

# Asian Journal of Human Services

Journal homepage: <https://www.ashs-human.net/international-journal/ajhs/>

Online ISSN: 2188-059X / Print ISSN: 2186-3350

© 2023 Asian Journal of Human Services, All rights reserved.

## ORIGINAL ARTICLE

### The Impacts of Drama *Extraordinary Attorney Woo* on the Autistic Spectrum Disability Awareness Using Big Data Analysis

Sehyun NAM<sup>1)</sup>, Seryoung KIM<sup>2)\*</sup>

1) Hanshin University, Republic of Korea

2) Hoseo University, Republic of Korea

#### ABSTRACT

The aim of this study is to impartially validate the impact of popular drama on shaping awareness of Autistic Spectrum Disability(ASD). This study used a combination of big data and content analysis to assess the patterns and significance of ASD-related news before and after the broadcast of the drama *Extraordinary Attorney Woo*. Big data analysis confirmed that after the broadcast of this drama, articles related to ‘autis(‘japye’ in Korean pronunciation) surged dramatically, ranging from a weekly average of at least 4.2 times to a peak of 11.4 times compared to the period before the drama aired. Also, keywords that were highly relevant in articles related to ‘autis’ in the year before the drama aired included terms indicating pathological conditions, which had the highest weight values in the analysis. After the drama aired, keywords highly associated with ‘autis’ included a significant number of terms related to the drama *Extraordinary Attorney Woo* or societal interest in ASD. The findings support the notion that the airing of the drama *Extraordinary Attorney Woo* has led to increased public attention to ASD. A comparison of news content before and after the drama aired revealed that perceptions of ASD shifted from an individual to a social model, influenced by the themes presented in the drama. Having confirmed the influence of drama on societal awareness of disability, it is imperative to portray individuals with disabilities in an inclusive manner, emphasizing the importance of enacting disability guidelines and educating producers due to the significant social responsibility and role of drama.

*Keywords:* Drama, Autistic Spectrum Disability(ASD), big data, content analysis, *Extraordinary Attorney Woo*

\* Seryoung KIM: [critic@hoseo.edu](mailto:critic@hoseo.edu)

*Received:* 2023/08/31 ; *Revised:* 2023/09/30 ; *Accepted:* 2023/09/30 ; *Published:* 2023/10/30



This is an Open Access article distributed under the terms of the Creative Commons Attribution NonCommercial-NoDerivs licence (<https://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial reproduction and distribution of the work, in any medium, provided the original work is not altered or transformed in any way, and that the work properly cited.

## 1. Introduction

TV dramas have the advantage of being easy to watch. Conversely, viewers could switch to another channel while watching. Hence, TV dramas mirror sociocultural values and contemporary demands that capture viewers' interests. Viewers are often drawn to TV dramas because of the compelling performances of actors, allowing them to experience reality vicariously. This immersion leads to a deeper connection with social issues as viewers internalize these problems and develop a sense of empathy. TV dramas have the most significant influence on the daily lives of the general public<sup>1)</sup>. Dramas can mislead viewers by distorting reality. However, they also play a crucial role in guiding viewers to identify real-world issues and catalyze change<sup>2)</sup>.

The dual role of these dramas in the media has wielded a profound influence on shaping society's perception of disabilities. Historically, the portrayal of disabled dramas mirrored society's discriminatory views towards them, perpetuating stereotypes and prejudices. In actuality, 'disability' elicits contrasting sentiments, ranging from 'disgust(-)/attraction(+)' to 'rejection(-)/fascination(+).' This dichotomy gives rise to the concept of gaze violence, manifesting as either an apathetic gaze that disregards the disabled or a voyeuristic gaze rooted in basic curiosity<sup>3)</sup>. Despite the erroneous nature of such attitudes towards people with disabilities, dramas frequently perpetuate familiar stereotypes in society. They often depict disabled characters as either pitiable or inferior individuals in need of assistance, or as intriguing figures possessing extraordinary abilities. Today, this mode of representation faces criticism for perpetuating a form of societal disability that hinders disabled individuals from fully exercising their right to equitable participation in society by presenting them as unique and separate from non-disabled individuals<sup>4)</sup>. In light of this very issue, Article 8 of the UN Convention on the Rights of Persons with Disabilities advises that all media entities portray persons with disabilities in a manner aligned with the Convention's objectives and the fundamental human rights of people with disabilities<sup>5)</sup>. Concurrently, the emerging portrayal of disability in dramas, which highlights that the core issue lies not in an individual's disability but rather in power imbalances and entrenched societal norms that perceive such disabilities as inferior, has the potential to significantly transform society's perception of disability. An illustrative example of dramas shaping disability awareness is the drama *Extraordinary Attorney Woo*.

The drama *Extraordinary Attorney Woo* exerted a significant influence not only within the Korean society but also internationally. It will achieve the highest viewership rating of 17.5% in 2022, rank first in the topicality index, and secure the top position globally on Netflix. This drama perpetuated the constraints imposed on persons with autistic spectrum disability(ASD) in existing portrayals. In essence, it reinforced the stereotype that associates Attorney Woo, an autistic character, solely with the concept of a genius with savant syndrome. Conversely, it demonstrates a heightened level of awareness regarding ASD. Young-woo Woo, an attorney with ASD and exceptional genius, is depicted as an autonomous individual with self-determination. She is portrayed as an included member of society, undergoing growth and development by achieving developmental milestones, much like individuals without disabilities, during their young adult life. This portrayal has significantly contributed to enhancing society's comprehension of ASD<sup>6)</sup>.

Previous studies, including ours, have primarily emphasized the progressive aspects of disability representation in the drama *Extraordinary Attorney Woo*. The disabled protagonist, Young-woo Woo, has received substantial recognition because of her departure from traditional narratives, indicating implications for tasks related to the development of young adults and comprehensive societal inclusion. Additionally, this protagonist played a pivotal role in changing conventional portrayals of disabled people and reshaping public perceptions of disabilities. Nonetheless, these studies criticized drama

for perpetuating specific stereotypes related to persons with autistic spectrum disabilities and for presenting a romanticized version of reality<sup>6-8</sup>). These studies have yielded significant findings by shedding light on the representation of disability in the popular Korean drama, *Extraordinary Attorney Woo*, which has substantial societal influence. They not only underscored the importance of this representation but also highlighted its limitations. Furthermore, they have contributed to the ongoing discourse on the future direction of depicting disabilities in dramas. Nevertheless, while the drama's societal impact has been acknowledged, citing some articles, its precise influence on the overall disability awareness in society remains challenging to measure objectively. For instance, Lee categorized and presented articles within a relatively brief two-month timeframe following the opening of the drama *Extraordinary Attorney Woo*. While insightful, this approach offered a somewhat partial view of how the discourse surrounding the representation of disability in Young-woo Woo evolved because of the limited duration under examination<sup>8</sup>).

Thus, this study represents an advancement over our previous research that examined the depiction of a person with ASD in the drama *Extraordinary Attorney Woo* from an interdisciplinary perspective that includes cultural and disability studies. Our primary aim was to overcome the limitations of previous investigations by conducting an objective assessment of the drama's societal impact before and after its broadcast. A prior study endeavored to analyze big data using problem recognition, similar to our study. Kwon identified the issue of comparing shifts in media perspectives concerning autism and developmental disorder before and after the opening of the drama *Extraordinary Attorney Woo*<sup>9</sup>). However, this approach only involved a concise summary of the results obtained from keyword searches for 'autism' and 'developmental disorders' in big data. Notably, to accurately gauge the impact of dramas, the duration of the search period was not extensively considered. Rather, it was limited to simple year-to-year comparisons, such as 2021 and 2022. Press articles, which constitute an extensive pool of data, offer valuable resources for conducting big data research. To leverage the potential of big data research fully, it is imperative to surpass the mere act of data retrieval. In particular, the focus should shift towards comprehensive analysis and processing, leading to the extraction of fresh insights that may not have been evident in preexisting dataset<sup>10</sup>).

Consequently, this study aimed to validate the impact of popular dramas in shaping ASD Awareness. This study employed a combination of big data and content analysis to assess the patterns and significance of news related to ASD before and after the broadcast of the drama *Extraordinary Attorney Woo*. Through these research procedures, we aimed to objectively confirm the impact of drama broadcasts on increasing the interest in ASD, delivering accurate information, and reducing prejudice and discrimination.

BIGKinds ([www.bigkinds.or.kr](http://www.bigkinds.or.kr)) was employed as the research instrument for the analysis of big data on shifts in interest. A combined news database from 54 media outlets, including general daily newspapers, business magazines, regional daily newspapers, and broadcasting businesses, was used to create the BIGKinds news analysis service provided by the Korea Press Foundation. BIGKinds offers an analysis of associated big data and has allowed users to search for stories from domestic media outlets since 1990<sup>11</sup>). We excluded local daily newspapers and focused on national daily newspapers, daily economic newspapers, broadcasting companies, and specialized magazines. We conducted a comprehensive analysis of the impact of media-related articles by examining reports from 26 media companies. We conducted a comprehensive big data analysis of news coverage by dividing the time period to objectively assess the shifts in interest regarding ASD before and after the airing of *Extraordinary Attorney Woo*. To capture significant trends, we compared data from one year before and after the broadcast of *Extraordinary Attorney Woo*. Additionally, for a more granular exploration of specific changes, we

analyzed data from the seven weeks leading up to the broadcast, seven weeks during the broadcast, and seven weeks following the conclusion.

Content analysis, a media research methodology, was used to analyze changes in content related to ASD. Content analysis is a very effective research method for studying media, as it can be used to identify how media represent different groups of people, issues, and events. It can also be used to track changes in the media over time<sup>12</sup>). By conducting a content analysis of media articles, we can gain a deeper understanding of how the drama *Extraordinary Attorney Woo* is perceived by the public and how it impacts their understanding of ASD. Content analysis was performed to identify the predominant types of articles related to ASD among the 74 categories in the article type section categorized by Big Kinds. This analysis covered the year leading up to the airing of *Extraordinary Attorney Woo*, the period during its broadcast, and the year after its broadcast. After verifying the classification types with the highest frequency, they were reorganized into broader thematic categories and subjected to analysis.

## 2. Interest shifts linked to ASD via analysis of keyword exposure frequency

To ascertain whether the opening of the drama *Extraordinary Attorney Woo* heightened interest in People with ASD and led to an increase in articles related to the subject, an article search was conducted by dividing the timeline into periods before, during, and after the drama's broadcast. The television drama *Extraordinary Attorney Woo* commenced its airing on June 29, 2022, and concluded with its final episode on August 18 of the same year. To conduct a comprehensive analysis of the changes before and after the broadcast, articles published during two distinct periods were examined: from June 29, 2021, to June 28, 2022, one year before the broadcast, and from August 19, 2022, to August 18, 2023, one year after the broadcast. Articles were collected separately for each time frame, and a comparative analysis of their characteristics was conducted. Furthermore, to facilitate a comparative analysis of trends within consistent timeframes, an examination was conducted based on a 7-week interval corresponding to the broadcast duration. This involved evaluating the preceding seven weeks (May 3 to June 28, 2022), the broadcast period itself spanning seven weeks (June 29 to August 18, 2022), and an additional seven weeks after the conclusion of the broadcast (August 19 to October 7, 2022).

### 2.1. Exploring keyword trends: 'autis' and 'Young-woo Woo' Analysis

Korean articles may employ different terms like 'autism('japyejeung' in Korean pronunciation),' 'autistic disorder('japyeseong jang-ae' in Korean pronunciation),' and 'autistic spectrum disability('japye spectrum jang-ae' in Korean pronunciation).' Therefore, we used the same spelling 'autis('japye' in Korean pronunciation)' as a search keyword. A total of 2,839 articles related to search keyword 'autis' were identified and analyzed throughout the entire study period of approximately 2 years and 2 months, encompassing the timeframe from 1 year before the broadcast to 1 year after the broadcast. Employing keyword trend big data analysis, we conducted a comprehensive examination of the frequency of exposure to related articles across a time series. Notably, during the 7-week period when the drama was broadcasted, there was a notable surge in the quantity of articles pertaining to 'autis' Further analysis revealed that the posting frequency of related articles exhibited a discernible hierarchy, with the sequence being seven weeks after the drama's conclusion, one year after its airing, and one year before its broadcast(Figure 1).

The outcomes of segmenting the search results for the keyword 'autis' were as follows: In the year leading up to the airing of *Extraordinary Attorney Woo* the total number of published articles amounted to 451, averaging approximately 8.5

articles per week. In stark contrast, during the 7-week broadcast period, the total count surged significantly to 773 articles, averaging approximately 96.6 articles per week. Following the conclusion of the broadcast, 436 articles were published over another 7-week span, averaging approximately 54.5 articles per week. Remarkably, this post-broadcast figure exceeds the number of articles released in the year preceding the broadcast. Furthermore, a notable observation is that a cumulative total of 1,614 articles, with an average of 35.5 articles per week, were published within the one-year span following the drama's broadcast. This striking figure signifies an almost four-fold increase in comparison to the article count from the year preceding the drama's opening. Notably, during the specific airing period, a remarkable surge in 'autis'-related article publication was evident, reaching a peak of 196 articles in a single week. This surge strongly validates the discernible increase in articles focusing on ASD subsequent to drama broadcasts.

Among the analyzed articles, those containing the keywords 'autis' and 'Young-Woo Woo' exhibited notably high frequencies. Specifically, during the 7 weeks of the broadcast, 696 articles (constituting 90% of the 773 articles related to 'autis') featured both keywords, while in the 7 weeks following the broadcast, 257 articles (equivalent to 58.9% of the 436 articles related to 'autis') included these keywords. Even one year after the airing, 413 articles (accounting for 25.6% of the total 1,614 articles related to 'autis') continued to intertwine 'Young-woo Woo' with discussions about 'autis.' This consistent association underscores the drama's significant influence on this topic(Figure 1).

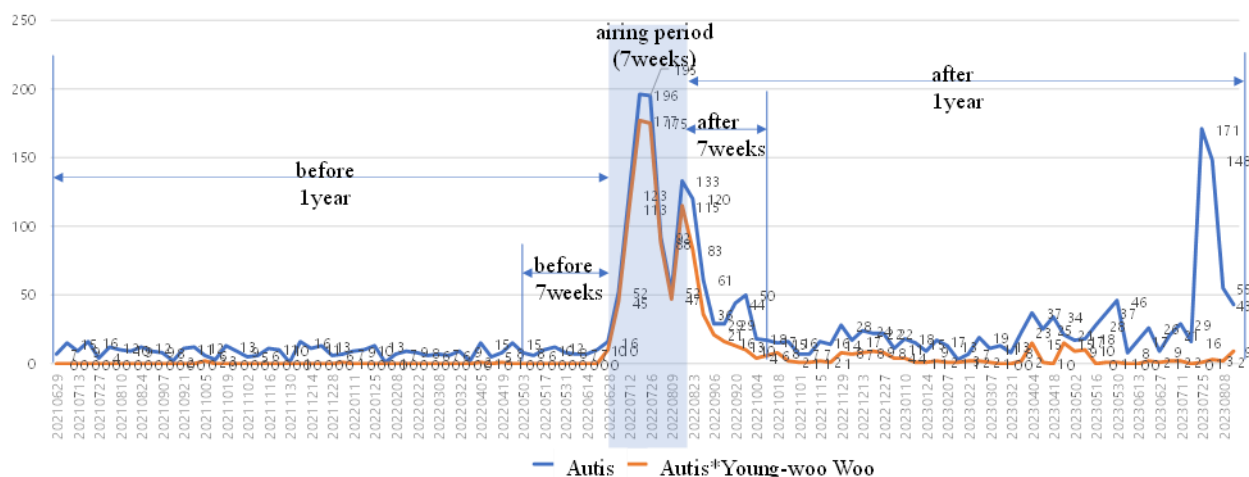


Fig 1. Autis/Autis\*Young-woo Woo news article frequency

## 2.2. Dissecting weekly article counts: 'autis' and 'Young-woo Woo' Analysis

When averaged out, the quantity of articles featuring keywords related to 'Autis' amounted to 8.51 articles per week in the year leading up to the broadcast, and 8.5 articles per week in the 7 weeks preceding the broadcast. Over the course of the seven weeks when *Extraordinary Attorney Woo* was aired, an average of 96.63 articles were published each week, indicating a frequency of article exposure that was 11.4 times higher than before the broadcast. Following the conclusion of the broadcast, the average weekly occurrence over the course of a year reached 35.5, marking a surge of approximately 4.2 times in comparison to the pre-broadcast period. However, this figure decreased by a factor of 0.37 times compared to the duration of the broadcast. Following the 7-week standard of drama broadcasts, we conducted a comparison across the

corresponding periods before, during, and after the drama's airing. The frequency of article exposure, which stood at an average of 8.5 articles per week in the seven weeks preceding the broadcast, increased to 96.6 articles per week, an 11.4-fold increase during the broadcast period. Subsequently, after the broadcast concluded, this frequency diminished to 54.5 articles per week, representing a 6.4-fold increase compared to the pre-broadcast period.

To directly ascertain the impact of drama exposure, we searched for articles containing keywords such as 'autis' and 'Young-woo Woo.' The findings revealed that an average of 87 articles were published per week during the 7-week broadcasting period, and this average dropped to 32.1 articles per week for the subsequent 7 weeks after the broadcast concluded. Hence, correlating with the period of the drama *Extraordinary Attorney Woo* airing, there was a significant surge in the number of articles related to 'autis,' with articles that concurrently mentioned both 'autis' and 'Young-woo Woo' also registering a high frequency of exposure. This substantiates the notion that the airing of *Extraordinary Attorney Woo* spurred heightened media attention towards ASD (Table 1).

Table 1. Autis/Autis\*Young-woo Woo weekly article counts

|                     | Jun. 2021 | May. 2022 | Jun. 2022      | Aug. 2022 | Oct. 2022 | Aug. 2023 |
|---------------------|-----------|-----------|----------------|-----------|-----------|-----------|
| Aver./week          | 8.51      | 8.5       | 96.7           | 54.5      | 35.5      |           |
| Autis               | 451       |           | 773            | 1,614     |           |           |
|                     |           | 71        |                | 436       |           |           |
| period              | before 1Y | before 7W | Airing Per. 7W | After 7W  | After 1Y  |           |
| Autis*Young-woo Woo |           | 0         | 696            | 257       |           |           |
|                     |           | 5         |                | 413       |           |           |
| Aver./week          | 0.09      | 0         | 87             | 32.1      | 7.9       |           |

(Unit: cases)

### 3. Trends in significant keywords associated with 'autis' identified through a keyword word cloud analysis

We performed a related-word analysis to assess shifts in the frequency of article exposure concerning 'autis' and to discern the specific subjects that the articles covered. BIGkind-related word analysis is a feature designed to extract keywords of significant relevance from the searched news content by considering factors such as weight or keyword frequency. This function then offers rankings and scores for each identified keyword, presenting comprehensive big data through visual aids, such as word clouds or bar graphs. BIGkind conducts synchronic analysis and word clustering by analyzing the search results derived from user-provided query terms. Furthermore, it presents the results of related word analysis using the TopicRank algorithm, which facilitates the creation of a dynamically interactive semantic network. The TopicRank analysis was initiated by selecting N documents associated with a specific term. It extracts snippet terms by considering the nouns located before and after the search terms within documents. Subsequently, the extracted snippet terms are narrowed. It calculates both the distance from the search term and frequency of occurrence within the document. These calculations yield a weight configured as a term vector. These term vectors are clustered to identify the top M terms<sup>11)</sup>. In this study, the standard keyword for the related word analysis was 'autis,' which was consistent with the keywords used in the article search.

### 3.1. Analysis of key related words over the entire study period

Initially, a related word search using a word cloud is executed on the BIGkind platform. The timeframe of analysis spanned roughly two years and two months (from June 29, 2021, one year before the broadcast, to August 18, 2023, one year after the broadcast), and the designated keyword for this purpose was ‘autis.’ Related words were examined using a topic-rank algorithm to assign weighting values. Consequently, words with elevated weight values associated with ‘autis’ included terms like ‘attorney Young-woo Woo,’ ‘Young-woo Woo,’ ‘people,’ ‘IBS,’ and ‘early diagnosis.’

Words closely linked to the drama (such as ‘attorney Young-woo Woo,’ ‘Young-woo Woo,’ and ‘Eun-bin Park’) were recognized as significantly correlated with ‘autis,’ thereby affirming the extensive impact of the drama’s influence. Furthermore, in a broader context, keywords present in articles discussing aspects like the diagnosis, treatment, and causes of ASD(including terms like ‘IBS,’ ‘early diagnosis,’ ‘phthalates,’ ‘pathological mechanisms,’ etc.) seemed to exhibit a strong correlation with ‘autis.’ In addition, owing to an article asserting that the perpetrator of a highly disturbing murder that deeply impacted society exhibited traits associated with autistic spectrum disabilities, the actual name of the criminal (‘-’ Yoojeong Jeong) has emerged as a prominent related word(Figure 2, Table 2).

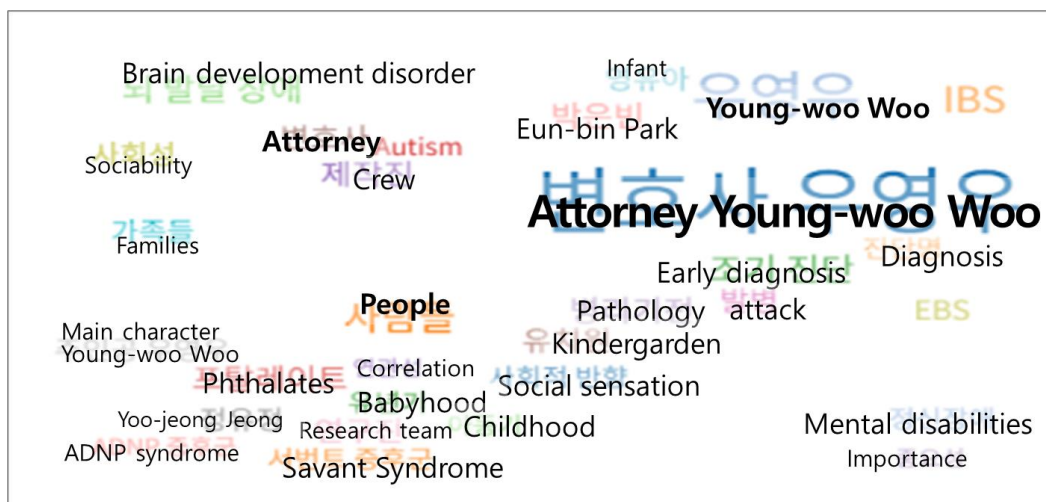


Fig 2. Key related words over the entire period(Jun.2021~Aug.2023)

Table 2. Significant related words throughout the entire analysis period

| Keywords                     | Weighted value | frequency |
|------------------------------|----------------|-----------|
| Attorney Young-woo Woo       | 21.93          | 61        |
| Young-woo Woo                | 14.08          | 244       |
| People                       | 7.62           | 66        |
| IBS                          | 7.35           | 34        |
| Early diagnosis              | 6.39           | 24        |
| Brain development dis        | 5.6            | 14        |
| Phthalates                   | 5.52           | 65        |
| Eun-bin Park                 | 5.19           | 16        |
| Crew                         | 5.04           | 39        |
| Pathology                    | 5.04           | 7         |
| Attorney                     | 5              | 116       |
| Kindergarten                 | 4.94           | 39        |
| Attack                       | 4.8            | 26        |
| Research team                | 4.5            | 31        |
| Yoo-jeong Jeong              | 4.36           | 43        |
| Main character Young-woo Woo | 4.36           | 8         |
| Sociability                  | 4.29           | 71        |
| EBS                          | 4.07           | 24        |
| Families                     | 4              | 17        |
| Infant                       | 3.91           | 39        |
| Social sensation             | 3.81           | 5         |
| Mental disabilities          | 3.68           | 23        |
| Savant Syndrome              | 3.53           | 23        |
| Diagnosis                    | 3.38           | 17        |
| Babyhood                     | 3.33           | 68        |
| Childhood                    | 3              | 16        |
| Autism                       | 3              | 10        |
| ADNP syndrome                | 2.73           | 26        |
| Correlation                  | 2.53           | 22        |
| Importance                   | 2.18           | 9         |

### 3.2. Analysis of key related words before and after drama airing period

To comprehend the impact of the drama *Extraordinary Attorney Woo*, we conducted an analysis comparing significant words related to 'autis' before and after the drama's airing. Keywords highly relevant in articles related to 'autis' during the year prior to the drama's airing included terms such as 'phthalates,' 'people with developmental disabilities,' 'early diagnosis,' 'remedy,' and 'attack.' Terms indicating pathological conditions had the highest weight values in the analysis(Figure 3, Table 3).



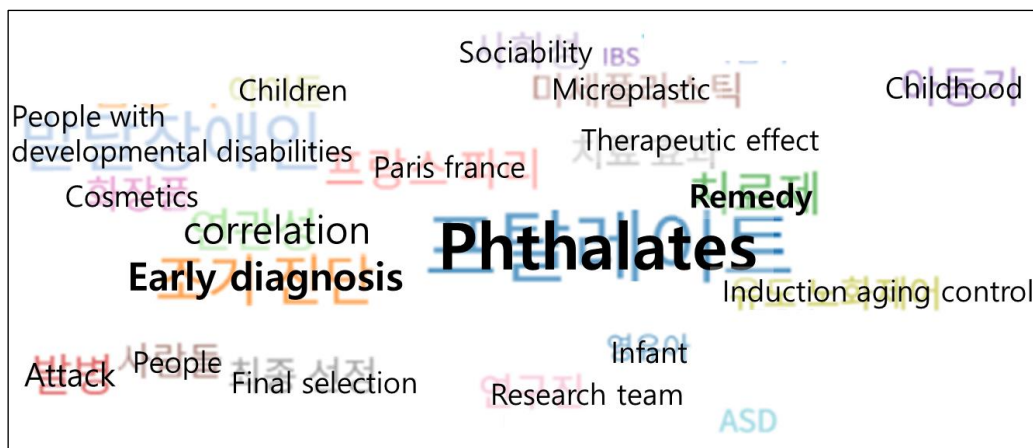


Fig 3. Key related words before drama airing period(Jun.2021 ~ Jun.2022)

Table 3. Significant related words before drama airing period

| Keywords                               | Weighted value | frequency |
|--|----------------|-----------|
| Phthalates                             | 7.62           | 104       |
| People with developmental disabilities | 6.24           | 36        |
| Early diagnosis                        | 5.14           | 16        |
| Remedy                                 | 4.32           | 23        |
| Correlation                            | 4.19           | 25        |
| Attack                                 | 4              | 16        |
| Parisfrance                            | 4              | 8         |
| Childhood                              | 3.81           | 17        |
| Sociability                            | 3.5            | 48        |
| People                                 | 3.33           | 41        |
| Microplastic                           | 3.33           | 26        |
| Cosmetics                              | 3.27           | 15        |
| Research team                          | 3.2            | 19        |
| Final selection                        | 3.2            | 5         |
| Therapeutic effect                     | 3.2            | 5         |
| Induction aging control                | 3.11           | 8         |
| Children                               | 3              | 33        |
| Gold side                              | 2.67           | 40        |
| ASD                                    | 2.4            | 18        |
| Infant                                 | 2.4            | 15        |
| IBS                                    | 1.67           | 6         |

When analyzing articles published one year after the show aired, it was evident that keywords highly associated with ‘autis’ encompassed a significant number of terms linked to the drama *Extraordinary Attorney Woo*, including phrases like ‘attorney Young-woo Woo,’ ‘Young-woo Woo,’ ‘attorney,’ ‘Eun-bin Park,’ ‘people.’ Of particular significance is the inclusion of words such as special education teacher, ‘allegations of child abuse,’ ‘developmental disability,’ and ‘Ho-min Joo’ among the top-ranking related terms. This phenomenon can be attributed to the substantial surge in related articles stemming from the controversy surrounding Joo. On July 27, 2023, a renowned webtoon writer and the parent of a child



### 3.3. Analysis of key related words during 7-week drama airing period and subsequent 7 weeks

Focusing on comparing words related to ‘Autis’ in articles during two distinct 7-week periods: the first spanning from June 29, 2022, to August 18, 2022, coinciding with the drama's broadcast, and the second covering the subsequent 7 weeks after the drama's conclusion.

Throughout the drama airing period, the most prominent related words included references to the drama, cast, and production company. Notable terms encompassed ‘attorney Young-woo Woo,’ ‘Young-woo Woo,’ ‘attorney,’ ‘Eun-bin Park,’ ‘people,’ ‘ENA drama attorney Young-woo Woo,’ ‘Young-woo Woo character,’ and ‘main character Young-woo Woo.’ Furthermore, the analysis revealed the emergence of additional words such as ‘Stereotyping,’ ‘Object of ridicule,’ and ‘social interest.’ Additionally, related words were found in articles discussing criticism of YouTuber's imitating autistic traits, as well as incidents involving persons with autistic spectrum disabilities being denied boarding on airplanes (‘Uwaso,’ ‘netizen,’ ‘youTuber,’ ‘denied boarding’). The prevalence of these words signifies a clear escalation in societal awareness and dialogue concerning autistic spectrum disabilities, when compared to the period preceding the drama's airing (Figure 5, Table 5).

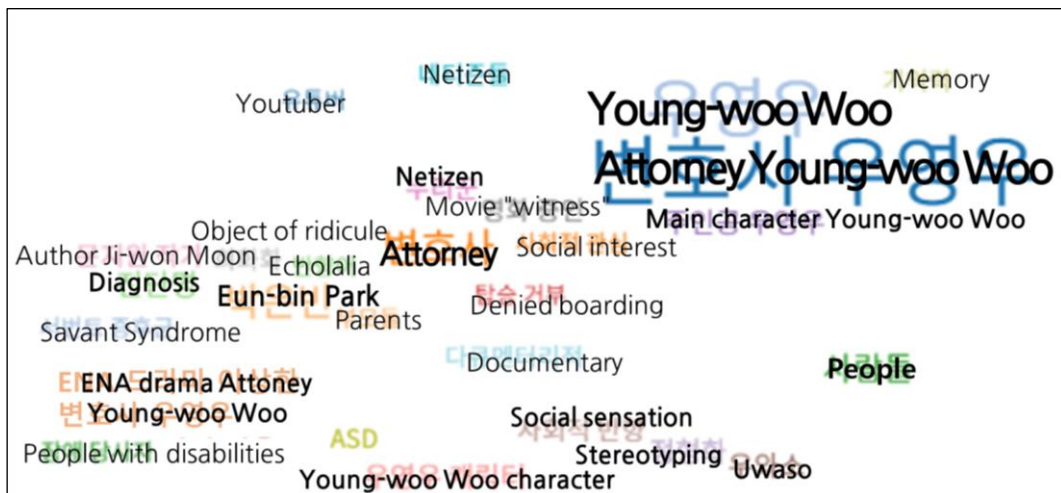


Fig 5. Key related words during drama airing period (Jun.2022~Aug.2022)

Table 5. Significant related words during drama airing period

| Keywords                        | Weighted value | frequency |
|---------------------------------|----------------|-----------|
| Attorney Young-woo Woo          | 50.79          | 199       |
| Young-woo Woo                   | 40.07          | 874       |
| Attorney                        | 18.1           | 389       |
| Eun-bin Park                    | 16.63          | 102       |
| People                          | 11.31          | 101       |
| Diagnosis                       | 8.39           | 18        |
| ENA drama Attoney Young-woo Woo | 7.88           | 0         |
| Young-woo Woo character         | 7.83           | 26        |
| Main character Young-woo Woo    | 7.06           | 21        |
| Stereotyping                    | 6.72           | 11        |
| Uwaso                           | 6.61           | 83        |
| Social sensation                | 6              | 9         |
| Netizen                         | 5.42           | 21        |
| Author Ji-won Moon              | 5.19           | 25        |
| Movie "witness"                 | 5.19           | 0         |
| Object of ridicule              | 4.71           | 20        |
| ASD                             | 4.36           | 15        |
| Memory                          | 4.2            | 20        |
| Netizens                        | 4.07           | 18        |
| Documentary                     | 3.81           | 5         |
| Youtuber                        | 3.68           | 38        |
| Savant Syndrome                 | 3.53           | 35        |
| Social interest                 | 3.2            | 8         |
| Parents                         | 3.11           | 13        |
| People with disabilities        | 3.08           | 8         |
| Echolalia                       | 3              | 19        |
| Denied boarding                 | 3              | 6         |

Even after the passage of 7 weeks since the broadcast, words linked to the drama, including ‘attorney Young-woo Woo,’ ‘Young-woo Woo,’ ‘Eun-bin Park,’ and ‘attorney,’ have retained their prominent relevance. This observation indicates a significant and persistent impact that continues even after the drama concludes, highlighting its lasting influence. Words with a pathological perspective that were present before the drama's commencement ceased to be searched for related words during this period. Conversely, a new related term, ‘young performer,’ emerged due to an article concerning a concert held by a young artist with autistic spectrum disabilities during this timeframe. Furthermore, within the same period, an incident unfolded involving a mother who murdered her child who was diagnosed with autistic spectrum disabilities before taking her own life. This event led to the inclusion of the related keyword ‘Dalseo-gu,’ which represents the location of the incident, as a new associated term. This shift in related words underscores the heightened societal engagement and concern regarding autistic spectrum disabilities (Figure 6, Table 6).



Fig 6. Key related words after a 7-week drama airing period

Table 6. Significant related words after a 7-week drama airing period

| Keywords                         | Weighted value | frequency |
|----------------------------------|----------------|-----------|
| Attorney Young-woo Woo           | 125.31         | 482       |
| Young-woo Woo                    | 113.66         | 2212      |
| Eun-bin Park                     | 57.62          | 616       |
| Attorney                         | 57.08          | 853       |
| People with Disabilities         | 35.57          | 1565      |
| Intellectual disability          | 18.16          | 83        |
| People                           | 13.77          | 219       |
| ENA drama Attorney Young-woo Woo | 13.33          | 0         |
| Developmental disability         | 10.88          | 655       |
| Main character Young-woo Woo     | 10.41          | 40        |
| Drama Young-woo Woo              | 7.9            | 11        |
| Sociability                      | 7.06           | 57        |
| Ki-young Kang                    | 6.88           | 128       |
| Social interest                  | 6.69           | 22        |
| Children                         | 6.55           | 116       |
| Babyhood                         | 5.05           | 79        |
| Rating                           | 4.87           | 166       |
| ASD                              | 4.87           | 54        |
| Alzheimer's                      | 4.67           | 17        |
| Young performer                  | 4.67           | 7         |
| Professional                     | 4.62           | 71        |
| Brain disease                    | 4              | 22        |
| Dalseo-gu                        | 4              | 12        |

#### 4. Trends changes in issues related to ‘autis’ through analysis of news article content

News articles about dramas can be broadly categorized into several types: entertainment articles that focus on the plot or actors, social articles that address real-world issues faced by autistic individuals and their families, articles that explore

the connections between celebrities or their families and autistic spectrum disabilities, and articles that provide information or reports on incidents related to autistic spectrum disabilities.

BIGKinds utilized an integrated classification system to categorize 2,912 articles (including 73 duplicate articles) spanning from one year before to one year after the airing of the content. The top 10 ranking categories encompassed 'Broadcasting\_Entertainment, Education\_Test, People with Disability, Publishing, Science, Events\_Accidents, Medical\_Health, Movies, Contents, Women, Exhibitions\_Performances'(Table 7). We organized the primary article classification areas based on the content of each category. Consequently, the 'Broadcast\_Entertainment, Movies' category primarily includes content related to drama broadcasts, while the 'Education\_Test' category focuses on articles related to special education. The 'Science, Medical\_Health, Women' category encompasses articles related to the pathology and treatment of ASD, as well as topics related to childbirth or parenting in the context of ASD. Additionally, the 'Life, Events\_Accidents' category can be classified as articles that predominantly address the social aspects of disability.

Compared to the period before the broadcast, there were notable shifts in article proportions in specific categories during and after the broadcast by *Extraordinary Attorney Woo*. The category 'Broadcasting\_Entertainment, Movies' experienced an increase in proportion during and after the broadcast, while the 'Education\_Test' category witnessed a significant surge in articles after the broadcast. Conversely, the 'Science, Medical\_Health, Women' category saw a slight decrease in proportion(Table 8). These trends indicate significant changes. Among these shifts, the notable increase in the 'Education\_Test' category can be attributed to two separate incidents that occurred in Korea after the airing of *Extraordinary Attorney Woo*: the enactment of the King's DNA education law and the controversy involving webtoon writer Joo and his child's special education teacher. These incidents have contributed to a broader range of topics in articles addressing the challenges faced by persons with ASD, reflecting a growing societal perspective. Additionally, although not among the top-ranking categories, there were instances where articles related to ASD were classified under 'Economy > Employment\_Startup', which increased from 1 article before the airing to 8 articles after the broadcast. Similarly, articles categorized under 'Society > Labor\_Welfare' saw an increase from 1 article before the airing to 7 articles after the broadcast(Table 7). This shift can be interpreted as heightened interest in the employment and social participation of persons with ASD and disabilities, underscoring the evolving discourse on these topics.

Table 7. Classification of ‘autis’ keyword article content according to BigKinds integrated classification system

| Ranking | Classification area                    | Total period              |                  | Before airing             |                  | On air                    |                  | After airing              |                  |
|---------|--|---------------------------|------------------|---------------------------|------------------|---------------------------|------------------|---------------------------|------------------|
|         |  | Number of articles (case) | article rate (%) | Number of articles (case) | article rate (%) | Number of articles (case) | article rate (%) | Number of articles (case) | article rate (%) |
| 1       | Culture>Broadcasting_Entertainment     | 604                       | 20.7             | 41                        | 8.9              | 310                       | 39.5             | 253                       | 15.2             |
| 2       | Society>Education_Test                 | 420                       | 14.4             | 29                        | 6.3              | 31                        | 3.9              | 360                       | 21.6             |
| 3       | Society>People with Disability         | 319                       | 11.0             | 81                        | 17.5             | 63                        | 8.0              | 175                       | 10.5             |
| 4       | Culture>Publishing                     | 233                       | 8.0              | 41                        | 8.9              | 98                        | 12.5             | 94                        | 5.6              |
| 5       | IT_Science>Science                     | 163                       | 5.6              | 41                        | 8.9              | 25                        | 3.2              | 84                        | 5.0              |
| 6       | Society > Events_Accidents             | 156                       | 5.4              | 26                        | 5.6              | 5                         | 0.6              | 125                       | 7.5              |
| 7       | Society>Medical_Health                 | 112                       | 3.8              | 25                        | 5.4              | 18                        | 2.3              | 69                        | 4.1              |
| 8       | Culture>Movies                         | 83                        | 2.9              | 1                         | 0.2              | 30                        | 3.8              | 52                        | 3.1              |
| 9       | Science>Contents                       | 71                        | 2.4              | 9                         | 1.9              | 33                        | 4.2              | 29                        | 1.7              |
| 10      | Society>Women                          | 70                        | 2.4              | 21                        | 4.5              | 10                        | 1.3              | 39                        | 2.3              |
| 11      | Culture>Exhibition_Performances        | 60                        | 2.1              | 11                        | 2.4              | 7                         | 0.9              | 42                        | 2.5              |
| 12      | Culture>Life                           | 52                        | 1.8              | 4                         | 0.9              | 31                        | 3.9              | 17                        | 1.0              |
| 13      | Culture>Music                          | 49                        | 1.7              | 1                         | 0.2              | 8                         | 1.0              | 40                        | 2.4              |
| 14      | Society>Media                          | 40                        | 1.4              | 1                         | 0.2              | 13                        | 1.7              | 26                        | 1.6              |
| 15      | International>Europe_EU                | 32                        | 1.1              | 6                         | 1.3              | 8                         | 1.0              | 18                        | 1.1              |
| 16      | Society > General Society              | 31                        | 1.1              | 10                        | 2.2              | 1                         | 0.1              | 20                        | 1.2              |
| 17      | Culture>General Culture                | 27                        | 0.9              | 7                         | 1.5              | 5                         | 0.6              | 15                        | 0.9              |
| 18      | Culture>Art_Architecture               | 22                        | 0.8              | 8                         | 1.7              | 3                         | 0.4              | 11                        | 0.7              |
| 19      | International>Asia                     | 21                        | 0.7              | 2                         | 0.4              | 10                        | 1.3              | 9                         | 0.5              |
| 20      | IT_Science>Internet_SNS                | 20                        | 0.7              | 14                        | 3.0              | 1                         | 0.1              | 5                         | 0.3              |
| 21      | Sports>Golf syncopation                | 20                        | 0.7              | 6                         | 1.3              | 3                         | 0.4              | 11                        | 0.7              |
| 27      | Economy>Employment_Startup syncopation | 10                        | 0.3              | 1                         | 0.2              | 1                         | 0.1              | 8                         | 0.5              |
| 29      | Society>Labor_Welfare omitted below    | 9                         | 0.3              | 1                         | 0.2              | 1                         | 0.1              | 8                         | 0.4              |
| Total   |  | 2,912                     | 100              | 462                       | 100              | 785                       | 100              | 1,665                     | 100              |

Table 8. ReClassification of ‘Autis’ keyword article content by researchers

| Major reclassification areas      | Total period              |                  | Before airing             |                  | On air                    |                  | After airing              |                  |
|-----------------------------------|---------------------------|------------------|---------------------------|------------------|---------------------------|------------------|---------------------------|------------------|
|                                   | Number of articles (case) | article rate (%) | Number of articles (case) | article rate (%) | Number of articles (case) | article rate (%) | Number of articles (case) | article rate (%) |
| Broadcasting_Entertainment+Movies | 687                       | 23.6             | 42                        | 9.1              | 340                       | 43.3             | 305                       | 18.3             |
| Education_Test                    | 420                       | 14.4             | 29                        | 6.3              | 31                        | 3.9              | 360                       | 21.6             |
| Science+Medical_Health+Women      | 345                       | 11.8             | 87                        | 18.8             | 53                        | 6.8              | 192                       | 11.5             |
| Events_Accidents+Life             | 208                       | 7.1              | 30                        | 6.5              | 36                        | 4.6              | 142                       | 8.5              |

The drama *Extraordinary Attorney Woo* raised public sympathy and awareness by covering a wide range of topics through its articles, including vocation and independence as portrayed by Young-woo Woo, love and relationships for persons with developmental disabilities, social prejudice, and violations of judicial rights.

While other articles about celebrities or accidents may not appear to be directly related to the drama *Extraordinary attorney Woo*, there has been an increase in the frequency of articles about autistic spectrum disabilities since the drama began airing. Many of these articles cited 'Woo Young-woo' in their titles and content, suggesting that the drama has had an influence on the coverage of autistic spectrum disabilities-related topics.

Prior to the opening of the drama *Extraordinary Attorney Woo*, articles about autistic spectrum disabilities primarily focused on identifying its pathological characteristics or causes, the effects of chemical exposure during pregnancy, treatment developments, and topics related to children and infants. Consequently, there is limited interest in adults with ASD, and a lack of perspective from a social model. However, after *Extraordinary Attorney Woo* began airing, there was an increase in the number of articles discussing various social perceptions, discrimination, and exclusion related to autistic spectrum disabilities. This suggests that drama positively influences coverage of these topics.

The individual model perceives disability-related challenges as incidents befalling person with disability. This calls for expert intervention to resolve these issues and centers on changes within the disabled individuals themselves. However, when viewed through the lens of disability studies, this perspective of attributing disability problems solely to an individual's circumstances falls short of providing a comprehensive solution. This inadvertently imposes the burden of solely overcoming disabilities through individual exertion. In contrast, from the standpoint of disability studies, the social model has emerged as an approach that locates the root of disability-related challenges within an environment that does not align with an individual's characteristics. This model emphasizes enhancing the social milieu and providing adequate support to promote social inclusion. In adopting this critical perspective, the focus shifts from blaming the individual to fostering an inclusive societal framework that addresses broader factors contributing to disability-related concerns<sup>13-14</sup>. The findings of the content analysis affirm that the broadcast of this drama exerted a favorable influence on the transformation of perspectives within Korean society, specifically, a shift from an individual model of understanding disability towards adopting a more encompassing social model.

## 5. Conclusions

To ascertain whether the opening of the drama *Extraordinary Attorney Woo* heightened interest in People with ASD and led to an increase in articles related to the subject, an article search was conducted by dividing the timeline into periods before, during, and after the drama's broadcast. The big data analysis results suggest that the drama *Extraordinary Attorney Woo* has increased social interest in ASD. It has been verified that following the broadcast of this drama, articles related to 'autis' surged dramatically, ranging from a weekly average of at least 4.2 times to a peak of 11.4 times compared to the period before the drama aired. there was a significant surge in the number of articles related to 'autis' with articles that concurrently mentioned both 'autis' and 'Young-woo Woo' also registering a high frequency of exposure. This substantiates the notion that the airing of *Extraordinary Attorney Woo* spurred heightened media attention towards ASD. Also, keywords highly relevant in articles related to 'Autis' during the year prior to the drama's airing included terms indicating pathological conditions carried the highest weight values in the analysis. After this drama aired, keywords highly associated with 'Autis' encompassed a significant number of terms linked to the drama *Extraordinary Attorney Woo* or societal interest in ASD.



By comparing news content before and after the drama aired, it became evident that the perception of ASD shifted from an individual model to a social model, influenced by the themes presented in the drama. Before the drama aired, articles about autistic spectrum disabilities tended to focus on negative perceptions and emphasized prevention and treatment based on the assumption that autistic spectrum disabilities was a pathological condition. However, after the drama began to air, the focus of articles shifted to social issues, which became the predominant subject matter.

The challenges faced by persons with autistic spectrum disabilities are not just personal problems but also societal issues that require collective action to improve the social environment and address prejudice and discrimination. Given the confirmed impact of dramas in raising social awareness of disabilities, it is important to actively promote the inclusion of people with disabilities as equal members of society with the same rights and opportunities as others. This includes efforts to address prejudice and discrimination. Additionally, it is necessary to establish guidelines and educate media producers to ensure that their portrayals of people with disabilities do not perpetuate negative stereotypes or distort public awareness.

The significance of this study lies in its advancement beyond a critical analysis of media portrayals of people with disabilities to provide objective evidence on the impact and societal repercussions of dramas on disability awareness through comprehensive big data and content analyses. However, owing to the focus on media articles assessing the influence of popular dramas featuring disabled characters on ASD awareness, this study may not capture broader shifts in public perception. Subsequent research using big data from social media platforms, which can effectively gauge public sentiments in contemporary society, is recommended as a follow-up study. Additionally, as part of our future research, we intend to critically assess dramas depicting people with disabilities from an inclusive perspective, delving into the guidelines for such representations and issues related to the participation of people with disabilities in drama production.

## Funding

This work was supported by Hanshin University Research Grant.

## References

- 1) Hong S.. *Understanding of Tv Drama*. 2017, Gyeongsang National University Press. Gyeongsangnamdo.
- 2) Korea Press Information Society. *Modern Society and Mass Communication*. 2016, Hanul Academy, Gyeonggi.
- 3) Sausse S.K.. *Miroir brisé : l'enfant handicapé, sa famille et le psychanalyste*. 1996, Edition Calmann-Lévy. Translated by Kim H. *The Gaze's Violence*. 2016, Hanulimspecial, Seoul.
- 4) Ellis K.. *Disability and Digital Television Cultures*. 2019, Routledge. Translated by Jongwon Ha &Gisung Park. *Disability and Television Culture*. 2022, Culturelook, Seoul.
- 5) United Nations. Convention on the rights of persons with disabilities. 2006.  
URL:[https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A\\_RES\\_61\\_106.pdf](https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_61_106.pdf)
- 6) Kim S. & Nam S.. A Study on The Young Adults Life of People with Autistic Spectrum Disability through Drama - Focusing on Extraordinary attorney Woo. *Culture and Convergence*. 2023, 45(2), 689-708. DOI: 10.33645/cnc.2023.02.45.02.689

- 7) Kim M., Jang Y. & Kim S.. “Strange and Eccentric but Worthy and Beautiful”: Representation of a Person with Disability in 〈 Extraordinary Attorney Woo 〉 and Its Implications. *Korean Journal of Broadcasting and Telecommunication Studies*. 2022, 36(6), 41-79.
- 8) Lee S.. A Study of the Representation of Disability in the Show- Focusing on 'Extraordinary Attorney Woo.' *Journal of Korean Society of Media & Arts*. 2022, 20(5), 49-63. DOI: 10.14728/KCP.2022.20.05.049
- 9) Kwon C.. Changes in Media Perspectives on Autism and Developmental Disorders. *Korea Society Of Computer Information Academic conference papers*. 2023, 31(1), 183-184.
- 10) Korea Software Engineers Association Big Data Strategy Research Center. *Introduction to big data*. 2023, Kwangmoonkag. Gyeonggi.
- 11) BIGKinds, <https://www.bigkinds.or.kr>
- 12) Choi S., Jeong J. & Jung S.. Concept and Procedures of Qualitative Content Analysis. *Journal of Qualitative Inquiry*. 2016, 2(1), 127-155.
- 13) Nam S.. A Study on the Enhancing Job Accommodation Support System and Application in Korea, *Journal of vocational rehabilitation*. 2014, 24(1), 137-157.
- 14) Oliver M.. *Politics Of Disablement*. 1990, Red Globe Press. London.