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Corresponding author: Elgiz Yilmaz Altuntas, Department of Communications, Galatasaray Universitesi, Ciragan Cad. No:36, Besiktas 34349, Turkey
Email: elgiz.e@gmail.com

Reviewing editor:
Guangchao Charles Feng, College of Communication, Shenzhen University, Shenzhen, China

Additional information is available at the end of the article

MEDIA & COMMUNICATION STUDIES | RESEARCH ARTICLE

Social determinants of autism spectrum disorder in the print media news: A qualitative framing analysis of coverage in national newspapers in Turkey

Elgiz Yilmaz Altuntas¹ and Seray Öney Doğanyigit²

Abstract: Autism spectrum disorder (ASD) is a prevalent condition that affects the lives of individuals around the world. Despite its medical and social significance, little research has been done on the living conditions of individuals diagnosed with autism in Turkey, the challenges that they and their families experience in social life. To fill this gap in the literature, this study examines how the mainstream Turkish print media cover and frame autism-related stories, through a qualitative framing analysis of 541 news reports published in widely circulated national newspapers in Turkey. Key findings include that autism is positively represented in the news media as a social fact by the support of the society and non-governmental organizations. In terms of source frame, journalists constitute the most frequently cited source in the news reports under review. We have noted that the autism-related news stories often feature nutrition and genetic/congenital factors as causes of autism. This study highlights the impact that media representations of autism have on people's understanding of this disorder and its social implications.

Subjects: Mass Communication; Communication Research Methods; Health Communication



Elgiz Yilmaz Altuntas

ABOUT THE AUTHOR

Elgiz Yilmaz Altuntas is graduated from Galatasaray University/Department of Communication in 2002. She has her Ph.D Degree of Organizational Communication Program in the field of Communication Sciences at Université Bordeaux Montaigne in France, in 2007. Her Ph.D thesis was about the interpersonal relationship between health practitioners.

She is Associate Professor at Galatasaray University/ Faculty of Communication. She is also, Head of Interpersonal Communication Department. Her research areas are; interpersonal communication and health communication. She took part in the academic advisory board of the General Directorate of Health Promotion under the Ministry of Health of Republic of Turkey for 2 years. She presented many articles about different public relations and communication subjects. She published a book entitled "Physician-Patient Relationship" and "Digital Transformation in Health Sector".

PUBLIC INTEREST STATEMENT

There has been a steady increase in the reported incidence of the autism spectrum disorder in Turkey. The increasing prevalence of the disorder among Turkish children makes it extremely important to address issues of public awareness about autism and the condition and needs of people with the disorder. The media play a significant role in raising public awareness about the disorder and may help to improve services for individuals diagnosed with autism. It is against this background that we have examined all autism-related news, stories and information in the most widely circulated national newspapers published in Turkey between March 2018 and May 2019. The aim of this paper is to show how autism and autism-related issues are represented in mainstream Turkish printed media and how media coverages treat the problems and needs of individuals with this disorder and their families. Finally, appropriate recommendations have been put forward in the paper.

Keywords: word; framing; valenced framing; autism spectrum disorder; media use; content analysis; newspapers; portrayal; health literacy

1. Introduction

The media should consider information as a means to contribute to the wellbeing and development of society and individuals. By informing the public on health-related issues, media professionals who create news stories about these issues can contribute to the preservation and protection of the fundamental human right defined in the WHO's constitution and enable people to have access to information about health conditions, risks and resources. Just like health-care workers, those who create news reports about health issues and health care (i.e. medical reporters/journalists) must adhere to the principle of "do no harm." Therefore, medical journalism is a field that requires a high level of carefulness and responsibility. In addition, the way and the tone in which news stories, especially the ones related to health issues, are reported is significant.

The United States Centers for Disease Control and Prevention (CDC) defines autism spectrum disorder (ASD) as "a developmental disability that can cause significant social, communication and behavioral challenges" (Centers for Disease Control and Prevention, 2020). Likewise, according to Mayo Clinic, autism "is a condition related to brain development that impacts how a person perceives and socializes with others, causing problems in social interaction and communication" (Clinic et al., 2020). According to the CDC, new findings show a higher prevalence of autism than previous estimations: "the ADDM Network show that an estimated 1 in 54 8-year-old children were identified with ASD in 2016, based on tracking in 11 communities across the United States" (Centers for Disease Control and Prevention, 2019). Özgür et al. (2019, p. 765) say "Possible reasons for this increase in frequency have included changes in the ASD diagnosis criteria, expansion of the scope of the spectrum, subjects diagnosed with retardation can now be diagnosed with ASD, an increase in the awareness of society and health workers about ASD, and patients being able to reach health institutions in an easier manner". Similarly, Fombonne (2005, p. 284) says (cited in Kadak and Meral, 2019) ASD risk factors play an important role in increasing the prevalence of autism. However, a number of other factors are associated with increasing prevalence, including increased social awareness about autism (hence, increased reports), easier access of people with autism to health services, geographic variation in ASD cases, inclusion of mild cases without mental disabilities in the diagnosis of autism and diagnosis at early age.

There is a limited number of reliable statistical accounts available on autism and individuals diagnosed with this disorder in Turkey. Based on ODFED, 2013, p. 374) data "it is estimated that 700.000 autistic individuals live in Turkey". According to the figures provided by the Ministry of National Education, in 2018, 298,523 of 393,829 children (at the age of formal training) who need special education attend regular schools as part of inclusion/integration efforts. In the same year, the number of autistic children who attend preschool is 1,224 (MEB, 2018, p. 98). In 2016, the Turkish Ministry of Family and Social Policies created a plan called "National Action Plan for People with Autism Spectrum Disorders". The plan, announced in the Official Gazette on December 3, 2016, states: "It aims to raise public awareness among all sectors of society regarding ASDs and to strengthen cooperation between institutions with a view to ensuring the continuity of health, education and support services for people with ASD" (National Action Plan for People with Autism Spectrum Disorders, 2016). Using the power of the media is important to raise public awareness about autism and to inform the public of government policies and services for individuals diagnosed with this disorder.

The findings of a large number of studies suggest that the most effective method of treatment for autism spectrum disorders is early behavioral intervention. For this reason, it is important to combine various methods of treatment with intensive and uninterrupted special training. One of the most basic benefits brought by special education is that it helps to develop social communication skills in individuals diagnosed with autism. Research shows that education-based

practices also help to reduce obsessive behavior among autistic children. According to the findings of a survey conducted with 1270 individuals in 2019 by Tohum Autism Foundation, the most well-known Turkish non-governmental organization operating in the field of autism, the rate of the participants who have heard of a disorder/disease called “autism spectrum disorder” is 83%. The survey shows that 44 percent of the participants said that they recognize the symptoms of autism. While 45 percent are unsure whether autism can be treated or not, 34 percent respondents said that the disorder cannot be cured, and 21% stated that it can (Türkiye’deki bireylerin Otizm algısı ve Bilgi Düzeyi Araştırması III, 2019).

It is important to note that the more properly the responsibilities and challenging conditions of autistic individuals and their families are represented in media, the more aware society becomes about autism. As Huws and Jones (2011, p. 100) point out, mass communication means such as television, radio, newspapers and the internet play an important role “in mediating people’s attitudes and beliefs towards people with disability or those diagnosed as having mental health conditions”. Numerous studies have examined news media coverage of physical and mental disabilities and disorders in various parts of the world (see (Bie & Tang, 2014; Huws & Jones, 2011; Jones & Harwood, 2009; Kang, 2012; McKeever, 2012). In his study of representations of autism in US women’s magazines, Clarke (2012, p. 191) has found that autism is covered either as a scientific problem or as a family story. Huws and Jones (2011, p. 102) note that although some British newspaper accounts portray autism in a positive way, they usually frame it as a disorder of childhood and represent people diagnosed with autism as “victims” of the condition. In their analysis of Australian print media coverages of autism, Jones and Harwood (2009, p. 15) argue that news accounts represent people—particularly children—labeled with autism in a dual way: either as “uncontrollable, aggressive, and even violent, individuals who cause great stress to their families and carers or unhappy and often unloved and poorly treated (both by the system and by their own families)”.

These studies provide valuable insights into contemporary media portrayals of autism and autistic individuals, in addition to revealing a systematic underrepresentation of autistic people in media. Yet since they focus particularly on western countries (i.e. western Europe, North America, and Australia), there is a gap in the literature regarding how media treat autism-related issues in non-western contexts.

This study aims to examine Turkish printed media coverage of autism from the framing perspective. Particularly, this article underlines the potential benefits of understanding news framing in terms of issues, sources, causes and solutions and seeks to provide insights into how positive and negative framing in news stories can shape the general public’s understanding and treatment of autism-related issues in Turkey.

In the following section, we will briefly review news framing before providing a contextual background for valenced frames in news stories. Then, we shall discuss our research questions and introduce our methodology and results.

1.1. News framing

One of the ways of constructing meanings in news content is to frame the reported event or phenomenon in a certain way. The late anthropologist Bateson (1981, p. 191) has defined a psychological frame as “a spatial and temporal bounding of a set of interactive messages”. Later, Erving Goffman employed the concept of frame in sociology, referring to frames as “schemata of interpretation” (as cited in Hallahan, 1999, p. 211). According to Entman (1993, p. 52), the act of framing essentially involves “selection” and “salience,” in that it is “to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described”. He says that frames “define problems,” “diagnose causes,” “make moral judgements,” and “suggest remedies” in a media narrative (Entman, *ibid*).

Lastly, Richardson and Lancendorfer (2004, p. 75) underlines two important functions of news frames: (1) They reflect the general public discourse on a certain issue; (2) they can influence public opinion.

1.2. Autism related media framing

Media framing of autism can be examined in terms of issues, information sources, causes, solutions, and valence. In this study, we seek to identify patterns in how issues are framed across sources cited, risk factors, causes, potential solutions, policies and the tone of media coverage.

1.2.1. Issue framing

Issue framing refers to the topics under which coverage of a specific health condition is presented (Kang, 2012); how the public understands the topic and make decisions about it (Scheufele, 1999, p. 119). Consequently, people can perceive the same issue differently and emphasize different aspects of an issue in expressing their views. So researches point out that how a health issue is covered can shape audience perceptions (Wagner et al. 1999). In this view, this leads to research question 1

As an easily accessible source of information for the general public, printed newspapers reflect how autism is currently discussed as an important issue and provide information on its current state.

Thus, the first hypothesis is as follows:

H1: The newspapers as a mass media channel pay more attention to autism at the social level, positively. And this leads to research question 1 (RQ1):

RQ 1: What are the main issues covered about autism in Turkish newspapers?

1.2.2. Source framing

News media frames emerge as journalists emphasize elite sources such as opinion leaders (Durham, 2007; Jha, 2007; Jodelet, 1991). News reports about health issues often rely on medical doctors and researchers (Logan, 1991, p. 45). Stempel and Culbertson (1984, p. 671) analyzed news sources of health information in newspapers and found that physicians, healthcare professionals, and hospital administrators were the main news sources. The predominance given to any sources one-sided may hamper the audience's fair judgment. The media can frame a topic by giving voices to certain sources and silencing others (Bie & Tang, 2014). As such, the second hypothesis is as follows:

H2: The nature of sources used, source reliance and the selection of priorities are influenced by newspapers' political leanings both in positive and negative ways. And hence we ask RQ2:

RQ 2: What are the major sources cited and/or quoted in Turkish newspapers' reports and news stories about autism?

1.2.3. Causes framing

Autism may, alternatively, be regarded as a syndrome, a constellation of phenotypes, sets of which tend to be found together relatively often, or sets of which when found together cause particular problems for children, families, and communities (Happé et al., 2006, p. 1218). Any diagnoses of autism should be regarded not as any sort of endpoint, but as a rough, initial signpost toward eventual determination of the genetic, developmental, hormonal, neurological, psychological, and/or environmental causes of each individual's altered autism-related cognition, affect and behavior

(Crespi, 2016). Predominance of a specific cause might have resulted in increased stereotype and stigma on individuals, so understanding the exact cause of autism is important in order to tell the audience. Thus, the third hypothesis is as follows:

H3: The newspapers as a mass media pay more attention to unclear/complex and congenital causes for autism so that the media can bring attention about autism at the health literacy level, positively. And hence we ask the next RQ:

RQ 3: How do the Turkish newspapers frame the causes of autism?

1.2.4. *Solutions framing*

Solution framing is another essential component of the framing process through which the media assign responsibility to different parties or individuals for dealing with a certain condition (Entman, 1993). Previous studies show that newspapers may speak of future expectations and treatment models in positive or negative ways. Solution framing is another component of the framing which tell the public who should be responsible to take care of people with autism.

H4: The newspapers as a mass media pay more attention to institutional and alternative treatment models for autism than to medical interventions so that the media can bring attention about autism at the socio-cultural level. And also, this leads to the next RQ:

RQ 4: How do the Turkish newspapers frame the solutions of autism?

1.2.5. *Valenced framing in news discourses (with positive and negative values in news stories)*

Framing health-related topics as positive and negative discourse, both the media can educate the public about the condition or perpetuate the stigma and stereotypes associated with it (Draaisma, 2009, p. 1477). For Entman (1993), frames have inherent valence by nature as they contain a “moral evaluation” as one of their defining characteristics. Schuck and De Vreese (2006, p. 9) has found that valenced frames are often present in health communication and are often conceptualized within health communication as “gains” versus “losses” or “benefits” versus “costs.” The latter researchers explain that positive action (goal) framing involves focusing attention on obtaining a positive consequence (gain), whereas the negative frame focuses attention on avoiding the negative consequence (loss) resulting from not taking a particular action. Coding negative and positive values in news stories aims to measure the tone of news coverage toward a particular person or topic (Center, 2020). Based on this view this study leads to the last hypothesis:

H5: There is a relationship between the tone of discourses of news about autism regarding the valenced framing style of the newspapers. Hence, the last research question is as follows:

RQ 5: How is the overall tone of issues, sources, causes and solutions coverage towards autism-related news in Turkish print media?

2. Materials and methods

2.1. *Data collection*

A quantitative and qualitative content analysis of news frames used in Turkey-based newspapers (21 national newspapers and in their 24 supplements) from March 2018 to May 2019 were conducted in this study. This time period was selected through a simple random sampling method and represents a routine sample of autism-related news. A well-known media monitoring company in Turkey, *Interpress*, gathered news data with keywords “otizm” (autism) and “otistik”

(autistic). The search produced 541 total newspaper articles. We excluded duplicate reports and irrelevant stories such as advertisements, TV guides, and corrections to former news reports.

To address the RQs listed above, we have analyzed media coverages of autism in the following twenty-two Turkish national newspapers: *Akşam*, *Birgün*, *Cumhuriyet*, *Dünya*, *Fanatik*, *Fotomaç*, *Güneş*, *Habertürk*, *Hürriyet*, *Korkusuz*, *Milli Gazete*, *Milliyet*, *Ortadoğu*, *Posta*, *Sabah*, *Sözcü*, *Star*, *Takvim*, *Türkiye*, *Vatan*, *Yeni Akit* and *Yeni Şafak*. The total circulation of these daily newspapers is reported 2.689.971 (<http://gazetetirajlari.com/HaftalikTirajlar.aspx>, accessed on 4 March 2019). We have selected these newspapers because they are all influential nationwide and regarded as agenda-setters.

2.2. Codebook development

The unit of the analysis was autism spectrum disorder-related articles on the selected newspapers. Thematic analysis, a qualitative data analysis technique (Green & Thorogood, 2015, p. 209), was implemented, establishing in codes, and categories according to Saldana (2009). Primarily, the basic demographic information of each article was coded, including the identification (ID), date of publication, type of newspaper (newspaper or supplement) and newspaper in which it appeared.

2.2.1. Issues

Consistent with the objectives of this research, first, each selected newspaper's article was categorized in issues containing disease information. Second, to examine the issues of these news stories a 13 item coding scheme was developed based on the topic categories in existing studies (Bie & Tang, 2014; Jones & Harwood, 2009; Kang, 2012). Each story was coded as addressing one of these following 13 topics: 1) celebrity (story of a celebrity who has an autistic family member or acts for autistic people), 2) family story (story of a family with an autistic person), 3) NGO (fund-raising, donation, and community-based volunteering events for autistic individuals, seminars), 4) government (policy of government, legal arrangements about autistic people and their rights), 5) criminal cases and news story (e.g., autistic people as the perpetrator or victim of a crime), 6) impact on families (Divorce or physiological problems as depression about families), 7) education (the availability or unavailability of infrastructure and educational/intervention resources for autistic people, such as intervention facilities, special education schools, special education programs in regular schools), 8) personal story (successful or unsuccessful stories of an autistic person), 9) community support (individuals or organizations within the community who provided support for people with autism), 10) medical diagnosis (including both articles introducing scientific advancements in autism-related research, 11) miscellaneous (i.e. erroneous use of the term autism to refer to introverted personalities or unsocial behaviors), 12) art and cultural activities (art, films, and fiction about autism or cultural/artistic/athletic achievements of autistic people), 13) Other (advertising, incidental references etc.) and 14) no discussion of issues. (R3)

2.2.2. Sources

The next coding category was developed based on Kang (2012), McKeever (2012, p. 218) and Bie and Tang (2014) to explore the sources cited in the news coverage of autism: Each article was coded based on whether it cited any of the following sources: 1) autistic people, 2) family members, 3) academic sources (e.g., psychologists, epidemiologists, or neurologists), 4) physicians, 5) celebrities, 6) journalists, 7) professionals (corporate providers), 8) NGO (e.g., member of nonprofit organizations, sponsors, donors, or volunteers), 9) government officials and, 10) no source cited.

2.2.3. Causes

Each article was coded based on whether it mentioned any of the following eight causes of autism (Szatmari, 2003, p. 173; McKeever, 2012, p. 218): 1) genetic, congenital; 2) maternal risks (e.g., unsafe drug use during pregnancy, birth delivery); 3) unclear/complex (symptomatic restrictive obsessive behaviors as late diagnosis); 4) the environmental causes (e.g., pollution); 5) vaccination (i.e., the link between the Measles, Mumps, and Rubella (MMR) Vaccine); 6) causes of an another

illness (e.g., digesting problems, Lyme illness), 7) nutrition 8) other risks (e.g., excessive use of TV and digital pads, BPA pigment and, 9) no discussion of causes.

Solutions. Each article was coded for the types of solutions discussed in existing studies (Hua & Yang, 2013, p. 151; McKeever, 2012, p. 219; Bie & Tang, 2014): 1) spiritual-religious interventions; 2) policy-based interventions; 3) technological interventions; 4) institutional interventions; 5) alternative interventions (e.g., an aquarium that offers dolphin therapy to autistic children or a charity organization that uses music therapy to treat children with autism, therapy with horses to relax autistic children and any other artistic interventions); 6) family-based interventions (e.g., training of autistic children at home by parents); 7) medical treatment (e.g., treating autistic individuals with medications to intervene via early diagnosis); 8) prevention (e.g., avoiding alcohol and chemicals during pregnancy); 9) nutrition and, 10) no discussion of solutions.

Finally, discourses of the news are coded as positive negative, both positive and negative and neither positive nor negative in four categories.

2.3. Coding and intercoder reliability

After two rounds of training, the first author coded all the articles in the sample ($n = 541$) and the second author coded a randomly selected 20% of the articles ($n = 108$). Cohen's kappa was calculated to assess intercoder reliability for each coding category: issue ($\kappa = .91$), sources cited ($\kappa = .94$), cause ($\kappa = .92$), solution ($\kappa = .93$) and discourse ($\kappa = 1.00$).

3. Results

The sample included 541 news articles published in 46 different Turkish newspapers in the period of July 2018 and July 2019. 80% of these news articles (428) appear in the newspaper own and 20% of them (113) are in newspaper supplements.

Based on the results presented, the answers to RQ1, RQ2, RQ3, RQ4 and, RQ5 are as follows:

RQ1 sought to understand issue framing in Turkish newspapers' coverage of autism. The four most cited topics were (1) community support (individuals-organizations) ($n = 100$, 18,48%), (2) NGO (funding, donation, awareness, seminars) ($n = 63$, 12%), (3) medical diagnosis ($n = 59$, 11%) and (4) art & cultural activities ($n = 58$, 11%).

RQ2 examined the sources used by Turkish newspapers in covering autism. Journalists were the most quoted source with 154 news (32 %). Celebrities represented the second most cited source with 90 news (19%). Physicians were the third most prominent source, quoted in 12% of stories ($n = 54$).

RQ3 explored how Turkish newspapers framed the causes of autism. We found that causes weren't framed in 71,95 % of all news. Indeed, unclear and complex behaviors (no eye contact, fear of voice, immobility, introverted e.g.) of the disease are reported mostly ($n = 43$, 28%). Nutrition ($n = 28$, 18%) and genetic and, also congenital factors ($n = 23$, 15%) follow it, respectively.

To answer RQ4, we examined the solutions discussed in autism-related news stories and found that they were seldom discussed, not appearing in 57% of total news. Institutional interventions were the most prominent solution mentioned ($n = 58$, 25%), followed by alternative interventions ($n = 54$, 23%), and policy-based interventions ($n = 38$, 16%). (Table 1) represented all stories under the four themes in detail.

Chi-square test of independence was performed to check the relation between discourses of the news and political views/leanings of newspapers. The relation between these variables was significant, so H_5 was accepted. ($X^2 = 38.29$, $p = .02$, $Cramer V = 0.188$). Negative discourses are

Table 1. Distribution of stories under the themes

Issues	Number of News	Percentage
Community Support (individuals, organisations)	100	18.48%
NGO (funding, donation, awareness, seminars)	63	11.65%
Medical diagnosis	59	10.91%
Art & Cultural activities	58	10.72%
Government	48	8.87%
No discussion of issues	48	8.87%
Family story	40	7.39%
Personal story	30	5.55%
Celebrity	30	5.55%
Education (sport and all facility)	29	5.36%
Criminal cases/news stories	19	3.51%
Misuse (Miscellaneous)	8	1.48%
Other	8	1.48%
Impact on families (Divorcing- psychological)	1	0.18%
Sources	Number of News	Percentage
Journalists	154	28.47%
Celebrity	90	16.64%
No Source Cited	73	13.49%
Physicians	54	9.98%
Government officials	46	8.50%
Professionals (healthcare professionals and hospital administrators)	36	6.65%
NGO (Member of Board or representatives)	31	5.73%
Autistic people	29	5.36%
Family members	21	3.88%
Academician	7	1.29%
Causes	Number of News	Percentage
No discussion of causes	389	71.90%
Unclear and complex behaviors	43	7.95%
Nutrition (probiotics)	28	5.18%
Genetic/congenital	23	4.25%
Other Medical Risks (pollution, TV screens, medicine, lack of vitamin etc)	20	3.70%
Vaccination (MMR)	16	2.96%
Causes of an another illness	13	2.40%
Environmental causes	6	1.11%
Maternal risks	3	0.55%
Solutions	Number of News	Percentage
No discussion of solutions	309	57.12%
Institutional interventions	58	10.72%
Alternative interventions	54	9.98%
Policy based interventions	38	7.02%
Nutrition	23	4.25%
Family based interventions	17	3.14%
Technological interventions	14	2.59%
Medical treatment (early diagnosis)	13	2.40%
Prevention (preventive treatment)	13	2.40%
Spiritual-religious interventions	2	0.37%

mostly published in left-view newspapers, whereas news reports with positive tones are published in right-view newspapers.

To test the other hypotheses proposed in this study, follow-up analysis of Chi-square was conducted (see Table 2). The results in Table 2 indicated that there is a significant relationship between issues and the types of discourse used in autism news ($p = 0.000$, Pearson Chi-Square 369.436, Cramer V = 0.477). H1 was accepted in this research as social news reports about autism in the newspapers under review mostly contain positive discourses. Obviously, RQ5 searched for the overall tone of issues, sources, causes, and solution coverage towards autism-related news in Turkish print media and found that the top three most prominent issues in autism-related Turkish print media are covered positively such as 1) community support (92%); 2) NGO (93.7%); and 3) art & cultural activities (89.7%) while 1) criminal cases (68.4%) and 2) medical diagnosis (47.5%) are covered negatively. In positively framed news stories covering community support, non-governmental organizations, artistic and sport activities, autism is linked to actions taken to raise awareness throughout society, including at the family level, in cooperation with public-civil society organization.

Similarly, H2 was supported since our findings indicate that the news coverages of autism have positive or negative discourses depending on the type of sources ($p = 0.000$, Pearson Chi-Square 166.714, Cramer V = 0.320). In addition to this, sources of the news are related to the political views/leanings of the newspapers ($p = 0.004$, Pearson Chi-square = 38.29, Cramer V = 0.188). Right-leaning newspapers use autistic people (37.9%), health-care professionals and hospital administrators (27.8%), government officials (30.4%) as sources significantly more than left-leaning newspapers.

H3 and H4 were also accepted because our research has revealed that the media coverages frame the symptoms and complex causes of autism in a positive language in an effort to increase health literacy among society ($p = 0.000$, Pearson Chi-Square 226.545, Cramer V = 0.374), and that they highlight the solution methods emphasizing the fact that autism is preventable and reversible ($p = 0.000$, Pearson Chi-Square 83.333, Cramer V = 0.227).

4. Discussion

One of the central conclusions we have drawn from our research is that autism is framed in Turkish print media as a developmental disorder rather than a medical disease. Additionally, the autism-related news coverages under investigation do not stigmatize individuals diagnosed with the disorder. Almost half of the news reports on autism do not mention medical solutions of the disorder. Rather, they give weight to the importance of art, early education, sportive activities, and the use of probiotic supplementation for the treatment of autism. In particular, they emphasize that socialisation and inclusion are the most effective methods for overcoming the problems that autistic individual experience.

In what follows, we discuss how the following four aspects are framed in the relevant newspaper reports: issues, sources, causes and solutions (see “Table 2. Distribution of discourse framing with positive and negative values in news stories” in supplementary materials files).

4.1. Issues framing

The top three most prominent topics in autism-related Turkish print media coverages are as follows: 1) community support ($n = 82$); 2) NGO ($n = 71$); and 3) art & cultural activities ($n = 70$). The discourse of the vast majority of the news stories framed within the context of these three topics is positive. Our findings show that the most prominent topic in news coverages of autism is community support (that is, professional institutions and organizations) and 92% of the news stories in this category are framed in a positive way. The second most prominent topic is NGO and 93.7% of the autism-related news coverages in this category are positively framed. “Tohum Autism Foundation” appears as the most prominent NGO in the relevant news coverages we have

Table 2. Crosstab of sources and political view

			Politic View			Total
			Left	Right	N/A	
Sources	Autistic People	Count	3	11	15	29
		% within sources	10.3%	37.9%	51.7%	100.0%
		% within LR	3.7%	9.1%	4.4%	5.4%
	Family Members	Count	5	4	12	21
		% within sources	23.8%	19.0%	57.1%	100.0%
		% within LR	6.2%	3.3%	3.5%	3.9%
	Academician	Count	2	2	3	7
		% within sources	28.6%	28.6%	42.9%	100.0%
		% within LR	2.5%	1.7%	0.9%	1.3%
	Physicians	Count	6	5	43	54
		% within sources	11.1%	9.3%	79.6%	100.0%
		% within LR	7.4%	4.1%	12.7%	10.0%
	PR Release	Count	7	13	70	90
		% within sources	7.8%	14.4%	77.8%	100.0%
		% within LR	8.6%	10.7%	20.6%	16.6%
	Journalists	Count	26	33	95	154
		% within sources	16.9%	21.4%	61.7%	100.0%
		% within LR	32.1%	27.3%	28.0%	28.5%
	Professionals (healthcare professionals and hospital adm.)	Count	5	10	21	36
		% within sources	13.9%	27.8%	58.3%	100.0%
		% within LR	6.2%	8.3%	6.2%	6.7%
	NGO (Member of Board or representatives)	Count	10	10	11	31
		% within sources	32.3%	32.3%	35.5%	100.0%
		% within LR	12.3%	8.3%	3.2%	5.7%
	Government officials	Count	8	14	24	46
		% within sources	17.4%	30.4%	52.2%	100.0%
		% within LR	9.9%	11.6%	7.1%	8.5%
No Source cited	Count	9	19	45	73	
	% within sources	12.3%	26.0%	61.6%	100.0%	
	% within LR	11.1%	15.7%	13.3%	13.5%	
Total	Count	81	121	339	541	
	% within sources	15.0%	22.4%	62.7%	100.0%	
	% within LR	100.0%	100.0%	100.0%	100.0%	

analyzed during our research. The following news report is an example of the government-NGO collaboration in creating civil society awareness about autism in Turkey:

“As part of the project “Road to Education” (Eğitime Uzanan Yol) carried out by Tohum Autism Foundation in collaboration with the Ministry of National Education and supported by TANAP Social and Environmental Investment Programme (Sosyal ve Çevresel Yatırım Programları), seminars are held for public awareness about autism in twenty provinces. Tomorrow, the foundation will organize a seminar on family and awareness in Gümüşhane. As part of this project, training workshops are arranged for teachers and parents, while public awareness seminars are intended to raise the awareness of the local community. The project aims to provide educational materials and equipment for sixty special classes in twenty provinces. (Sabah, 25.5.2018)

And the following is an excerpt from an interview with Betül Selcen Özer, the General Manager of the Tohum Autism Foundation, published in a daily newspaper's supplement:

“... it is very important for us to create awareness [about autism] among society. Autism is a difference. Some different characteristics we all have are more distinct in autistic individuals. Thanks to early diagnosis and treatment, many autistic children in our society can have the opportunity to obtain education and live in the conditions they deserve.” (Akşam Cumartesi, 29.9.2018)

The observation that community support and NGO are the top two most prominent issue frames in autism coverages in Turkish newspapers overlaps with the findings of Bie and Tang [13]. Indeed, the authors note that the charity frame was the most dominant issue frame in Chinese newspapers published between 2003 and 2012.

News stories generally reflect the perspectives of parents, academics, health professionals and journalists, rather than of individuals diagnosed with autism. Moreover, adults on the autism spectrum are rarely referred to in news stories and autism is presented as a condition affecting mainly children. As a consequence, autism appears to be infantilised in media representations. We also see that media coverages also highlight private companies' efforts to create mobile solutions designed to ease life for autistic individuals and their families. Additionally, our findings show that celebrity figures are the second most frequently used source in autism-related news stories ($n = 98$) and that 96.7% of such news coverages are framed in a positive way, while no news coverage in this category is negatively framed. Therefore, we can say that celebrities promote events and activities that aim to create public awareness about autism and that the mainstream Turkish print media highlight such activities featuring celebrities in order to draw public attention to the matter. Although autism-related personal stories do not have wide coverage in the mainstream Turkish print media ($n = 29$), we think that a high rate of positive discourse (96.7%) in these stories is encouraging for readers.

“I managed to obtain high school and university degrees in spite of all the challenges. I will soon begin a second university degree. I work as a civil servant at the municipality and, in addition to that, I coach and guide individuals living with autism like me. I know very well the way they [autistic individuals] think, that is, ‘the autism language.’ I have visited forty provinces in Turkey for the purpose of raising public awareness about autism. My goal is to give seminars on autism awareness in eighty-one provinces. I used to think that I was the only individual in the world that suffered this [autism]. But I realized that there are other people like me [living with it]. Now I have two autistic friends. They understand me well. I am proud of myself because I have accomplished all this despite being autistic.” (Hürriyet Pazar, 28.10.2018)

The common emphasis in this story and similar stories is that thanks to special education, autistic individuals can overcome all the problems that come along with autism.

4.2. Sources framing

The sense and meaning of autism in media coverages are produced differently, depending on different perspectives. News coverage of autism can be influential to autism-related practices, such as prevention or detection behaviors, and sources cited by journalists may be influential in shaping this coverage. An examination of source framing can give insight into who are considered to be spokespersons or opinion leader regarding a specific condition. The three most frequently used sources in autism-related news reports in Turkey are 1) journalists/reporters ($n = 155$), 2) celebrities ($n = 98$), and 3) medical doctors ($n = 52$). The language of the reports that refer to journalists/reporters (62.3%) and celebrities is predominantly positive, whereas medical doctors paint a more pessimistic/negative picture (53.7%). Our findings also show that the discourse of the news reports that feature autistic individuals themselves as a main source is positive at the rate of 86.2%. Likewise, the discourse of the news reports that draw on academics/researchers is positive at the rate of 85.7%. Lastly, 83.9% of the news coverages that refer to NGOs are positively framed. These findings suggest that, in accordance with the

personal story results in *issue framing*, the news reports featuring autistic individuals themselves can encourage the families and relatives of other individuals living with autism to think that autistic individuals can socialize without being stigmatized. We have also found that the autism-related news reports we have analyzed during our research avoid stigmatizing and stereotyping individuals living with autism. Kelly (2005) draws attention to the long-term negative effects of the news coverages that stigmatize autistic individuals as “disabled” on children with autism and their families. The media coverages under review also show that celebrities often participate in events and activities organized by relevant NGOs and give social messages about autism. The positive messages delivered by NGO representatives and celebrities help strengthen public awareness about autism. The following are two examples of such reports:

“Fenerbahçe Men Volleyball Team Support autistics children who study at the Tohum Autism Foundation with the wristbands they have designed. Visiting the Tohum Autism Foundation, the Yellow-Navy Blues have designed wristbands for Pour La Bonte founded to scholarships to students with autism.” (Fotomaç, 8.02.2019)

“Singer Ceylan Ertem calls on her fans to contribute to scholarships for the special education of children with autism. Two of those who make the most generous donations to the Tohum Autism Foundation through the mobile application “Giyin” will be awarded an invitation for two to Ceylan Ertem’s concert.” (Hürriyet Kelebek, 17.01.2019)

News stories which feature doctors as sources of information cover interviews with doctors or statements made by those doctors regarding the issue in the column allotted to them by the newspaper. These stories cover autism from a medical perspective but negatively frame the content concerning the causes of autism or its relation to other medical conditions.

“Neurologist and dietician David Perlmutter says all disease starts in the gut. Stating that healthy gut is the cornerstone of a healthy body, Dr. David touched on vaginal and cesarean delivery. Explaining that children born via cesarean section are at greater risk of developing autism in the future, Dr. Perlmutter informed” ... (Takvim, 27.02.2019).

This finding also supports the fact that medical diagnosis is negatively discussed in issue framing.

5. Causes framing

More than half of the autism-related news coverages (n = 376, 65%) in Turkish print media do not mention the causes of the disorder. In the rest of the reports, the causes of autism are framed with reference to unclear/complex conditions (n = 43), nutrition (n = 28) and, genetic and congenital factors (n = 23).

“Autism is a congenital developmental difference usually identified in the first 3 years of life. Earliest signs can only be detected after the first six months of life. Primary signs of autism include avoidance of eye contact, lack of response to name, inability to point at a distant object, lack of interest in play, engaging in repetitive behaviors such as rocking, flapping, and spinning on foot, extreme interest in spinning objects and obsessive behaviors. The only known solution: early diagnosis and intensive and continuous special education! Today, the only known solutions of autism, which does not discriminate religion, language, race and social status, are early diagnosis and intensive and continuous special education. Scientific research shows that thanks to early diagnosis and proper and continuous education, symptoms of the disorder can be controlled in about 50 percent of children with autism, that development can be achieved, and that some autistic individuals have become no different than their peers by the age of adolescence.” (Milli Gazete, 22.10.2018).

As we have seen in the examples above, the positive tone of unclear/complex and genetic and congenital cause is associated with early medical diagnosis. As we mentioned in issue framing tone; medical diagnosis is only mentioned in negative tone when it is diagnosed in late times. These findings suggest that when covering autism, the media consider public interest by avoiding

discouraging autistic individuals and their families and relatives and emphasizing that this developmental disorder can be preventable and curable. Unlike our findings, Jones and Harwood [15] says that news reports about physical and social problems that autistic individuals and their families experience are framed as negative news stories in Australian newspapers. However, our findings also show that the discursive tone of the news reports that highlight various medical risks such as air pollution, excessive television watching, and B12 and D vitamin deficiency as the causes of autism is negative at the rate of %85. Likewise, the tone of the news reports that claim that diseases such as epilepsy, febrile convulsion, and intestinal disorders trigger autism is predominantly negative (76.9%). These causes may depend on individual conditions as well as social and environmental conditions in news framing.

“Diseased intestines allow toxins of every kind, heavy metals, undigested food, and industrial food additives pass into the blood vessels surrounding the intestine. When these toxins go through the blood-brain barrier, it may cause various neurologic and psychiatric disorder. It causes a variety of conditions including, first and foremost, autism, epilepsy, schizophrenia, psychos, bipolar disorder, obsessive compulsive disorder and depression, in addition to such pediatric disorders as hyperactivity, attention deficit, dyslexia and dyspraxia.” (Milliyet Cadde, 16.07.18)

5.1. Solutions framing

As such reliable institutions as CDC and Mayo Clinic note, there is no cure or medical treatment for autism spectrum disorder. This may create the perception that as a solution medical intervention has little or no effect on improving autism in news framing. More than half of the autism-related news stories (n = 319, 56.86%) in Turkish print media do not mention medical treatment methods for autism. In the rest of the coverages, treatment methods and recommendations are framed within the context of institutional interventions (n = 56), alternative interventions (n = 42), and policy-based interventions (n = 42). The discourse of the vast majority of these new reports is positive.

“Education is the only scientifically-proved method for the treatment of autism! In other words, the only treatment for autism we currently know is early diagnosis and continuous, intensive special education. Symptoms of the disorder can be controlled in about 50 percent of autistic children who have been diagnosed early and had proper and sufficiently intensive education. Thus, development is achieved, and great progress is made. Moreover, some autistic individuals can become no different than their peers by the age of adolescence. The most important factor here is to diagnose the disorder early and to ensure that they [autistic children] have intensive (30 hours per week) education.” (Akşam Cumartesi, 29.09.2018)

As we have seen in the news report above, most of the news coverages that feature institutional interventions underline the importance of regular and intensive education for autistic children’s developmental progress. The discourse of such news reports is mostly positive (81%). While news media reports highlight the importance of education for the treatment of autism, the discourse of the news reports that draw attention to the shortage of centers and educators to provide autism education and to the fact that this education is expensive (6.9%). The news reports we have analyzed for this study also cover various alternative interventions and methods designed to ensure the adaptation of autistic individuals to social life such as equine therapy, music training and sportive activities. We can argue that the high rate of positive discourse (87%) in such news reports is intended to encourage society toward the socialization of individuals with autism. The following are two examples of such news reports:

“Stating that they actively participate in the social responsibility project “One Team” within the Europe League organization, Chariman Cengiz Eroldu says: ‘This year, we have carried out a project into which I incorporated Renk Autism Association. We are providing basketball training to forty children with autism for eight weeks. When you look back at the past, you should see that you did something enduring.’” (Hürriyet, 04.04.2019)

“Noting that dolphin therapy can be used to treat many diseases such as autism, Down syndrome, cerebral palsy, depression, neurotic disorders, brain trauma, brain paralysis, pediatric cerebral palsy, childhood neuroses and retarded speech development, Elena Gerasimova, the founder of the Onmega Dolphin-Assisted Therapy Center, says ‘We can say that dolphins are our doctors/healers.’ Stating that the sonar system in dolphins has a curative/therapeutic effect on people, Gerasimova tells that through their sonar systems, dolphins detect the human body, find weaknesses or disconnections in the nervous system, and cure them.” (Star, 06.06.2019)

News on institutional and alternative interventions, which stand out among methods applied to treat autism, also refer to policy-based intervention as common ground. This finding overlaps with the fact that policy-based intervention is the third most recommended solution. In the news stories examined in this study, it is frequently emphasized in positive (57.9%) discourse that educational and socialization opportunities of autistic individuals will be increased by policies and regulations that have been made/are to be made by the government.

“President Recep Tayyip Erdoğan said: We have prepared a special action plan for autistic individuals that was published in the Official Gazette on December 3rd, 2016. This plan involves an estimated number of 1 million individuals, amounting to a total of 4-5 million in the community when families are also considered. I would like to point out that I responsibly follow the implementation of the autism action plan by the Ministry of Family, Labour and Social Policies and all other ministries.” (Hürriyet, 06.11.2018)

In a way that informs government policies, the news reports cover technology-based solutions developed by private institutions for the support of autistic individuals' education in positive discourse at the rate of 85.7%. No solutions are handed negatively to autism-related news in Turkish print media.

One of the central conclusions we have drawn from our research is that autism is framed in Turkish print media as a developmental disorder rather than a medical disease. Additionally, the autism-related news coverages under investigation do not stigmatize individuals diagnosed with the disorder. Almost half of the news reports on autism do not mention medical solutions of the disorder. Rather, they give weight to the importance of art, early education, sportive activities, and the use of probiotic supplementation for the treatment of autism. The findings of a large number of studies suggest that the most effective method of treatment for autism spectrum disorders is early behavioral intervention. For this reason, it is important to combine various methods of treatment with intensive and uninterrupted special training. One of the most basic benefits brought by special education is that it helps to develop social communication skills in individuals diagnosed with autism. Research shows that education-based practices also help to reduce obsessive behavior among autistic children. According to the findings of a survey conducted with 1270 individuals in 2019 by Tohum Autism Foundation, the most well-known Turkish non-governmental organization operating in the field of autism, the rate of the participants who have heard of a disorder/disease called “autism spectrum disorder” is 83%. The survey shows that 44% of the participants said that they recognize the symptoms of autism. While 45% are unsure whether autism can be treated or not, 34% respondents said that the disorder cannot be cured, and 21% stated that it can (Türkiye’deki bireylerin Otizm algısı ve Bilgi Düzeyi Araştırması III, 2019). Particularly, they emphasize that socialisation and inclusion are the most effective methods for overcoming the problems that autistic individuals experience. News coverage focused on solutions more than causes in Mckeever’s (2012) study, which is likely the result of parents, educators, non-profit organizations, and others pushing for solutions to help handle the difficult and still somewhat mysterious issue. Many of the articles focused on educational changes, and some offered community-building solutions, including after-school activities and websites or forums for parents or individuals with autism.

6. Conclusion

Autism is a prevalent condition that affects the lives of more and more individuals and families around the world every year. Despite its medical and social significance, little research has been done on the number of individuals with autism in Turkey, their living conditions, the challenges that their families experience and the level of health literacy among Turkish society regarding the disorder. This study has presented important findings about coverage of autism and autism-related issues in Turkish print media by analyzing hundreds of relevant news reports in widely circulated, national newspapers in Turkey.

It should be emphasized that mainstream media attention to such an increasingly important, yet under recognized, condition as autism can play a significant role in increasing public awareness about it, as well as in influencing governmental and non-governmental actors to undertake initiatives and actions to address the problems individuals living with autism and their families face in various spheres of social life. News source is mostly disseminated by professional journalists and public relations specialists working for public institutions and organizations as well as private institutions. In this sense, journalists do not take a critical approach to causes and outcomes of autism. The support of celebrities plays a big part in taking autism as a social fact. According to the report titled “Autism Awareness and Society” (Otizm Farkındalığı ve Toplum) prepared by Otsimo in Turkey, 50% of those who participated in the survey want autistic individuals to be represented in popular culture. This clearly points to the fact that autistic individuals should be accurately portrayed in the media and real life.

Moreover, representation of autistic individuals in popular culture, accurate portrayal of their lives in the mass media such as TV series, programmes, movies will provide an opportunity to help the society have a positive perception and take on responsibility if autism is accurately depicted.

7. Recommendations

Lucy Küng (2015), which is frequently cited in the field of media management, states that the backgrounds of the actors who play a role in the media industry, the business models they apply (public interest vs. more clicks), value indicators and current strategies should be addressed against the continuous and rapid changes in the media. The media are seen as a medium of exchanging information and the “information-power” relationship becomes an important factor. In addition to the digitalization, which we see in all fields today, journalism, which provides information to the masses as an important part of mainstream media, continues to exist with the changes that it has undergone with the digital media. 90.8% of the newspapers published in Turkey in 2019 were local, 7.3% of them were national, while 1.9% were regional publications. However 83.6% of the total circulation of newspapers was national, 15.7% was local and 0.8% was regional. (*Turkish Statistical Institute (TÜİK) <https://data.tuik.gov.tr/Bulten/Index?p=Yazili-Medya-Istatistikleri-2019-33620>, Access date: 28.03.2021*)

Hence, The Reuters Institute for Journalism Studies at the University of Oxford released its Digital News Report 2020 following research conducted with the participation of more than 80,000 people in 40 countries across 5 continents. The report, which investigated including Turkey, could only be found on the 50 percent confidence level estimated by media in 6 countries. Turkey, followed by Finland and Portugal with 55% on the news, was the second most confident country. (Newman, N., Fletcher, R., Schulz, A., Andi, S., Nielsen, K.R., (2020). *Reuters Institute Digital News Report, 2020.*) 541 news reports that included in our study, were published as hardcopy in widely circulated national newspapers in Turkey. We have retrieved these in scanned formats from a media monitoring company.

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Author details

Elgiz Yılmaz Altuntas¹
E-mail: elgiz.e@gmail.com
ORCID ID: <http://orcid.org/0000-0002-3486-1701>

Seray Öney Doğanıyğit²

¹ Department of Communications, Galatasaray
Universitesi, Besiktas, Turkey.

² Social Sciences Institute, Marmara Universitesi, Turkey.

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