

## Financial education and financial knowledge and its usage among Asperger syndrome people

**Bozena Fraczek\***, University of Economics in Katowice, Department of Banking and Financial Markets, Katowice  
1 Maja 50, 40-287 Katowice, Poland

**Anna Gagat Matula**, Pedagogical University of Cracow, Institute of Special Needs Education, 30-084 Krakow,  
Poland

### Suggested Citation:

Fraczek, Z. & Gagat Matula, A. (2019). Financial education and financial knowledge and its usage among Asperger syndrome people. *Cypriot Journal of Educational Science*. 14(4), 742-749. <https://doi.org/10.18844/cjes.v14i4.3936>

Received July 12, 2019; revised from September 11, 2019; accepted from December 6, 2019.

Selection and peer review under responsibility of Prof. Dr. Huseyin Uzunboylu, Near East University, Cyprus.

©2019 United World Center of Research Innovation and Publication. All rights reserved.

### Abstract

We measured the fundamental financial knowledge and the level of using basic financial offers by persons with Asperger syndrome. It was pilot study. The method of diagnostic survey was used. The questionnaire used in the study was authorship, developed on the basis of S&P Global FinLit Survey, conducted by World Bank Development Research Group and GFLEC. The purposive sampling was used for this aim. 32 persons aged 16-22 with Asperger syndrome took part in the study. The results show that respondents are able to use theoretical knowledge acquired in the process of education and know the mechanism of simple and compound interest. Unfortunately, they have a significantly lower level of knowledge than an average citizen in the field of less standard issues, and reveal problems in practical use of the mentioned knowledge. It is recommended to expand the financial education and introduction of special programs for persons with communication disorders.

**Keywords:** Asperger syndrome, financial education, financial knowledge, financial inclusion

---

\* ADDRESS FOR CORRESPONDENCE: **Zafer Guney**, Faculty of Education, Computer and Instructional Technologies Education, Istanbul Aydin University, Istanbul, Turkey. *E-mail address:* [b.fraczek@ue.katowice.pl](mailto:b.fraczek@ue.katowice.pl), Tel: +48 32257-7404

## 1. Introduction

Vocational training is an important step in one's training process and this multi-layered process prepares a person for his or her future career. Durmuşçelebi & Kuşçuran, (2018) has conducted research on cognitive awareness and critical thinking levels of students. People with disabilities should also learn cognitively in their education. This applies to disabled students (Kaya, Anay, Abali, Karasu & Girgin, 2017). A disability does not have to be an obstacle in achieving a success, in career, or happy family life. However, people with disabilities not always can count on support (Hawking, 2011; Celik Kayapinar, & Savas, 2019). Disability requires understanding, and due to its various forms, also diagnosis, what in turn can have a positive influence on a person with disability as well as the society. Recognition of a disorder can have an influence on elimination of numerous barriers and release the potential of people with disabilities. Limitations in reference to these people in any field should be regarded as unacceptable. Here, we should note that there live more than a billion people with any form of disability. This state for over 15% of the world's population [World Health Organization and World Bank, 2011]. Although these are estimations of the global population of 2010 (World Health Survey), the World Bank does not change these values when updating data [World Bank, 2018].<sup>1</sup> However, we should consider the higher frequency of occurrence of disabilities in countries of lower incomes than in those with higher incomes. Luckily, the problem of identification of barriers in disability was already noticed [World Health Organization and World Bank, 2011]. However, it is still a very and unsolved problem, and requires consideration of a type of disability, as well as fields in which a person can face limitations.

Types and grades of disabilities are defined in the literature in various ways and each classification has its justification in the scope of usability (Pongiglione, Ploubidis, and De Stavola, 2017). Researchers often point to visible and invisible disabilities (physical and hidden) (Ysasi, Becton, and Chen, 2018), and temporary and chronic disabilities (lifelong disability). Visible types of disabilities can objectively observed and measured by other people, while the invisible ones cover the whole spectrum of hidden disabilities, and their character is mainly neurological. The majority of disabilities are hidden. Executive functions (EFs) play a vital part in planning and organising everyday life, and they are directly linked to tasks like problem solving and language skills (Haering, 2018).

The target group in this study concerns young people with Asperger syndrome. Asperger syndrome is a type of hidden disability, as well as (lifelong disability).

Persons with Asperger syndrome experience numerous problems related with limitations in various fields, mainly in the labour market, in their families, and during the education.

The most serious barriers leading to the exclusion in the labour market include prejudices, stigmatisation, unequal chances, low level of education of employees, and a lack of an access to training (Toldrá and Santos, 2013). What is more, people with communication disorders (e.g. Asperger's), pay a special attention to: social problems, i.e. obstacles in communication and interpersonal interactions, forma (organisational problems) including problems in finding proper offers, preparation of an application form, CV, etc. There exist also problems with a demand for work related with meeting particular requirements of employment [Lorenz et al., 2016]. A serious barrier for efficient work of people with Asperger syndrome is energetic and noisy work places [Richards, 2012].

Disabilities, regardless their type and cause, have a significant influence on the family life and family's good state of being. A family, being a fundamental and often unpaid source of support for people with disabilities, due to a disability of one of its members is vulnerable to worsening of

---

<sup>1</sup> On the basis of other studies (Global Burden of Disease), it was estimated that the percentage of persons with any disability amounts to about 19% of the global population

material conditions, and sometimes even the poverty. Disability and difficult economic situation (including poverty) are closely related, both as a cause, as well as a consequence of each of them [Braithwaite and Mont, 2009]. Limited financial resources of families of people with disabilities are a main barrier in their functioning and the source of numerous problems [Groce et al., 2011; Jose, 2018]. Additional limitations in functioning of people with disabilities and their families include obstacles in the area of communication between parents and social workers [Woodcock and Tregaskis, 2008]

The process of education is also hindered by a disability. People with disabilities all over the world experience worse education, what results in the further negative influence on their welfare. This takes place despite many years of functioning of UN standards of integrated education concerning the rule of equal educational chances of people with disabilities in the primary, secondary and higher education levels for children youth and adults with disabilities [UNESCO, 1994].

It was stated that some barriers in this field are independent from a type of disability, while other are specific for a certain type of disability. Regardless a type of a disability, significant barriers in the process of education include financial barriers resulting from a bad financial situation (poverty) of families, barriers resulting from attitudes of parents or guardians of people with disabilities, social stigma and a lack of awareness, as well as a deficiency of teachers with proper competences for working with children with special educational needs (Achmed, 2012; Lamichhane, 2013; Sani Bozkurt, 2018). Limitations in the process of education of people with disabilities often result from features of a particular disability, such as sight or hearing defects, impaired motor skills (clumsiness), obsessive interest, lack of multitasking skills, limited concentration, and insufficient social skills. People with sight or hearing defects often face the problem of a lack of adequacy of support system in schools, while people with physical disabilities suffer mainly from difficulties related with physical barriers such as inaccessible facilities and a lack of other safe infrastructural solutions.

Limitations in the access to education are perceived as one of the most important barriers for many groups of people with disabilities, including the ones with communication disorders like Asperger syndrome.

Nowadays, a particular field of education is financial education (Badura, Kalusová, Kmeťkoc, Sedliačiková, & Vavrová, 2018). In many countries, there are conducted numerous activities within the scope of the common financial education. Its main aim is providing the society in financial knowledge or increasing its level, as well as broadening the access to basic financial offers (financial inclusion).

An increasing interest in financial education is a result of a very dynamic development of the financial market, accompanied by a low level of financial literacy of almost all social groups. Here, we have to note that a lack of fundamental financial knowledge has a negative influence on the economic situation of households. The deficiency of financial knowledge and skills hinders aware use of financial market offers and efficient management of personal finances. A lack of an access to main financial services (financial exclusion) limits the capability of building wealth and financially safe life in general (Coffinet and Jadeau, 2017). Using properly designed financial services can play a direct role in supporting persons starting their jobs, especially the youth establishing own activities that require financing, insurance or a bank account, as well as financial services such as money transfers (Sykes et al., 2016).

The problem of a too low level of financial knowledge and skills and insufficient level of using financial offers concerns many so called "sensitive groups" especially vulnerable to threats of financial welfare with further negative consequences. The literature present results of many studies focused on measuring and analysing the level of financial knowledge and skills of such sensitive groups as: households of low incomes, women, youth, and unemployed persons. People with disabilities are less often analysed in this area as a target group, and certain cases of disabilities are not studied and analysed.

A lack of fundamental financial knowledge in case of people with disabilities and their families precludes proper management over finances, including even optimal use of basic financial offers such as accounts and payments, basic forms of saving, and credits or loans. Particular cases of disabilities require individual analyses due to limited incomes in relation to a difficult situation in the labour market and additional costs related with treatment and/or therapy (Juhásová, 2015; Mitra et al., 2017).

This study complements this gap. The research aim is measuring the fundamental financial knowledge and the level of using basic financial offers (financial inclusion) by young persons with Asperger syndrome.

The studies conducted for the needs of this article concern effects of common financial education, i.e. the level of the basic financial knowledge and the level of financial inclusion. Improvement of the quality of participation in the financial market for people with Asperger syndrome requires an initial recognition of the importance of financial education and analysing the level of fundamental financial knowledge and the level of using basic financial offers in the target groups, which most often include groups threatened by negative results of not ineffectual or insufficient financial education.

## **2. Problems of people with Asperger syndrome related with (financial) education**

Modern studies conducted in the field of social and economical conditions of families with persons with Asperger syndrome fit in the modern research trend in which "disability" is an evolving concept. This means that "disability" or "impairment" is not an attribute of a person but results from "interactions between people with disabilities and barriers of attitudes and society, which can be an obstacle in a complete and efficient participation on equal rules" [World Health Organization and World Bank, 2011]. The above field of studies is aimed at achieving a progress in improving the social participation of people with disabilities through managing barriers that cause problems in everyday lives of people with disabilities.

Addressing the studies to the group of person with Asperger syndrome, we should pay attention to traits of this group that are essential from the perspective of the efficiency of the education process.

Usually, persons with Asperger syndrome have the average of over average level of IQ (intellectual norm). According to certain sources, people with Asperger syndrome are not characterised by "inability to learn, particular inability to learn" (specific learning disabilities), which is typical for many person with autism, however, they can have particular specific learning difficulties (Saraswati, 2018; Sağıroğlu & Uzunboylu, 2018). However, other sources state that Asperger syndrome is one of numerous development disorders for which it was stated that nearly all disorders of nonverbal learning are present (NLD, Nonverbal Learning Disabilities). However, it is noted that results achieved by persons with Asperger syndrome in studies in line with the NLD model can result from a high level of psycho-social and interpersonal difficulties (Ryburn, Anderson, and Wales, 2009). The literature also knows a controversial and relatively not well documented approach showing similar clinical traits of some children with high intellectual potential (HIP "competences" = complete IQ > 2 SD) and children with autism without intellectual or language delays, previously diagnosed along with Asperger's (Boschi et al., 2016).

Asperger syndrome has an influence on the way a person processes information. People with Asperger's can have difficulties in reading signals that people without disorders have no problems. In the context of financial education, the resource of knowledge can be disordered. This can have an

essential importance on acquiring knowledge in finances. Fundamental financial knowledge is often a result of interpreting basic information and signals coming from the market, and it is often intuitive.

Diagnosing potential barriers of financial education attributable to a person with Asperger syndrome should be complemented by studies in the field of effects of financial education in the form of the level of financial literacy (in the scope of financial knowledge and skills) and the level of using basic financial offers (financial inclusion).

### 3. Methods

The research aim is measuring the fundamental financial knowledge and the level of using basic financial offers (financial inclusion) by young persons with Asperger syndrome.

The following research problems were formulated:

1. What is the financial knowledge among people with Asperger Syndrome
2. What is the usage the basic financial offers (financial inclusion) among people with Asperger Syndrome .

Research is exploratory, therefore no hypotheses have been made.

The character of studies was pilot. The method of diagnostic survey was used in the conducted research. The questionnaire used in the research was authorship, developed on the basis of *S&P Global FinLit Survey*, conducted by World Bank Development Research Group and GFLEC in 2014 in 143 countries and on the basis of studies conducted by the World Bank in 2011, 2014, and 2017 in the field of financial inclusion (World Bank, 2017). The research was conducted in 2018 at the Specialised Clinic for People with Autism in Leżajsk. The purpose sampling was used (due to the character – hardly accessible group). 32 persons with Asperger syndrome took part in the study.

Participants of research were aged 16 – 22 and the sample group consisted of 26 men and 6 women (what corresponds to the rule that Asperger’s is rarer among women). In the majority, respondents live in places over 3.000 and less than 100.000 inhabitants (16 persons). Other respondents (10 persons) live in rural areas below 3.000 inhabitants, while 6 respondents live in cities over 6 thousands of citizens.

### 4. Results and Discussion

The first stage concerned the determination of the level of financial literacy.

**Table 1. The level of financial literacy in the selected fields among youth with Asperger syndrome in comparison to average Poles and minimal and maximal levels in the world**

	Percentage of persons with good answers			
	Risk diversification	Inflation	Interest/simple interest	Compound interest
Youth with Asperger syndrome in Poland	3%	22%	74%	72%
Polish society	39%	63%	60%	45%
Minimal global level (143 countries)	11%	17%	16%	22%
Maximal global level (143 countries)	78%	78%	79%	74%

Due to a lack of data concerning the level of financial literacy of youth without disorders, the results were matched with available data concerning the whole society. The results indicate a diversified level of the fundamental financial knowledge among persons with Asperger syndrome as far as particular issues are concerned. Nearly  $\frac{3}{4}$  of respondents properly answered questions concerning simple interest and compound interest (74% and 72%, respectively). Here, we should note that in Poland, the issue of simple and compound interest lies within the program frames of primary education. Answers in the area of diversification of risk and inflation were definitely worse. However, considering the age of respondents (16-22), one can expect lower levels in comparison to average citizens. It can be also noted that in the *S&P Global FinLit Survey* conducted among young people aged 15-24, 50% of respondents (young Poles) properly answered to 3 of 4 questions. In comparison, the results of young people with Asperger's look favourably. We can state that they use the potential of average and over average intelligence in relation to the knowledge acquired within formal education at school. Mastering less standard issues not considered within programs of formal education requires additional educational initiatives and activities addressed to the group of people with Asperger syndrome and, probably, other groups of persons with disabilities.

What is more, another field of studies concerned determining the level of financial inclusion, i.e. the level of using basic financial offers such as accounts, saving, and loans/credits.

**Table 2. The level of financial inclusion in the field of bank accounts, savings, and loans/credits among youth with Asperger syndrome in comparison to average Poles and minimal and maximal levels in the world**

	Percentage of persons using financial offers				
	Bank account	Any savings	Savings in financial institutions (e.g. bank)	Loans from family or friends	Loans in financial institutions (e.g. bank)
Youth with Asperger syndrome in Poland	2,0%	81,0%	0,0%	32,0%	0,0%
Polish society	77,9%	46,6%	20,8%	12,1%	18,9%
Minimal global level (143 countries)	2,0%	13,3%	0,7%	3,7%	0,4%
Maximal global level (143 countries)	100,0%	89,8%	78,4%	71,2%	45,0%

The level of social inclusion in each of analysed areas (bank accounts, savings, loans/credits offered by financial institutions) represented by the youth with Asperger syndrome is very low and corresponds to minimal global levels. However, it must be stressed that minimal levels are achieved by countries of a lower income per capita, while, according to the classification by the World Bank, Poland is one of countries of high incomes (GDP per capita) [World Bank, 2018]. It is also worth to stress that the most of Polish banks offers bank accounts for children and youth, while some institutions even offer attractive additional services for young customers. Nowadays, it is possible to have bank accounts for youth aged 13-18, and in some cases, even for children aged below 13. As a result, 63,7% of young Poles aged 15-24 had an account in financial institutions in 2014 [World Bank, 2015].

A low percentage of respondents using basic financial offers is a sign of a lack of their financial independence. The result is not in line with relatively satisfactory results in the field of financial education. The discrepancy is a result of deficiencies in the social functioning resulting from a disorder (Asperger syndrome). It can also be a result of overprotectiveness of parents and guardians of children with disorders. The causes should be analysed more precisely.

## 5. Conclusions and Recommendations

The conducted studies revealed the potential of young people with Asperger syndrome in the scope of learning using the example of financial education.

- Young people with Asperger's can use knowledge acquired in the process of formal education at school and know the mechanism of simple and compound interest.

- Young people with Asperger syndrome have a significantly lower level of knowledge than an average citizen in the field of less standard and not considering within formal program frames financial categories (e.g. risk diversification), which are more obvious for average financial consumers (often intuitive). It is an essential argument for preparing special educational activities and initiatives in the area of finances dedicated to groups of particular disorders.

- Youth with Asperger syndrome significantly less than persons without disorders (peers and older persons) use basic financial offers. The level of using bank accounts, saving instruments and loans/credits offered by financial institutions by persons with Asperger's is negligible. Further studies in the scope of analysing detailed reasons of this situation should be conducted.

Due to the role of financial knowledge and the access and using financial offers in managing personal finances, it is worth to conduct studies enabling measuring the level of financial knowledge and helping in using basic financial offers in other sensible groups, including groups of various types of disabilities. It is recommended to expand the financial education and introduction of special programs for persons with development disorders.

## References

- Ahmad, W. (2012). Barriers of Inclusive Education for Children with Intellectual Disability. *Indian Streams Reserach Journal*, 2(1): 1-4.
- Badura, P., Kalusová, L., Kmeťkoc, M., Sedliačiková, M., & Vavrová, K. (2018). Precious metals market in the new millennium. *Global Journal of Business, Economics and Management: Current Issues*, 8(2), 61-66. <https://doi.org/10.18844/gjbem.v8i2.3503>
- Boschi, A., Planche, P., Hemimou, Ch., Demily, C., Vaivre-Douret L. (2016). From High Intellectual Potential to Asperger Syndrome: Evidence for Differences and a Fundamental Overlap—A Systematic Review, *Frontiers in Psychology*, 7: 1605.
- Braithwaite, J., Mont, D. (2009). Disability and poverty: A survey of World Bank Poverty Assessments and implications, *ALTER, European Journal of Disability Research* 3(3): 219-232.
- Celik Kayapinar, F., & Savas, B. (2019). Determining elementary teacher candidates cognitive structure on the concept of 'disabled people' through the drawing technique. *New Trends and Issues Proceedings on Humanities and Social Sciences*, 6(1), 78-84. <https://doi.org/10.18844/prosoc.v6i1.4157>
- Coffinet, J., Jadeau, Ch. (2017). Household financial exclusion in the Eurozone: the contribution of the Household Finance and Consumption survey. bank of International Settlements. IFC-National Bank of Belgium Workshop on "Data needs and Statistics compilation for macroprudential analysis". Brussels, Belgium, 18-19 May.
- Durmuşçelebi, M., & Kuşçuçuran, B. (2018). Students' Cognitive Awareness and Investigation of Critical Thinking Levels. *International Journal of Innovative Research in Education*, 5(4), 129-144. <https://doi.org/10.18844/ijire.v5i4.3975>
- Ebuenyi, D., Syurina, E.V., Bunders J.F.G., Regeer, B.J. (2018) Barriers to and facilitators of employment for people with psychiatric disabilities in Africa: a scoping review, *Global Health Action*, 11:1.
- Groce, N., Kembhavi, G., Wirz, Sh., Lang, R., Trani, J.F., and Kett, M. (2011). Poverty and Disability A critical review of the literature in low and middle-income countries. Working Paper Series: No. 16. Leonard Cheshire Disability and Inclusive Development Centre.

- Fraczek, Z. & Gagat Matula, A. (2019). Financial education and financial knowledge and its usage among Asperger syndrome people. *Cypriot Journal of Educational Science*. 14(4), 742-749. <https://doi.org/10.18844/cjes.v14i4.3936>
- Haering, S. (2018). Are music-based interventions a way to improve executive function in autism?. *International Journal of Learning and Teaching*, 10(1), 27-37. <https://doi.org/10.18844/ijlt.v10i1.3143>
- Hawking, S.W. (2011). World Report On Disability, World Health Organization and World Bank, Foreword.
- Jose, E. (2018). Stressors and coping mechanisms of older adults teaching in higher education institutions in Manila. *New Trends and Issues Proceedings on Humanities and Social Sciences*, 5(3), 36-58. <https://doi.org/10.18844/prosoc.v5i3.3909>
- Juhássová, A. (2015). Comparison of Quality of Life of Families with Children with Disability and Families with Children without Disability. *Procedia - Social and Behavioral Sciences* 174: 3378-3384.
- Kaya, Z., Anay, M., Abali, G., Karasu, G., & Girgin, C. (2017). Acquaintance with profession: Using internship as a tool for. *Contemporary Educational Researches Journal*, 7(3), 134-143. <https://doi.org/10.18844/cej.v7i3.2649>
- Lamichhane, K. (2013). Disability and barriers to education: evidence from Nepal. *Scandinavian Journal of Disability Research* 15(4): 311-324.
- Lorenz, T., Frischling, C., Cuadros, R., and Heinitz, K. (2016). Autism and Overcoming Job Barriers: Comparing Job-Related Barriers and Possible Solutions in and outside of Autism-Specific Employment. *PLoS One*.;11(1). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4713226/>
- Mitra, S., Palmer, M., Kim, H., Mont, D., and Groce N. (2017). Extra costs of living with a disability: A review and agenda for research. *Disability and Health Journal* 10(4):475-484.
- Pongiglione, B., Ploubidis, G.B., and De Stavola, B.L. (2017). Levels of disability in the older population of England: Comparing binary and ordinal classifications. *Disability and Health Journal* 10: 509-517.
- Richards, J. (2012). "Examining the Exclusion of Employees with Asperger Syndrome from the Workplace." *Personnel Review* 41(5): 630-646.
- Ryburn, B., Anderson, V., Wales, R. (2009). Asperger syndrome: how does it relate to non-verbal learning disability? *Journal of Neuropsychology* 3(Pt 1):107-23.
- Sağiroğlu, N., & Uzunboylu, H. (2018). Analysis of the published articles related to autism in Turkey: A model proposal for students. *Journal of Education and Special Education Technology*, 4(1), 14-23. <https://doi.org/10.18844/jeset.v4i1.4105>
- Sani Bozkurt, S. (2018). Identifying network structure, influencers and social mood in digital spheres: A sentiment and content analysis of down syndrome awareness. *World Journal on Educational Technology: Current Issues*, 10(1), 10-19. <https://doi.org/10.18844/wjet.v10i1.3326>
- Sykes, J., Elder, S., Gurbuzer, Y., Principi, M. (2016). Exploring the linkages between youth financial inclusion and job creation. *specialational Labour Office*. - Geneva: ILO, Work4Youth publication series No. 42.
- Toldrá, R.C., Santos, M.C. (2013). People with disabilities in the labor market: Facilitators and barriers, *Work* 45(4): 553-563.
- UNESCO (1994). The Salamanca Statement and Framework for Action on Special Needs Education, the World Conference on Special Needs Education, Salamanca, Spain, 7-10 June.
- Website of World Bank (2018). <https://www.worldbank.org/en/topic/disability>
- Woodcock, J., and Tregaskis, C. (2008). Understanding Structural and Communication Barriers to Ordinary Family Life for Families with Disabled Children: A Combined Social Work and Social Model of Disability Analysis. *The British Journal of Social Work* 38(1): 55-71.
- World Bank (2015). Little Book on Financial Inclusion.
- World Health Organization and World Bank, (2011). World Report On Disability. World Health Organization, World Bank.
- World Report On Disability, World Health Organization (2011) and World Bank, Foreword.
- Ysasi, N.A., Becton, A.B., Chen, R.K.(2018). Stigmatizing Effects of Visible Versus Invisible Disabilities, *Journal of Disability Studies* 4(1): 22-29.