome mostly experience social isolation, communication difficulties, depression and anxiety due to a lack of public understanding.

However, these mental health issues faced by adults with ASD are the negative outcome of the society in terms of ignorance, unacceptance, avoiding communication, lack of socialization, stigmatization, negative thoughts towards the parents of the child with disability etc. A research study suggested that parents who accepted their child with ASD found fewer mental health issues (Weiss et al., 2012). Feeling acceptance by parents, friends and society worked as a protective agent for individuals with ASD, which is the most significant variable for good mental health and well-being (Cage et al., 2018). Similarly, a longitudinal study by Hurlbutt and Chalmers (2002) on the life perception of adults with ASD exposed that adults with ASD have faith in supportive family and supported friends to help them establish a satisfactory emotional state of self-worthiness.

Though, the observed social issues and problems may impact the mental health of individuals with ASD, which results in behavioral problems, low quality of life, low self-esteem, loneliness, sleeping issues, suicidal thoughts due to the negative feelings and attitude towards others and self (Cai et al., 2019;

Hedley et al., 2017). Cage et al. (2018) found that the prevalence rate of mental health related issues in the adults with ASD is increasing due to some factors such as lack of understanding or lack of awareness of the society (Shakespeare, 2006), sensory issues (Green & Ben-Sasson, 2010), and intolerance of uncertainty (Maisel et al., 2016). According to some research scholars, depression, anxiety, hyperactivity, and related mental health issues are the cause of stigmatization by society (Hollocks et al., 2019; Hull et al., 2020a; 2019b). Long-term administration of stigma & shame depletes psychological resources and mental assets that drive trouble, especially related to regulating emotions such as mental health difficulties (Hatzenbuehler et al., 2013).

## **Conclusion**

Pakistan is a country where people live together with different cultures, religions, thoughts, diverse backgrounds, etc., and due to that their conservative thoughts are easily labeled by others. Stigmatization in Pakistan is much more common as compared to other developmental or under developmental countries (see also Najmi, 2021), such as labeling others without any reasons, bullying others for fun, and having a child with disability or disorder is unacceptance by the family, caretakers, or even by the society. Parents or guardians of the child with disability /disorder may go for incantation, black magic, or exorcise as treatment instead of appropriate medical treatment or therapeutic services, which may also be the main cause of mental health issues in the individuals with disability.

The children with disabilities who grew up with lack of socialization due to stigmatization and isolation, they developed low self-esteem and lack of confidence in their personality, on the other hand, siblings and other aged peers don't feel their existence in terms of ignorance. Adults with ASD due to isolation, ignorance and stigmatization don't avail their rights given by their society. They may have multiple abilities and strengths but still they can't find a job with a disability.

It has been concluded that stigmatization in Pakistan such as disability, transgender, psycho patients, mentally ill etc. cannot be easily removed. This type of stigma and labeling has an abnormal effect on the mental health and well-being of adults with ASD and other different individuals with disabilities. However, these mental health problems and their severity may vary from individual to individual, depending on the environment they are living in and the kind of support they are receiving from their family. These mental health issues such as depression and anxiety due to stigma or other barriers can be overcome from creating awareness programs in our society with the help of the government at initial levels. A research study by Hedley et al. (2019) found that symptoms of depression, anxiety and other mental health related problems due to stigma or isolation in adults with ASD may be overcome through positive well-being. And positive well-being can be developed by the help of strongly supported families, friends and society. But still there is a big question raised as to why our society doesn't accept individuals with different abilities even though we all are different from each other in our abilities, strengths, and even weaknesses.

## ***Limitations of Existing Research***

This study is helpful to identify the state of mental health & well-being of adults with ASD and the barriers that create low mental health and well-being in adults with ASD in social context but the current study still has some limitations. The research was conducted through an online survey tool to fill out the responses face to face data collection is recommended because it could affect the reliability of the responses (Cage et al., 2018). The researchers need to elaborate the questions especially for individuals with mild to moderate levels of autism, based on their needs and understanding, therefore face to face data collection should be recommended for this survey to avoid bias. In Pakistan, it was not easy to find the data of adults with ASD because in the last population census of 2017, there was no categorization of disability (Arsh & Darain, 2019), and there is no official record of the individuals with ASD. So, the power analysis technique for calculating the sample size couldn't apply in this research. Another limitation was that every individual with or without disability faced mental health issues in their life, so



all adults/children with ASD faced mental health related issues at any age of their life. But the study was limited to mild to moderate autistic individuals and Asperger syndrome.

### **Recommendations**

It has been recommended that the social barrier of stigmatization or labeling can be removed through awareness programs organized by the government, educational institutes like schools, colleges, and universities. The electronic media can also play a very influencing role to promote positive attitudes toward the ASD. The curriculum at school level should be revised to welcome everyone in the society by including topics such as stigmatization and other related issues at the elementary level of education. At an early age the child should know how to welcome or deal with a child with autism spectrum and other disabilities in social settings, without stigma and labeling. Furthermore, training programs for the teachers, education faculties, special educators, parents and others should be arranged, that can play a significant role in the field to remove stigma and labeling an individual with disability or disorder. It is also recommended that the autism population survey should be done at the government level in the upcoming census, so the data could be helpful to find out the individuals with ASD for future research work. There is a need to study more on the mental health & well-being of adults with ASD to expose the mechanisms behind the consequences of mental health & well-being in adults with ASD especially in social settings and daily living, with a wide range of social as well as non-social dynamics.

### **Acknowledgments**

None.




### **Conflict of Interest**

Authors have no conflict of interest.

### **Funding Source**

The authors received no funding to conduct this study.

### **ORCID iDs**

Fouzia Rehman<sup>1</sup>  <https://orcid.org/0000-0003-4505-8575>  
Shahida Sajjad<sup>2</sup>  <https://orcid.org/0000-0003-1300-0053>  
Saira Saleem<sup>3</sup>  <https://orcid.org/0000-0003-0813-5623>

### **References**

- Adamou, M., Jones, S. L., & Wetherhill, S. (2021). Predicting diagnostic outcome in adult autism spectrum disorder using the autism diagnostic observation schedule. *BMC psychiatry*, 21(1), 1-8.
- American Psychiatric Association. (2013) Diagnostic and statistical manual of mental disorders - 5<sup>th</sup> edition. [National Center on Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention.](#)
- Arsh, A., & Darain, H. (2019). Persons with disabilities in pakistan. *Annals of Allied Health Sciences*, 5(2), 1-2.
- Beddington, J., Cooper, C. L., Field, J., Goswami, U., Huppert, F. A., Jenkins, R., ... & Thomas, S. M. (2008). The mental wealth of nations. *Nature*, 455(7216), 1057-1060.

- Bishop-Fitzpatrick, L., Mazefsky, C. A., & Eack, S. M. (2017). The combined impact of social support and perceived stress on quality of life in adults with autism spectrum disorder and without intellectual disability. *Autism*. doi:[10.1177/1362361317703090](https://doi.org/10.1177/1362361317703090).
- Cage, E., Di Monaco, J., & Newell, V. (2018). Experiences of autism acceptance and mental health in autistic adults. *Journal of autism and developmental disorders*, 48(2), 473-484.
- Cai, R. Y., Richdale, A. L., Dissanayake, C., Trollor, J., & Uljarević, M. (2019). Emotion regulation in autism: Reappraisal and suppression interactions. *Autism*, 23(3), 737-749.
- Eaves, L. C., & Ho, H. H. (2008). Young adult outcome of autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 38(4), 739-747.
- Ghaziuddin, M. (2005). *Mental health aspects of autism and Asperger syndrome*. Jessica Kingsley Publishers.
- Green, S. A., & Ben-Sasson, A. (2010). Anxiety disorders and sensory over-responsivity in children with autism spectrum disorders: is there a causal relationship? *Journal of autism and developmental disorders*, 40(12), 1495-1504.
- Griffith, G. M., Totsika, V., Nash, S., & Hastings, R. P. (2012). 'I just don't fit anywhere': support experiences and future support needs of individuals with Asperger syndrome in middle adulthood. *Autism*, 16(5), 532-546.
- Hatzenbuehler, M. L., Phelan, J. C., & Link, B. G. (2013). Stigma as a fundamental cause of population health inequalities. *American journal of public health*, 103(5), 813-821.
- Hedley, D., Uljarević, M., Bury, S. M., & Dissanayake, C. (2019). Predictors of mental health and well-being in employed adults with autism spectrum disorder at 12-month follow-up. *Autism Research*, 12(3), 482-494.
- Hedley, D., Uljarević, M., Wilmot, M., Richdale, A., & Dissanayake, C. (2017). Brief report: social support, depression and suicidal ideation in adults with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 47(11), 3669-3677.
- Hollocks, M. J., Lerh, J. W., Magiati, I., Meiser-Stedman, R., & Brugha, T. S. (2019). Anxiety and depression in adults with autism spectrum disorder: a systematic review and meta-analysis. *Psychological medicine*, 49(4), 559-572.
- Hull, L., Mandy, W., Lai, M. C., Baron-Cohen, S., Allison, C., Smith, P., & Petrides, K. V. (2019). Development and validation of the camouflaging autistic traits questionnaire (CAT-Q). *Journal of autism and developmental disorders*, 49(3), 819-833. Retrieved from the web source <https://link.springer.com/article/10.1007/s10803-018-3792-6>
- Hull, L., Lai, M. C., Baron-Cohen, S., Allison, C., Smith, P., Petrides, K. V., & Mandy, W. (2020). Gender differences in self-reported camouflaging in autistic and non-autistic adults. *Autism*, 24(2), 352-363. <https://doi.org/10.1177/1362361319864804>
- Hurlbutt, K., & Chalmers, L. (2002). Adults with autism speak out: Perceptions of their life experiences. *Focus on autism and other developmental disabilities*, 17(2), 103-111. <https://doi.org/10.1177/10883576020170020501>
- Kølves, K., Fitzgerald, C., Nordentoft, M., Wood, S. J., & Erlangsen, A. (2021). Assessment of Suicidal Behaviors Among Individuals with Autism Spectrum Disorder in Denmark. *JAMA Network Open*, 4(1), e2033565-e2033565.
- Lai, M. C., & Baron-Cohen, S. (2015). Identifying the lost generation of adults with autism spectrum conditions. *The Lancet Psychiatry*, 2(11), 1013-1027.

- Lord, C., Brugha, T. S., Charman, T., Cusack, J., Dumas, G., Frazier, T., & Taylor, J. L. (2020). Autism spectrum disorder. *Nature reviews Disease primers*, 6(1), 1-23.
- Maisel, M. E., Stephenson, K. G., South, M., Rodgers, J., Freeston, M. H., & Gaigg, S. B. (2016). Modeling the cognitive mechanisms linking autism symptoms and anxiety in adults. *Journal of abnormal psychology*, 125(5), 692.
- Najmi, S. (2021). *A Communicative Assessment of Mental Health Literacy in Pakistan* (Doctoral dissertation, Texas Southern University). <https://www.proquest.com/docview/2546625848?pq-origsite=gscholar&fromopenview=true>
- Robertson, S. M. (2009). Neurodiversity, quality of life, and autistic adults: Shifting research and professional focuses onto real-life challenges. *Disability Studies Quarterly*, 30(1).
- Russell, A. J., Murphy, C. M., Wilson, E., Gillan, N., Brown, C., Robertson, D. M., & Murphy, D. G. (2016). The mental health of individuals referred for assessment of autism spectrum disorder in adulthood: a clinic report. *Autism*, 20(5), 623-627.
- Sasson, N. J., Faso, D. J., Nugent, J., Lovell, S., Kennedy, D. P., & Grossman, R. B. (2017). Neurotypical peers are less willing to interact with those with autism based on thin slice judgments. *Scientific reports*, 7(1), 1-10. <https://link.springer.com/content/pdf/10.1038/srep40700.pdf>
- Shakespeare, T. (2006). The social model of disability. *The disability studies reader*, 2, 197-204.
- Stewart, M. E., Barnard, L., Pearson, J., Hasan, R., & O'Brien, G. (2006). Presentation of depression in autism and Asperger syndrome: A review. *Autism*, 10(1), 103-116. <https://doi.org/10.1177/1362361306062013>
- Stewart-Brown, S. L., Platt, S., Tennant, A., Maheswaran, H., Parkinson, J., Weich, S., ... & Clarke, A. (2011). The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): a valid and reliable tool for measuring mental well-being in diverse populations and projects. *J Epidemiol Community Health*, 65(Suppl 2), A38-A39.
- Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., & Stewart-Brown, S. (2007). The Warwick-Edinburgh mental well-being scale (WEMWBS): development and UK validation. *Health and Quality of life Outcomes*, 5(1), 1-13.
- Underwood, L., McCarthy, J., & Tsakanikos, E. (2010). Mental health of adults with autism spectrum disorders and intellectual disability. *Current Opinion in Psychiatry*, 23(5), 421-426. doi: 10.1097/YCO.0b013e32833cfc18
- Weiss, J. A., Cappadocia, M. C., MacMullin, J. A., Viecili, M., & Lunskey, Y. (2012). The impact of child problem behaviours of children with ASD on parent mental health: The mediating role of acceptance and empowerment. *Autism*, 16(3), 261-274.
- WHO, (2020). Disability and Health. Retrieved from web source on 16<sup>th</sup> Jan. 2021, <https://www.who.int/news-room/fact-sheets/detail/disability-and-health>