



Social Perception For The Activation Of Sports For The Visually Impaired Individuals: Focusing On Big Data Analysis Of Korean Media

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<p>Keywords: Visual Impairment; Sports Activation; Big Data Analysis; Korea Media.</p>	<p>Abstract This study evaluated societal perceptions regarding the promotion and development of sports for visually impaired individuals in South Korea. Utilizing BIGKinds, a news big data analysis platform provided by the Korea Press Foundation, this study conducted a longitudinal analysis spanning from 2014 to 2023. This study focused on identifying and examining keyword patterns and trends associated with the term 'visually impaired' to elucidate shifts in media discourse and public interest. As a result, this study confirmed that 1,573 articles had been written in the last decade on sports for the visually impaired individuals in Korean media big data, with interest in these sports appearing mainly in goalball, boccia, and tandem cycling. Specifically, the number of articles on sports for the visually impaired individuals increased from 179 in 2014, decreased due to COVID-19, and then increased again to 249 in 2023. Trends indicate sustained media attention but reflect changing societal interests and pandemic impacts. The order of visually impaired individuals sports disciplines frequently covered by the Korean media is a goalball, boccia, and tandem cycle that highlight inclusivity, challenging stereotypes and social barriers for visually impaired individuals.</p>
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Introduction

Regular exercise is essential for maintaining the health of individuals with disabilities (Durstine et al., 2000). However, participation in exercise may be limited depending on the type and severity of the disability. Individuals with visual impairments experience physical and psychological challenges in daily life, often leading to increased tension and anxiety (Van Der Aa et al., 2016). Physical activity plays a crucial role in alleviating these difficulties. Despite its benefits, engaging in team sports or cycling presents unique challenges for visually impaired individuals (Haegele et al., 2022). Visual impairment encompasses low vision and legal blindness. The World Health Organization (WHO) defines low vision as a visual acuity of less than 6/18, indicating a reduced ability to see details at a distance, while legal blindness is defined as a visual acuity of less than 6/60 in the better eye without correction (Vitale et al., 2006). Recent estimates suggest that approximately 45 million individuals globally meet the WHO's criterion for blindness, highlighting the substantial burden of severe visual impairment (Cunningham, 2001). Visual impairment can significantly affect daily living and reduce overall quality of life (Crewe et al., 2011; Carretti et al., 2023). Conversely, physical activity enhances daily fitness, promotes a positive self-concept, and facilitates leisure enjoyment among visually impaired individuals (Carretti et al., 2023). Promoting psy

chological and physical well-being through sports engagement is critical to improving the lives of visually impaired individuals (Caputo et al., 2022). Facilitating their participation in sports requires specialized facilities, equipment, and trained personnel (Maśliński et al., 2020). Providing access to adaptive sports infrastructure and trained support staff can significantly increase participation and encourage ongoing engagement (Kim et al., 2017).

Analyzing the media discourse surrounding sports for visually impaired individuals is necessary, as media coverage significantly influences public perceptions. However, discourse analysis on this topic remains limited, particularly in the South Korean context (Kim et al., 2017). The media shapes public opinion through agenda-setting and framing, influencing which issues receive attention and how they are perceived (Baum & Potter, 2008; McCombs & Shaw, 1972). According to the agenda-setting theory, the media determines public priorities by selecting topics to highlight (McCombs & Guo, 2014). Media coverage plays a pivotal role in shaping societal attitudes, ultimately affecting policy and public engagement in inclusive sports (McCombs & Shaw, 1972). In the context of visually impaired sports, understanding how these activities are portrayed in the media provides valuable insights into public attitudes and highlights the need for inclusive sports policies. Research by Ismail et al. (2022) on Paralympic athletes revealed disparities in media coverage between disability and non-disability sports. Similarly, Jessup et al. (2013) found that visually impaired youths use leisure as a form of resistance to social constraints, employing strategies such as advocacy, redefinition, and passing. These strategies boost confidence, reshape social interactions, and challenge prevailing discourses on blindness. Additionally, Hall et al. (2023) examined the dynamics between visually impaired runners and their guides, emphasizing the importance of collaboration and mutual understanding to foster inclusivity in sports. Despite existing studies, limited research explores which sports for visually impaired individuals attract the most public attention. This study aimed to analyze media coverage of visually impaired sports in South Korea, identify trends, and provide foundational data to support the promotion and development of these sports.

Methods

BIGKinds

BIGKinds (BIG data analysis system for News Kinds) is South Korea's largest news analysis service, applying big data analytics to data collected from 54 major Korean news outlets (Park et al., 2022). This service is a sophisticated platform that aggregates news from various media sources, including national dailies, economic journals, regional newspapers, and broadcasters, into a comprehensive database (Kang et al., 2023). By integrating big data technology, BIGKinds enhances the analytical capacity and utility of accumulated news content.

Initially launched through the KINDS service in 1990, BIGKinds has evolved into a vast repository of news content spanning several decades. This platform not only facilitates searches across a wide array of news articles but also supports detailed analyses of contemporary social issues and Korean society (Ko et al., 2021). Its high utility is recognized in fields requiring extensive media coverage analysis, trend identification, and the examination of shifts in public discourse over time. Increasingly adopted in academic and professional research, BIGKinds allows for the extraction and analysis of patterns and trends from large volumes of news data, making it an invaluable tool for those studying media dynamics in Korea (Kim & Kim, 2024).

The system operates through various components. News from outlets such as newspapers and broadcasters is collected by the News Collection System, which categorizes articles by type and extracts keywords. The News Analysis System processes articles through morphological analysis, breaking down words, employing named entity recognition to classify terms, and conducting network analysis to understand relationships and patterns within the data.

Finally, processed news data is stored in the News Storage System, creating a comprehensive repository of big data (Figure 1). This framework enables extensive analysis and information retrieval, supporting diverse research and media monitoring initiatives (Jung & Shin, 2020; Park et al., 2022).

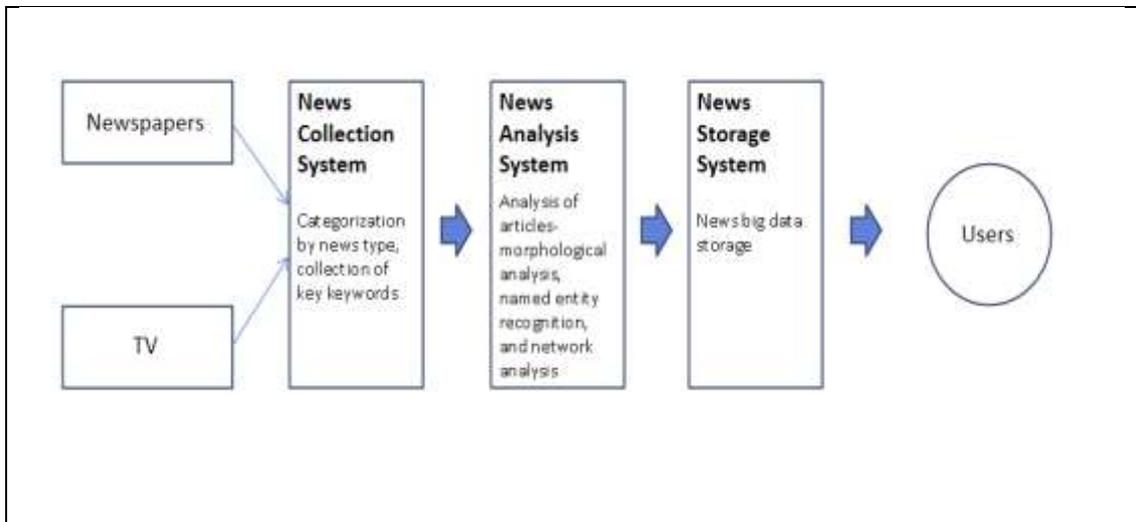


Figure 1. The concept of the BIGKinds service [Source: author]

Data collection

For this study, the news analysis service BIGKinds, provided by the Korea Press Foundation, was utilized to collect articles related to 'para-sports' and 'sports for the visually impaired individuals' from Korean news outlets. As a result, the press articles were selected using the BIGKinds database, focusing on keywords related to the keyword. This study focused on examining the frequency, trends, and related keywords of these news articles to gather insights into the media portrayal of sports for the visually impaired individuals in Korea. Data was collected for ten years, from January 1, 2014, to December 31, 2023. The collection period from 2014 to 2023 aligns with the rise of para-sports in Korea, notably influenced by global and national events, including the 2018 Pyeongchang Winter Paralympics. This comprehensive review of the past ten years aimed to understand how the coverage of visually impaired sports has evolved and how these sports have been represented in the Korean media.

Data analysis

In the BIGKinds system, relationship analysis begins by morphologically analyzing the texts of the top 1,000 most accurate news articles retrieved by keyword searches. This analysis extracts noun phrases, which are then subjected to named entity recognition algorithms to re-extract named entities. The frequency of news articles associated with these entities is considered, and weights are assigned accordingly. The BIGKinds program assigns weights to keywords using the TopicRank algorithm, which is designed to extract key terms from text data. This network-based keyword analysis algorithm identifies significant words or phrases within a text and establishes connections between them. Weights are assigned based on the frequency of co-occurrence, reflecting how often specific keywords appear together. The topic rank algorithm thus considers both frequency and structural connections to identify high-importance keywords. If a keyword frequently appears alongside multiple key terms, it receives a higher weight, indicating its significance within the text (Jung & Shin, 2020). The relationship analysis applies weights from 9 to 84. Additionally, relatedness analysis identifies the top 20 keywords with the highest weights, indicating solid connections with the repository.

rted news. Also, this study specifically filtered out person-related, event-specific, institutional, and geographical keywords, focusing solely on extracting sports disciplines related to visually impaired sports. The word cloud, presented in Korean, was excluded from this study, while the relatedness analysis table was included in the research findings. Trend analysis, typically done over five or ten years, was conducted based on a decade-long dataset in this study, providing a comprehensive overview of the trends concerning sports for the visually impaired individuals.

Results

The search frequency and trends for keywords

Over the past ten years, when analyzing the keyword "para-sports" in Korean media big data, it was found that 42,350 articles were searched. Specifically, from 2014 to 2023, 1,573 articles were identified when searching keywords related to 'sports for the visually impaired individuals' in Korean media big data. Notably, interest in this category was observed in goalball, boccia, and tandem cycling. The search frequency varied annually. Figure 2 shows 179 articles in 2014, 207 in 2015, 124 in 2016, 143 in 2017, 144 in 2018, 145 in 2019, 89 in 2020, 120 in 2021, 173 in 2022, and 249 in 2023. The related words include disabled people, health promotion, leisure activities, activation, COVID-19, Goalball, Boccia, Tandem cycling, welfare center, and sports sponsorship.

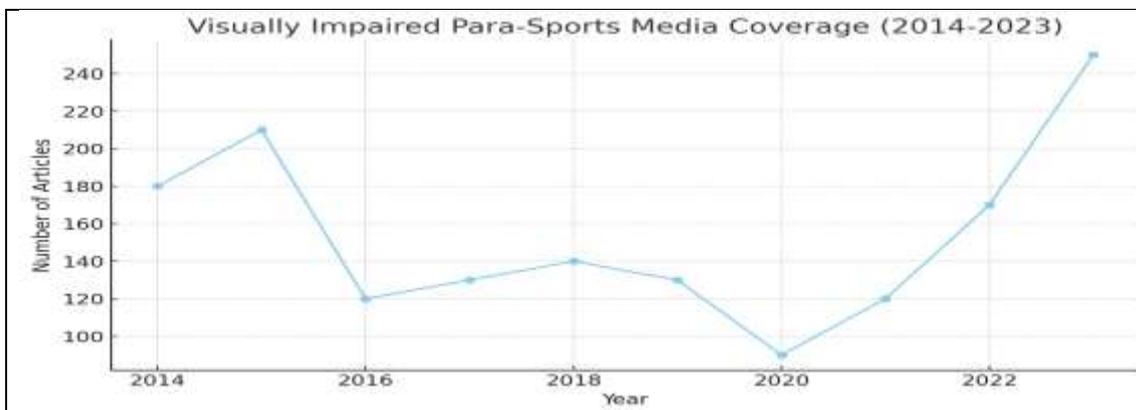


Figure 2. The search frequency trend for the keyword ‘para-sport’ and ‘sport for visually impaired individuals’ over the past ten years [Source: author]

This data suggests a fluctuating but overall increasing interest in visually impaired para-sports over the years, with peaks and valleys in media coverage. In particular, it is noteworthy that the frequency of related search terms decreased during the COVID-19 pandemic period, which is attributed to the restrictions on all activities due to measures such as social distancing. The consistent presence of articles over the decade indicates sustained attention to these sports in Korean media. However, the fluctuations in search frequency may reflect changing societal interests, media priorities, or developments within the sports themselves.

Analysis of related words

Table 1 presents keywords related to the top three sports types for the visually impaired individuals, ranked by weight and frequency. "Goalball" ranks first with a high weight of 66.53 and the highest frequency of 791, indicating it is the most discussed sport in this context. "Boccia" comes in second, with a much lower weight of 20.17 and a frequency of 97, suggesting it has considerably less media coverage and discussion than Goalball. Lastly, "Tandem cycling" is ranked third with a weight of 13.28 and a frequency of 81, showing it a

s the least featured among the top three but still notable.

Table 1. Analysis of related words (limited to the top 3 sports types)

Rank	Keywords	Weight	Frequency
1	Goalball	66.53	791
2	Boccia	20.17	97
3	Tandem cycling	13.28	81

Trends of search terms over the past 10 years

As is well known, Goalball is a team sport specifically designed for athletes with vision impairments, played by teams of three who attempt to throw a ball embedded with bells into the opponent's goal (Van Rheenen et al., 2017). Originating as a rehabilitation exercise, goalball does not involve kicking and requires players to use ear-hand coordination to track the ball's movement. Unlike many other sports, goalball lacks an able-bodied equivalent, and all participants, including those who are partially sighted, must wear blindfolds to ensure fairness (Hersh & Johnson, 2008). The game is played indoors on a volleyball-sized court, with matches divided into twelve-minute halves and a three-minute halftime—extended from the previous ten-minute halves. Players defend their goal while trying to score by listening to the sound of the bell inside the ball. Eyepatches under the eyeshades ensure complete visual blockage in case the eyeshades shift. Additionally, goalball rules mandate that players rotate positions and rest between shots, promoting fairness and ensuring player endurance throughout the match. In the event of a tie, the game proceeds to golden goal overtime, which consists of two three-minute periods, followed by a shootout if the tie remains unresolved (Kimyon & Ince, 2020).

Figure 3 displays a trend analysis of media coverage for the sport of Goalball over a ten-year period, indicating a total of 1,582 cases. The line graph shows fluctuations in the frequency of articles from 2014 to 2023. After a slight decline from 2014 to 2019, there is a notable dip in 2020, followed by a significant resurgence from 2020 onwards, peaking in 2023. This change in trend is believed to be the effect of social distancing due to COVID-19.

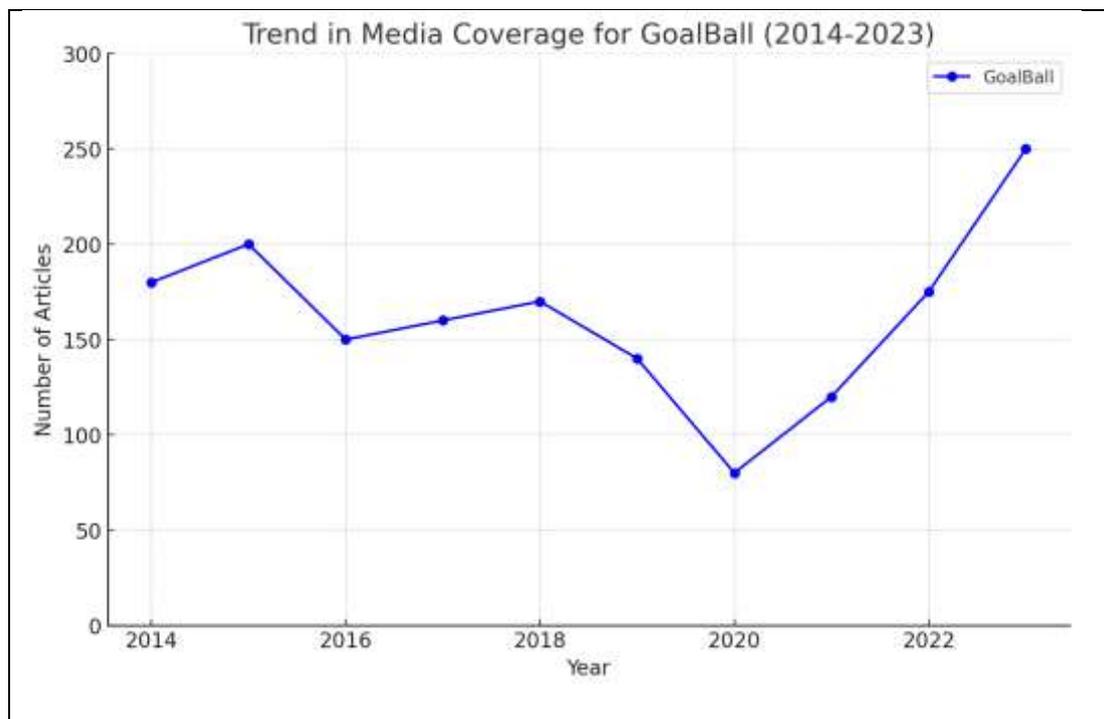


Figure 3. Trend analysis of media coverage for the sport of Goalball over a ten-year period [Source: author]

Boccia is a precision ball sport, similar to bocce, designed for athletes with severe physical disabilities (Lapresa et al., 2017). The game can be played individually, in pairs, or in teams of three, with mixed-gender participation. The primary objective is to throw or roll leather balls, colored red or blue, as close as possible to a white target ball called the jack (Webborn, 2011). The game begins by throwing the jack, followed by two initial balls—one thrown by the player who threw the jack and the other by the opposing side. Players take turns attempting to position their balls closer to the jack or displace the opponent’s balls. The team farthest from the jack continues to throw until all balls have been played. Points are awarded based on the proximity of each ball to the jack at the end of the round, with one point given for every ball closer than the opponent’s nearest ball. Match formats vary, with differences in the number of ends and balls, depending on whether the game is played individually, in pairs, or as a team. Extra ends are used to break ties. Boccia courts measure 12.5 meters by 6 meters and feature a flat, smooth surface. Athletes must remain within designated throwing boxes, and the sport often incorporates assistive devices to support individuals with severe disabilities (Ferreira et al., 2022). Boccia balls are made of leather, slightly larger than tennis balls, and are available in different degrees of softness and hardness to accommodate various tactical strategies (Dickson et al., 2010).

Figure 4 demonstrates the search frequency of the sport Boccia over a ten-year period, totaling 4,996 instances in the media. The line graph shows significant fluctuations in interest and coverage from 2014 to 2023. Initially, the frequency started strong in 2014, experienced some variations, and dipped to its lowest in 2020. This decrease could be attributed to the global impact of COVID-19 on sports reporting and events. However, from 2021 onwards, there has been a noticeable recovery and a sharp increase in mentions, reaching a peak in 2023. This trend analysis highlights the changing dynamics and renewed interest in Boccia within the sports community and media over the last decade.

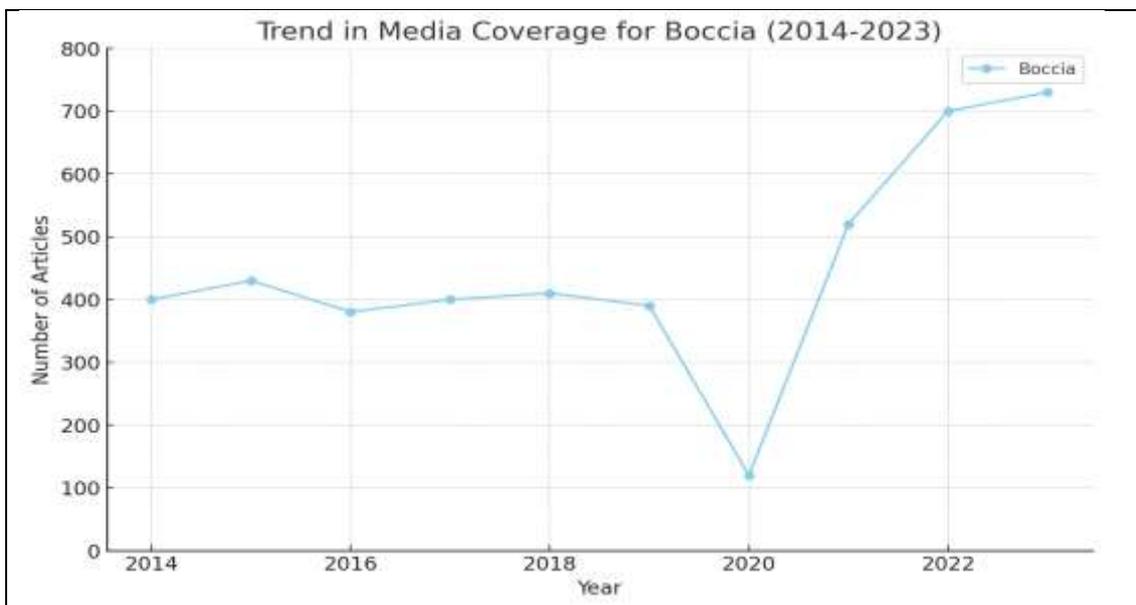


Figure 4. Trend analysis of media coverage for the sport of Boccia over a ten-year period [Source: author]

Tandem cycling for visually impaired individuals involves the use of a bicycle designed for two riders, allowing a visually impaired cyclist to ride with the assistance of a sighted partner (Hammer, 2015). The bicycle positions the two riders in a single file, with the sighted pilot seated in the front, controlling the bike's speed and direction. This configuration ensures safety and enables visually impaired individuals to engage in cycling competitively and recreationally. The sighted pilot's role is crucial in maintaining speed and maneuverability, allowing performance comparable to standard bicycles (Symons, 2024). Tandem bicycles have been utilized since the mid-1880s and are known for their ability to achieve higher speeds than solo bicycles. Today, they serve as an inclusive form of physical activity, fostering participation by visually impaired athletes in cycling events and supporting overall physical fitness (Christie-Robin et al., 2012). The sport offers a valuable avenue for social integration and provides an opportunity for visually impaired individuals to participate actively in both recreational and competitive cycling environments.

Figure 5 shows the media coverage trend for tandem cycling over a ten-year period, totaling 121 cases. Initially, in 2014, there was a significant spike in coverage, which quickly declined in the following years. A minor resurgence in interest peaked around 2018, but it was short-lived as the coverage once again tapered off to lower levels by 2019. After a period of minimal mentions through 2020 and 2021, likely impacted by the global COVID-19 pandemic, there was a slight uptick in 2022 and 2023, suggesting a modest revival of interest in tandem cycling. This visual trend analysis indicates that while tandem cycling had periods of media attention, overall, it has remained relatively low-profile compared to other sports within the same category over the last decade. This data can be helpful for understanding the fluctuations in media focus and public interest in tandem cycling as a sport for the visually impaired individuals.

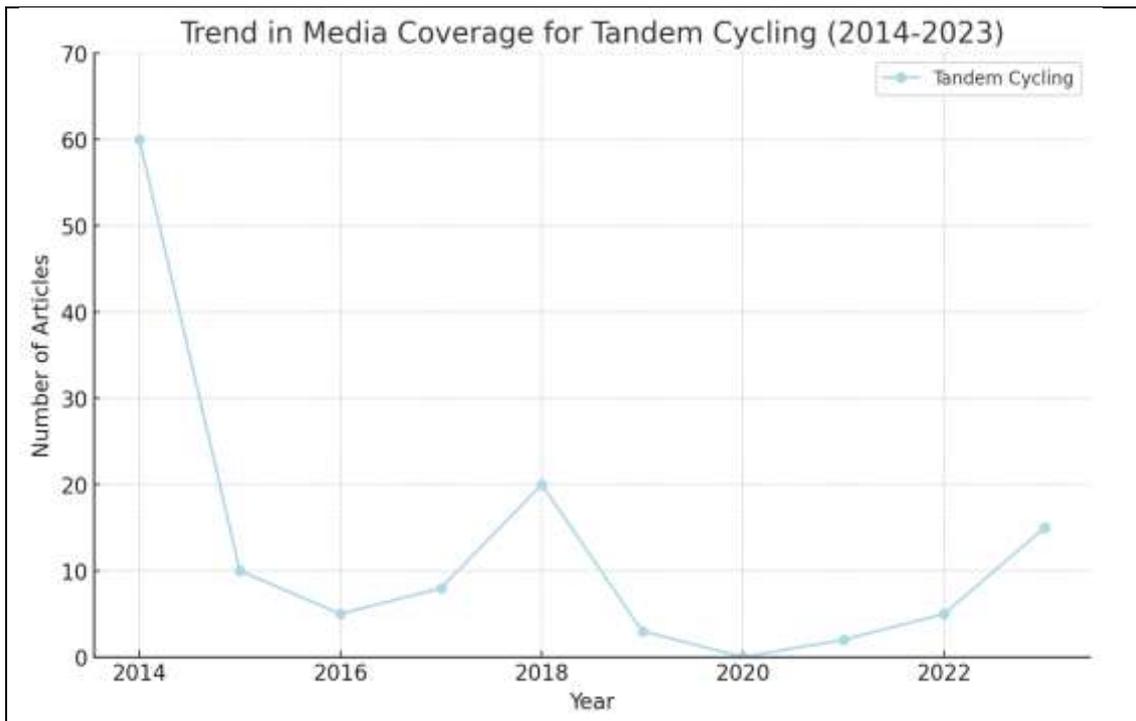


Figure 5. Trend analysis of media coverage for the sport of Tandem cycling over a ten-year period [Source: author]

Figure 6 illustrates the trends in media coverage for three sports for the visually impaired individuals —GoalBall, Boccia, and Tandem Cycling—over a ten-year period from 2014 to 2023, with notable impacts observed during the COVID-19 pandemic in 2020. Boccia, represented in light blue, saw consistent media attention of around 400 articles per year until 2020, when coverage sharply declined, likely due to pandemic restrictions that limited indoor sports activities. GoalBall, shown in dark blue, also experienced a dip in 2020, reflecting similar limitations as an indoor sport. Both sports rebounded significantly post-pandemic, with Boccia peaking at nearly 750 articles and GoalBall reaching around 250 articles by 2023. In contrast, Tandem Cycling, an outdoor sport represented in light green, had limited media coverage overall, but it was less impacted by pandemic restrictions compared to indoor sports.

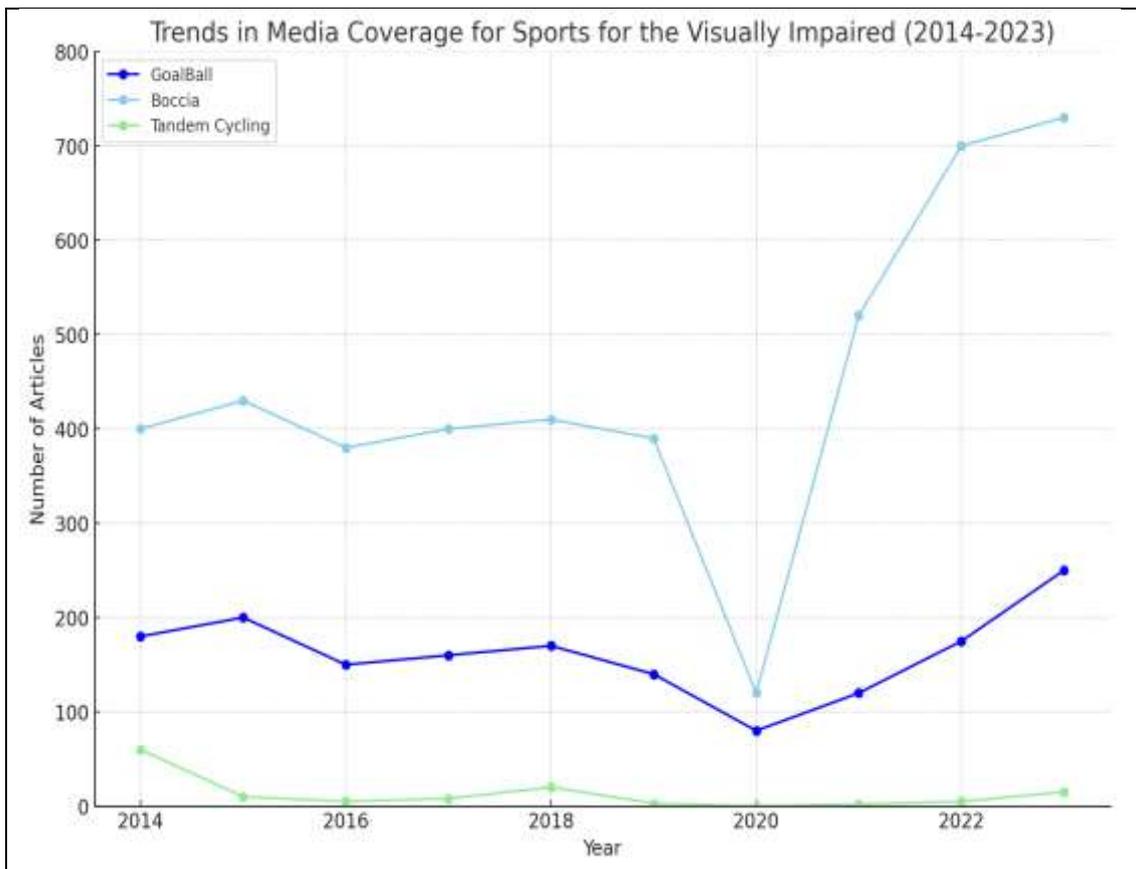


Figure 6. Trends in media coverage for sports for the visually impaired individuals (2014-2023) [Source: author]

Discussion

This study explores the representation of sports for the visually impaired individuals in Korean media over the past decade, utilizing the BIGKinds data analysis system to track trends from 2014 to 2023. The findings indicate a significant increase in media coverage, with articles rising from 179 in 2014 to 249 in 2023. However, this growth was punctuated by a noticeable decline during the COVID-19 pandemic in 2020, highlighting the impact of external events on media attention. The coverage primarily focused on goalball, boccia, and tandem cycling, sports that are particularly relevant to individuals with visual impairments. The observed fluctuation in media coverage underscores the influence of global events, such as the COVID-19 pandemic, on the visibility of disability sports. The pandemic led to widespread restrictions, which not only affected

sports events but also the media's capacity to cover such activities. The Korean media coverage of goalball, boccia, and tandem cycling reflects the significance of these sports for visually impaired individuals. These sports foster inclusivity, providing visually impaired athletes with opportunities for physical activity, teamwork, and competition (Tow et al., 2024). The media's role in highlighting these sports is crucial for promoting their acceptance and integration into the broader sports culture. However, the coverage is still sporadic and lacks the depth required to bring about substantial societal change. For example, blind soccer (5-a-side football) is played in South Korea as well, but the lack of media attention on it is noteworthy (Gamonales et al., 2021). While sports like goalball, boccia, and tandem cycling are widely covered in Korean media, the absence of coverage on blind soccer suggests that this sport has not gained significant attention in Korea. This discrepancy may indicate cultural preferences or a lack of promotion and support for blind soccer within the country. Including this sport in future research could provide a more comprehensive perspective on sports participation for the visually impaired. Additionally, analyzing the media representation of blind soccer could help identify factors that influence the sport's development and popularity in Korea and aid in creating strategies to expand diverse sports opportunities for visually impaired individuals.

This study also highlights the need for improved sports facilities and equipment tailored to the needs of visually impaired individuals. This need is echoed by previous research, which suggests that, despite existing media coverage, there is a significant gap in policy and infrastructure to support inclusive sports. Ismail et al. (2022) and Jessup et al. (2013) have emphasized the role of sports and leisure activities in challenging societal norms and empowering individuals with disabilities. These studies align with our findings, which suggest that media coverage, while important, must be supplemented by concrete actions in policy and infrastructure to facilitate broader participation in visually impaired sports. Furthermore, Hall et al. (2023) explored the dynamics between visually impaired runners and their sighted guides, highlighting the importance of inclusivity and strong interpersonal relationships within these sports. The study found that these relationships are pivotal for the success and well-being of visually impaired individuals, emphasizing the need for media to portray these sports in a way that fosters understanding and support among the general public. This finding is consistent with the present study, which identifies a gap in the quality of media coverage concerning the depth of understanding and the portrayal of the lived experiences of visually impaired individuals. The BIGKinds platform offers a valuable tool for analyzing media trends, but its utility extends beyond mere quantification. The platform allows for a deeper exploration of how sports for the visually impaired individuals are framed within societal narratives. This study's findings suggest that while there is a growing interest in these sports, the coverage often lacks a critical perspective that could drive policy change and public awareness. This aligns with the observations made by Durstine et al. (2000) and Van Der Aa et al. (2016), who highlighted the importance of consistent and comprehensive media coverage in influencing public perception and policy development. The media's portrayal of these sports as niche activities rather than integral parts of the broader sports landscape may contribute to the slow pace of policy development in this area. This is particularly significant when considering the broader implications of such media framing, as discussed by McCombs and Shaw (1972), who emphasized the agenda-setting role of media in shaping public priorities. In comparison, Kim et al. (2010) further illustrated how media framing can either marginalize or elevate certain issues within public discourse, thereby affecting policy responses. In addition, our findings resonate with the concerns raised by Ismail et al. (2022) and Jessup et al. (2013), who noted that the media often fails to capture the full spectrum of challenges and triumphs faced by athletes with disabilities. This limited portrayal can perpetuate stereotypes and hinder the development of more inclusive policies. As Baum and Potter (2008) suggested, the media's role in shaping public opinion is crucial, and a more nuanced approach to covering disability sports could accelerate the adoption of supportive policies. Comparatively, the findings of this study provide an a

Additional layer of understanding by emphasizing the need for a critical perspective in media coverage, which has been somewhat overlooked in previous research. Earlier studies focused on the positive impact of visibility, representation, and participation in adaptive sports and activities for individuals with disabilities. For example, Durstine et al. (2000) emphasized the importance of physical activity for individuals with chronic illnesses and disabilities, noting that greater visibility of adaptive sports can promote participation and overall well-being. Similarly, Van Der Aa et al. (2016) conducted a systematic review and meta-analysis, demonstrating how psychosocial interventions, including media representation, can improve the mental health of adults with visual impairments. Ismail et al. (2022) further stressed the role of media in shaping public perceptions of Paralympic athletes, advocating for more comprehensive and positive portrayals to challenge societal norms and foster inclusivity. However, this study extends the discussion by addressing the direct influence of cultural context on media representation, highlighting that regional differences may shape the prioritization of certain sports over others. This underscores the importance of localized media strategies that reflect the unique cultural and social dynamics at play. This insight aligns with McCombs and Guo's (2013) study, which suggests that the salience of media topics can directly influence public policy development.

As a consequence, this study could contribute to the understanding of how media attention towards sports for the visually impaired individuals has evolved over time. This study points towards a gradual increase in recognition, although there are significant gaps that still need to be addressed. Our findings advocate for a more strategic approach in media portrayal to better support and promote these sports. Media coverage should not only highlight the athletic achievements of visually impaired individuals but also emphasize the broader societal benefits of inclusivity in sports. This includes fostering greater public understanding of the challenges faced by visually impaired individuals and the importance of providing equal opportunities in sports and physical activities. Additionally, the results of this study have implications beyond the Korean context. The trends observed in Korean media may reflect broader global patterns in how disability sports are covered and perceived. This suggests that the findings could be applicable in other countries, particularly those with similar media landscapes. This study highlights the need for comparative research to explore how different countries represent sports for the visually impaired individuals in the media. Such research could provide valuable insights into best practices and help identify areas where improvements are needed. Also, our findings could underscore the importance of policy efforts to expand facilities, provide appropriate equipment, and train professionals dedicated to visually impaired sports like goalball, boccia, and tandem cycling. Policymakers need to consider these findings when developing strategies to promote inclusivity in sports and ensure that the necessary infrastructure and resources are available to support these initiatives. In conclusion, this study provides a comprehensive analysis of how sports for the visually impaired individuals are represented in Korean media. However, this study has several limitations. One significant limitation is the focus on Korean media, which may not capture the full scope of global perspectives and trends in the portrayal of sports for the visually impaired individuals. The reliance on the BIGKinds platform also limits the analysis to available data, potentially missing nuanced international viewpoints. Also, conducting a comparative analysis with other countries or examining similar representations in global media could enhance the study's relevance in the broader literature on disability sports. While the BIGKinds database offers a robust dataset, supplementing it with additional media sources or expanding the range of data could increase the generalizability of the results, allowing for a more comprehensive understanding of global media portrayals and perceptions. Future research should expand the scope to include comparative studies across different countries to understand how cultural contexts influence media representation. Additionally, investigating the direct impact of media coverage on public attitudes and participation rates in sports for the visually impaired individuals would provide valuable insights. Surveys or interviews could be used to assess how media

portrayal affects public perceptions and policy development. Understanding the effectiveness of media campaigns aimed at promoting inclusivity in sports is another crucial area for further study, as this could inform more strategic media approaches to support visually impaired individuals.

Conclusion

This study revealed a significant increase in media coverage of sports for visually impaired individuals in South Korea over the past decade, with particular emphasis on goalball, boccia, and tandem cycling. Analysis of 1,573 articles highlighted the growing interest in sports for visually impaired individuals, fostering physical activity, teamwork, and competition. While goalball, boccia, and tandem cycling received considerable attention, sports like blind soccer remained underrepresented, suggesting a lack of cultural recognition and institutional support.

Additionally, this study echoed prior research that emphasized the media's role in shaping societal perceptions of disability sports. However, it underscored the necessity for media portrayals to move beyond surface-level reporting, addressing the unique challenges and lived experiences of visually impaired athletes. Enhanced media narratives could have fostered greater public empathy, reduced stereotypes, and driven policy initiatives that expanded access to adaptive sports infrastructure and facilities. While South Korea's media landscape reflected certain trends, further cross-national studies could be essential to identify best practices and common barriers in disability sports coverage. This study has several limitations, notably its focus on South Korean media, potentially limiting the generalizability of findings. Additionally, reliance on the BIGKinds platform may omit nuanced perspectives from non-mainstream sources. Future research is recommended to explore comparative studies across different cultural contexts and investigate how media portrayal influences public participation in adaptive sports, contributing to a more equitable sports environment for visually impaired individuals.

References

1. Baum, M. A., & Potter, P. B. (2008). The relationships between mass media, public opinion, and foreign policy: Toward a theoretical synthesis. *Annual Review of Political Science*, 11(1), 39–65. <https://doi.org/10.1146/annurev.polisci.11.060606.135421>
2. Caputo, E. L., Porcellis da Silva, R. B., Leal da Cunha, L., Krüger, G. R., & Reichert, F. F. (2022). Physical activity and quality of life in people with visual impairments: A systematic review. *Journal of Visual Impairment & Blindness*, 116(1), 48–60. <https://doi.org/10.1177/0145482X22108620>
3. Carretti, G., Manetti, M., & Marini, M. (2023). Physical activity and sport practice to improve balance control of visually impaired individuals: A narrative review with future perspectives. *Frontiers in Sports and Active Living*, 5, 1260942. <https://doi.org/10.3389/fsals.2023.1260942>
4. Christie-Robin, J., Orzada, B. T., & López-Gydosh, D. (2012). From bustles to bloomers: Exploring the bicycle's influence on American women's fashion, 1880–1914. *The Journal of American Culture*, 35(4), 315–331. <https://doi.org/10.1111/j.1542-734X.2012.00837.x>
5. Crewe, J. M., Morlet, N., Morgan, W. H., Spilsbury, K., Mukhtar, A., Clark, A., & Semmens, J. B. (2011). Quality of life of the most severely vision-impaired. *Clinical & Experimental Ophthalmology*, 39(4), 336–343. <https://doi.org/10.1111/j.1442-9071.2010.02473.x>
6. Cunningham, E. T. Jr. (2001). World blindness--no end in sight. *British Journal of Ophthalmology*, 85(3), 253. <https://doi.org/10.1136/bjo.85.3.253>
7. Dickson, M. J., Fuss, F. K., & Wong, K. G. (2010). Benchmarking of boccia balls: Roll distance, accuracy, stiffness, rolling friction, and coefficient of restitution. *Sports Technology*, 3(2), 131–140. <https://doi.org/10.1080/19346182.2010.516260>
8. Durstine, J. L., Painter, P., Franklin, B. A., Morgan, D., Pitetti, K. H., & Roberts, S. O. (2000). Physical activity for the chronically ill and disabled. *Sports Medicine*, 30(3), 207–219. <https://doi.org/10.2165/00007256-200030030-00005>

9. Ferreira, C. C., Gamonales, J. M., Santos, F. J., Espada, M. C., & Muñoz-Jiménez, J. (2022). Boccia in Paralympic Games: The evolution from 1984 to 2016 and future perspectives. *Cuadernos de Psicología del Deporte*, 22(1), 205–214. <https://doi.org/10.6018/cpd.487741>
10. Gamonales, J. M., Muñoz-Jiménez, J., León, K., & Ibáñez, S. J. (2021). Differences between championships of football 5-a-side for blind people. *Applied Sciences*, 11(19), 8933. <https://doi.org/10.3390/app11198933>
11. Haegele, J. A., Ball, L. E., Zhu, X., Keene, M. A., & Nowland, L. A. (2022). Absent, incapable, and "normal": Understanding the inclusiveness of visually impaired students' experiences in integrated physical education. *Adapted Physical Activity Quarterly*, 39(4), 424–445. <https://doi.org/10.1123/apaq.2022-002>
12. Hall, D. L., Allen-Collinson, J., & Jackman, P. C. (2023). 'The agenda is to have fun': Exploring experiences of guided running in visually impaired and guide runners. *Qualitative Research in Sport, Exercise and Health*, 15(1), 89–103. <https://doi.org/10.1080/2159676X.2022.2089862>
13. Hammer, G. (2015). Pedaling in pairs toward a 'dialogical performance': Partnerships and the sensory body within a tandem cycling group. *Ethnography*, 16(4), 503–522. <https://doi.org/10.1177/1466138114552948>
14. Hersh, M., & Johnson, M. (2008). *Assistive Technology for Education, Employment and Recreation*. Springer, London. https://doi.org/10.1007/978-1-84628-867-8_1
15. Ismail, H., Khoo, S., Idrus, M. M., Cheong, J. P. G., & Razman, R. (2022). Newspaper coverage of Paralympic athletes: A multimodal discourse analysis. *SAGE Open*, 12(2), 21582440221102434. <https://doi.org/10.1177/21582440221102434>
16. Jessup, G. M., Bundy, A. C., & Cornell, E. (2013). To be or to refuse to be? Exploring the concept of leisure as resistance for young people who are visually impaired. *Leisure Studies*, 32(2), 191–205. <https://doi.org/10.1080/02614367.2012.723730>
17. Jung, J. H., & Shin, J. I. (2020). Big data analysis of media reports related to COVID-19. *International Journal of Environmental Research and Public Health*, 17(16), 5688. <https://doi.org/10.3390/ijerph17165688>
18. Kang, H. J., Kim, C., Kim, S., & Kim, C. (2023). A study on environmental trends and sustainability in the ocean economy using topic modeling: South Korean news articles. *Processes*, 11(8), 2253. <https://doi.org/10.3390/pr11082253>
19. Kim, J., Han, A., & Park, S. H. (2017). Stress-related growth experience: Listening to Korean adolescents who have visual impairments. *Journal of Constructivist Psychology*, 30(4), 427–438. <https://doi.org/10.1080/10720537.2017.1331887>
20. Kim, K. T., Lee, S., & Oh, E. S. (2017). Athletes with disabilities in the Paralympic Games: A framing analysis of television news. *Managing Sport and Leisure*, 22(4), 255–275. <https://doi.org/10.1080/23750472.2017.1341241>
21. Kim, Y., & Kim, B. (2024). How do the news media, academia, and the public view the metaverse? Evidence from South Korea. *Technological Forecasting and Social Change*, 198, 122980. <https://doi.org/10.1016/j.techfore.2023.122980>
22. Kimyon, B., & Ince, G. (2020). The comparison of physical fitness, anthropometric characteristics, and visual acuity of goalball players with their right shot performance. *Journal of Visual Impairment & Blindness*, 114(6), 516–530. <https://doi.org/10.1177/0145482X20974153>
23. Ko, J., Paek, S., Park, S., & Park, J. (2021). A news big data analysis of issues in higher education in Korea amid the COVID-19 pandemic. *Sustainability*, 13(13), 7347. <https://doi.org/10.3390/su13137347>
24. Lapresa, D., Santesteban, G., Arana, J., Anguera, M. T., & Aragón, S. (2017). Observation system for analyzing individual boccia BC3. *Journal of Developmental and Physical Disabilities*, 29, 721–734. <https://doi.org/10.1007/s10882-017-9540-7>
25. Maśliński, J., Wasilewski, P., Piepiora, P., & Witkowski, K. (2020). Access to sport and

- recreation services for visually impaired and blind people—a case study of the city of Wrocław. *Quality in Sport*, 6(2), 7–13. <https://doi.org/10.12775/QS.2020.006>
26. McCombs, M. E., & Guo, L. (2014). Agenda-setting influence of the media in the public sphere. In *The Handbook of Media and Mass Communication Theory* (pp. 249–268). <https://doi.org/10.1002/9781118591178.ch15>
 27. McCombs, M. E., & Shaw, D. L. (1972). The agenda-setting function of mass media. *Public Opinion Quarterly*, 36(2), 176–187. <https://doi.org/10.1086/267990>
 28. Park, D., Lee, H., & Jeong, S. H. (2022). Production and correction of misinformation about fine dust in the Korean news media: A big data analysis of news from 2009 to 2019. *American Behavioral Scientist*. <https://doi.org/10.1177/00027642221118287>
 29. Symons, D. (2024). Loading and structural stiffness of tandem bicycle frames. *Sports Engineering*, 27(1), 12. <https://doi.org/10.1007/s12283-023-00403-8>
 30. Tow, S., Green, S., Shapiro, J., Fisher, M., & Scott-Wyrd, P. (2024). Pediatric adaptive athletes. In *Adaptive Sports Medicine: A Clinical Guide* (pp. 435–470). Springer International Publishing. https://doi.org/10.1007/978-3-031-44285-8_33
 31. Van Der Aa, H. P., Margrain, T. H., Van Rens, G. H., Heymans, M. W., & Van Nispen, R. M. (2016). Psychosocial interventions to improve mental health in adults with vision impairment: systematic review and meta-analysis. *Ophthalmic and Physiological Optics*, 36(5), 584–606. <https://doi.org/10.1111/opo.12319>
 32. Van Rheenen, D., Grigorieff, M., & Adams, J. N. (2017). Envisioning innovation at the intersection of sport and disability: A blueprint for American higher education. *Journal of Higher Education Athletics & Innovation*, 1(2), 92–109. <https://doi.org/10.15763/issn.2376-5267.2017.1.2.92-109>
 33. Vitale, S., Cotch, M. F., & Sperduto, R. D. (2006). Prevalence of visual impairment in the United States. *JAMA*, 295(18), 2158–2163. <https://doi.org/10.1001/jama.295.18.2158>
 34. Webborn, N. (2011). Disability sport. In M. Hutson & C. Speed (Eds.), *Sports Injuries* (pp. 436–453). Wiley. <https://doi.org/10.1002/9781119316763.ch34>