

Media as a Response to Intervention Tool: Awareness Campaigns and Social Stigma Surrounding Children with Special Needs

Ghulam Safdar¹, Muhammad Javed Aftab², Norasyikin Mahmud³, Sarina Yusuf⁴,
Muhamad Shamsul Ibrahim⁵

¹Senior Lecturer, Department of Communication and Media, Sultan Idris Education University, Malaysia

²Assistant Professor, Department of Special Education, University of Education, Lahore, Punjab, Pakistan

³Associate Professor, Institute of Graduate Studies, Universiti Poly-Tech Malaysia (UPTM), Kuala Lumpur, Malaysia

⁴Senior Lecturer, Department of Communication and Media, Sultan Idris Education University, Malaysia

⁵Senior Lecturer, Department of Media and Communication Studies, Universiti Malaya (UM), Kuala Lumpur, Malaysia

Correspondence: norasyikin@uptm.edu.my³

ABSTRACT

Aim of the Study: This study examined media-based awareness campaigns as a Response to Intervention (RTI)/Multi-Tiered System of Supports (MTSS) tool for reducing social stigma surrounding children with special needs.

Methodology: Using quantitative cross-sectional survey design, data were collected from 150 teachers working in inclusive school settings. A 40-item structured questionnaire measured media exposure, awareness/knowledge, perceived usefulness of media as RTI/MTSS support, inclusive practices, and stigma-related attitudes. Descriptive results indicated moderate media exposure and moderate-to-high awareness, while stigma remained at a moderate level. Independent-samples t-tests showed that trained teachers reported significantly higher awareness, and public-school teachers reported significantly higher stigma than private-school teachers.

Findings: One-way ANOVA revealed that awareness differed significantly by teaching experience, with higher awareness among teachers with 16+ years of experience. Correlation and regression analyses demonstrated that awareness was strongly associated with lower stigma and fully mediated the relationship between media exposure and stigma. Findings suggest that media campaigns are more effective when they produce measurable learning and are reinforced through school-based support and teacher training.

Conclusion: The study concluded that media exposure alone is insufficient to reduce stigma toward children with special needs; meaningful stigma reduction depends on awareness, accurate knowledge, stereotype correction, and consistent inclusive practices within schools.

Keywords: Media awareness campaigns; Response to intervention; MTSS; Social stigma; Special needs; Inclusive education.

Article History

Received:
June 17, 2026

Revised:
August 31, 2026

Accepted:
September 10, 2026

Online:
September 30, 2026

1. INTRODUCTION

Across many societies, children with special needs (including physical, sensory, intellectual, developmental, and learning disabilities) continue to experience social stigma that shapes how families, peers, and institutions view them and how comfortably they participate in school and community life. Stigma can fuel stereotyping, social distancing, and exclusionary behaviour, which in turn affects children's social relationships, educational access, and overall wellbeing, while also placing emotional and social burdens on caregivers who may anticipate judgement or blame from others (Rohwerder, 2018; Jansen-van Vuuren & Aldersey, 2020). Stigma is not only a personal attitude; it is a social process reproduced through everyday language, norms, and repeated narratives, including those circulated through mass media and digital platforms. Recent evidence from caregivers of children living with disabilities shows that stigma can appear through labelling, avoidance, and community blame, and may push families toward concealment, withdrawal from social settings, or delayed engagement with formal services (Luetke Lanfer et al., 2025).

Because media environments strongly influence “what is normal,” they can either reinforce harmful misconceptions or promote inclusive, rights-based understandings of disability. Awareness campaigns when culturally sensitive, consistent, and linked to practical supports can strengthen disability literacy and normalize inclusion, but the impact of campaigns is uneven and often depends on credibility, message framing, and repeated exposure (Genovesi et al., 2024; Draganidis et al., 2024). At the same time, the shift toward social media has made public awareness campaigns more scalable and measurable in terms of reach and engagement, yet evidence suggests that engagement metrics alone are insufficient indicators of stigma reduction or behaviour change. Scoping and systematic reviews indicate that social media campaigns can improve knowledge and sometimes attitudes or stigma-related outcomes, but methodological limitations and short follow-up periods make it difficult to confirm sustained, causal effects especially when campaigns are not embedded within broader support systems (Plackett et al., 2025; Draganidis et al., 2024).

To address this limitation, the present study positions media-based awareness campaigns as a Response to Intervention (RTI) / Multi-Tiered Supports (MTSS)-aligned tool for stigma reduction and inclusion. Within MTSS logic, universal (Tier 1) supports aim to strengthen school/community climate and prevent barriers before they escalate, while targeted (Tier 2) supports focus on groups or settings where risk is higher; media campaigns can be intentionally designed as Tier 1 universal prevention to shift norms and can be adapted as Tier 2 targeted messaging for high-influence audiences (e.g., teachers, parents, community leaders) (Institute of Education Sciences [IES], 2024). Viewing media through an RTI/MTSS lens also clarifies evaluation: the goal becomes measurable improvement in stigma-related indicators (knowledge, attitudes, social distance) and observable inclusive behaviours (peer acceptance, reduced exclusion/bullying, help-seeking, referral pathways), rather than visibility alone. This approach aligns with global evidence syntheses showing that inclusion is hindered not only by resource constraints but also by social barriers (including discrimination and non-acceptance), and it highlights the need for stronger evidence on scalable interventions that address these barriers (Thota et al., 2022).

Practical examples demonstrate the feasibility of combining communication and community engagement for stigma reduction. UNICEF's “See Every Colour” campaign in Georgia, for instance, reported broad community reach and participation through meetings and social network dissemination aimed at reducing stigma around children with special educational needs and improving access to quality education (UNICEF, 2022). Accordingly, this research article argues that media campaigns when designed with tiered prevention logic, culturally grounded messaging, and outcome-focused evaluation can function as a structured intervention component within RTI/MTSS to reduce stigma and strengthen inclusive environments for children with special needs (IES, 2024; Plackett et al., 2025).

Media strongly influences public understanding of disability through repeated narratives, imagery, and labels, which can either reinforce stereotypes or promote dignity and inclusion. Recent reviews show that

awareness-raising and capacity-building materials for non-specialists are increasingly common, but their quality, cultural fit, and evaluation vary, particularly for developmental disabilities and child-focused inclusion. At the same time, digital and social media platforms have become dominant spaces for public education campaigns due to scale and low cost. Reviews of social media campaigns in public health show that campaigns can improve knowledge and sometimes attitudes/stigma outcomes, but evidence for sustained behavior change is mixed and often depends on campaign exposure, credibility, and connection to services.

From an education systems perspective, RTI/MTSS offers an established prevention and support structure (Tier 1–3) that can incorporate school climate and social–emotional factors, not only academics. Positioning stigma reduction messaging within MTSS supports the idea that inclusive norms and belonging are part of universal prevention, while targeted communication can address specific misconceptions among high-influence groups (e.g., staff, parents, peers). Although awareness campaigns addressing disability stigma exist, the literature shows three persistent gaps: (1) limited standardization of outcomes (many campaigns report reach/engagement without robust stigma or behavior measures), (2) weak causal evidence due to heterogeneous designs and short follow-up periods, and (3) insufficient integration with systems frameworks (campaigns are not consistently designed as components of tiered prevention models such as RTI/MTSS).

Additionally, evidence and gap mapping in disability inclusion emphasizes that many interventions in low- and middle-income contexts remain under-evaluated, with important gaps in what is known about scalable strategies that reduce social barriers (including stigma) to participation for children with disabilities. Finally, while contact-based and education interventions can reduce stigma in some contexts, translating these principles into media formats (storytelling, credible messengers, structured myth-busting, and service pathways) and evaluating them as tiered interventions remains an underdeveloped research area, especially in school and community settings involving children with special needs.

Despite increasing advocacy for inclusive education and child rights, many children with special needs still experience stigma and exclusion that reduce their access to learning opportunities, peer relationships, and timely support services. Public media and social media frequently shape community beliefs, yet many disability-related campaigns are implemented without being embedded in a structured intervention framework (such as RTI/MTSS) and without rigorous evaluation of changes in stigma and inclusive behaviors. As a result, schools and policymakers may invest in awareness activities that generate visibility but do not reliably produce sustained improvements in attitudes, social participation, or help-seeking pathways that are essential if stigma reduction is to translate into meaningful inclusion for children with special needs.

1. To conceptualize media-based awareness campaigns as a Tier 1 and Tier 2 RTI/MTSS intervention for reducing social stigma toward children with special needs.
2. To identify the campaign components (e.g., message framing, credible messengers, storytelling, calls-to-action, links to supports) that are associated with improved knowledge, attitudes, stigma indicators, and inclusive behaviors.
3. To propose measurable indicators for evaluating media interventions within an RTI/MTSS logic (reach, exposure, stigma/attitude scales, peer inclusion, bullying reduction, referral/help-seeking behaviors, and sustainability of change).
4. To synthesize recent evidence on awareness-raising materials and inclusion interventions and highlight practical implications for schools and communities seeking scalable stigma reduction strategies.

The present study offers theoretical contribution by combining two separate fields, which are: media, based public awareness and stigma reduction, and tiered prevention and support frameworks (RTI/MTSS). This amalgamation leads to a more transparent logic model for the design of campaigns as

interventions having defined tiers, measurable outcomes, and alignment to inclusive education systems. On the practical side, the research empowers schools, NGOs, and policymakers to shape the features of the campaign in such a way that they can influence the attitudes and stigma. It also deals with the need to connect media exposure to real, world supports, service pathways, and sustained engagement rather than just one, off messaging. Finally, research carries social worth: lessening stigma can, thus, increase the sense of belonging, improve peer relationships, and raise the level of acceptance of inclusive practices for children with special needs. By incorporating stigma reduction as universal prevention within RTI/MTSS, the research paves the way for scalable, system, level approaches that can harmonize with individualized support and, thus, lead to more equitable participation of children and families.

2. LITERATURE REVIEW

2.1 Media, Stigma, and Intervention Logics in Disability Contexts

Public stigma surrounding children with special needs is sustained through repeated social cues that mark disability as “other,” less capable, burdensome, or risky, which then shape emotions (e.g., pity, fear), social distance preferences, and discriminatory intentions. Communication environments especially mass media and platformed social media do not merely “reflect” these meanings; they help circulate and normalize them through story selection, framing, and the visibility of certain disability narratives over others, making media an important leverage point for prevention and stigma reduction. Because stigma operates as a population-level social process, media-based strategies can be positioned as universal (Tier 1) responses that aim to shift norms, increase accurate knowledge, and normalize inclusion (Plackett et al., 2025).

Health communication scholarship increasingly emphasizes that campaign effects are rarely linear; exposure may lead to engagement, discussion, reinforcement through peers, and wider policy or institutional shifts, meaning that “impact” can emerge indirectly even when individual-level attitude change is modest. Systematic evidence on social media campaigns suggests that common evaluation indicators focus heavily on reach and engagement while measuring knowledge, attitudes, stigma, or behavior change less consistently, which limits causal claims and the durability of inferred effects. This has direct relevance for disability-focused awareness efforts, where short-lived boosts in attention may not translate into durable inclusion unless messages are repeated, reinforced, and connected to opportunities for meaningful contact and structural supports (Kite et al., 2023; Plackett et al., 2025).

A disability-specific intervention logic benefits from integrating what is known about stigma reduction approaches such as contact-based strategies, psychoeducation, and narrative reframing into media designs that can operate at scale. Evidence from public-contact research indicates that everyday contact with people who have intellectual disabilities varies substantially across contexts, and this variability matters because contact quality and opportunities can shape public attitudes and stigma endorsement. Media can function as “indirect contact” by increasing familiarity with disability experiences and capabilities, but it can also reinforce stereotypes when portrayals are narrow, sensationalized, or deficit oriented. Consequently, a media-as-intervention approach must address both content quality and the social pathways through which messages spread and are interpreted (McConkey et al., 2021).

2.2 Evidence on Awareness-raising and Capacity-building for Developmental Disabilities

Recent mapping of awareness, raising and capacity, building materials for developmental disabilities reveals an expanding resource ecosystem targeted at none, specialist professionals and community members, mainly in low, and middle, income settings. The cited literature emphasizes that “awareness” is not just information dissemination; it frequently involves providing practical guidance for identification, referral, inclusive interaction, and respectful language, i.e., aspects that are essential for the reduction of stigmatizing responses in everyday encounters with children and families. This body of work, which charts materials from academic and grey sources and consults expert informants, is indicative of the

fragmentation of resources and the need for coherence in the recommendations and dissemination of resources (Genovesi et al., 2024).

One of the major consequences of this is that awareness content should be closely related to the competence and confidence of those audiences that have the power to influence the daily inclusion of children, e.g., teachers, community health workers, and local service staff. If awareness is merely presented without being connected to skill, building or to clear support pathways (e.g., what to do after recognition), stigma may continue to exist in benevolent forms such as pity, infantilization, or avoidance caused by uncertainty. Hence, capacity, building materials that also include concrete interaction strategies, inclusive communication approaches, and plausible scenarios may probably be more effective in lessening stigma, related anxiety and enhancing social participation than simply giving descriptive messages. This is also in line with the view that awareness campaigns should be considered as a part of a broader intervention ecology rather than as separate media events (Genovesi et al., 2024; Kite et al., 2023).

2.3 News Framing, Exemplification, and Stigma Outcomes

Experimental communication research has demonstrated that the portrayal of disability in news stories can significantly affect stigma, related attitudes and behavioral intentions. A large factorial experiment involving a news article about a student with a disability as a stimulus revealed that changes in the portrayal characteristics influenced readers' attitudinal and emotional responses. This shows that stigma is not fixed but rather sensitive to framing cues. The results are important for awareness campaigns as they suggest that media content choices such as focusing on the competence and agency of the disabled person versus dependency and limitation can have different downstream effects like willingness to interact, support accommodations, or endorse inclusive policies. Moreover, the findings here bolster a mechanism, oriented perspective: characters in pieces (this student) can become representatives for broader category views (students with disabilities), which implies that encountering one story may influence group, level stereotypes if the story is vivid, emotionally engaging, and considered typical. In the case of children with special needs, awareness campaigns utilizing exceptionalism (inspiring hero tropes) may unintentionally generate infeasible standards thus stigmatizing those who require more support, whereas campaigns concentrating only on burden narratives may deepen avoidance and social distance. Therefore, message design should balance authenticity, agency, and support needs without collapsing disability identities into either tragedy or inspiration stereotypes (Hastall et al., 2024).

2.4 Autism Portrayals in News Media and Stigma Cues

Autism has become a major point of reference in the discourse of "special needs," and a large amount of recent work has been done to show how news media can portray autism in ways that either help to normalize neurodiversity or to stigmatize it. The analysis of autism coverage over time shows that changes in the way people are framed and different attribution cues used are observable and that stigmatizing content is very much dependent on the time and is sensitive to cultural and policy debates. However, even when there is a decrease in the use of language that stigmatizes people directly, there are still more subtle ways of stigmatizing, for example, through metaphors, blame attribution, or selective emphasis on causes and burdens rather than on lived experiences and inclusion (Yu & Farrell, 2020). Investigating the language used in the British press to describe autism, the results of the study also indicate that autism depictions can continue to be biased towards negative or stereotyped views which might slow down the process of acceptance and the establishment of inclusive norms. Since the content of the press is both a reflection and an influence of public opinion, the continuation of negative representations is a cause of concern for awareness efforts that aim at the reduction of stigma at the population level. This kind of evidence suggests that awareness campaigns should not only explicitly counter the most common press stereotypes (e.g., presenting autism as merely deficit, danger, or burden) but also provide more accurate portrayals in terms of gender, ability profiles, and News portrayals of

autism beyond the Western world vary by media systems and are influenced by cultural narratives about disability (Zhou et al., 2024).

2.5 Broader Portrayals of Autism in Mainstream Media

A growing synthesis literature maps autism portrayals across fiction and non-fiction media and links these portrayals to stigma-related outcomes. Scoping work emphasizes that mainstream representations often cluster around a narrow range of archetypes (e.g., socially isolated savant, burdensome child, inspirational exception), which can distort public expectations and influence interpersonal judgments and policy attitudes. Importantly, this evidence suggests that stigma effects can be produced not only by overtly negative portrayals but also by reductive “positive” portrayals that erase heterogeneity and support needs. This reinforces the principle that awareness campaigns should aim for representational breadth and avoid single-story narratives (Mittmann et al., 2024).

2.6 Interventions to Reduce Autism Stigma

A growing number of synthesis studies are mapping the portrayal of autism in both fiction and non-fiction media and are relating these portrayals to stigma, related effects. Scoping studies highlight that mainstream representations frequently revolve around a limited number of characters (e.g., socially isolated savant, troublesome child, inspirational exception), which may mislead the public to have certain expectations and hence affect their judgments and policy attitudes. Quite significantly, this body of research indicates that stigma effects may result from not only negatively biased portrayals but also from reductive “positive” portrayals that lack the recognition of heterogeneity and support needs. This, in turn, reaffirms the idea that awareness campaigns should strive for representational breadth and be cautious of single, story narratives. The intervention synthesis further highlights a methodological challenge: many studies measure short-term attitude change while fewer examine sustained behavior, inclusion practices, or structural outcomes such as willingness to support accommodations and inclusive policies. This is particularly relevant for media campaigns, which may generate broad exposure but may not provide the relational depth that produces durable change unless campaigns are integrated with community programs, school-based inclusion activities, and service access pathways. For children with special needs, the most policy-relevant outcomes may include peer inclusion, teacher responsiveness, and reduced bullying endpoints that demand longer follow-up and multi-setting evaluation (Kim et al., 2024; Plackett et al., 2025).

2.7 Digital Campaigns, Engagement, and the Pathway to Behavior Change

Health communication campaign theory increasingly positions engagement not just awareness as central in social media environments, because engagement can signal attention, social endorsement, and diffusion through networks. An updated model of social media effects suggests that campaign exposure can lead to change through direct pathways (individual cognition and action) and indirect pathways (social norms, social support, and policy or institutional shifts). For disability awareness, this implies that campaigns should plan for participatory interaction (e.g., story-sharing, accessible Q&A, community-led content) rather than only broadcasting messages, because interactive engagement can increase perceived relevance and social proof (Kite et al., 2023).

At the same time, systematic review evidence indicates that many social media campaigns report engagement metrics without connecting them convincingly to downstream outcomes like stigma reduction or inclusive behaviors. This is not merely a measurement gap; it reflects the need to specify mechanisms linking engagement to attitude and behavior change such as whether engagement increases repeated exposure, prompts interpersonal discussion, or connects users to offline resources. In special-needs stigma contexts, engagement may also be double-edged: it can amplify supportive narratives, but it can also enable harassment, misinformation, and stereotyping if content moderation and community safety are not designed into the campaign (Kite et al., 2023; Plackett et al., 2025).

2.8 Social Media Campaigns and Stigma Reduction Evidence

Evidence on social media campaigns suggests potential for improving knowledge, attitudes, stigma-related perceptions, and sometimes help-seeking, but overall conclusions are constrained by evaluation design limitations. In particular, reviewers note challenges in attributing observed changes to campaigns rather than to concurrent events, and they report that behavior changes, when detected, may be short-lived. Translating this to disability stigma reduction implies that awareness campaigns may require sustained, repeated waves and reinforcement through institutions (schools, health systems, community organizations) to create durable normative shifts about children with special needs (Plackett et al., 2025).

This evidence base also highlights reach equity as a critical issue: campaigns may not reach underserved groups or may not be accessible to those with lower digital literacy, language barriers, or disability-related accessibility needs. For disability-focused awareness, accessibility is not optional it is part of the intervention itself because inaccessible campaigns can reproduce exclusion while claiming inclusion. Accordingly, rigorous campaign planning should include accessibility-by-design (captioning, alt-text, plain language, sign language options where relevant), and evaluation should examine differential reach and effects across demographic groups to avoid widening stigma and inclusion gaps (Plackett et al., 2025; Genovesi et al., 2024).

2.9 Disability Stigma beyond Autism: Intellectual Disability and Broader “special needs” Perceptions

While autism receives a lot of attention, intellectual disability and other developmental disabilities continue to be highly stigmatized, most often through stereotypes of incompetence, perpetual dependence, or social undesirability. A substantial body of research on perceptions of stigma in educational contexts reveals that stigma influences participation, and can thus lead to concealment or non-disclosure, which in turn affects social integration and access to support. This is particularly important for children with special needs, as stigma can act early on through peer exclusion, teacher low expectations, and parental isolation, thus creating cumulative disadvantages that will not only persist in later schooling but will also be carried over into adulthood. Research on public contact shows that most people may have limited or uneven contact with individuals with intellectual disabilities, and in such cases media portrayals may be able to shape people's beliefs about these categories to a much greater extent than would be expected. Even when there is contact, its impact hinges on the quality and circumstances, thus mere superficial contact might not alleviate stigma, and it could even reinforce paternalism if the interactions are presented as being through charity rather than rights and reciprocity. These results underline the significance of the design of awareness campaigns that, in addition to increasing visibility, also facilitate the implementation of respectful interaction norms and focus on autonomy, competence, and inclusion in everyday roles (McConkey et al., 2021).

2.10 Toward RTI-aligned Media Strategies: Tiered Prevention Logic

Positioning media as a Response to Intervention (RTI) or multi-tiered support tool is conceptually advantageous in that stigma reduction can be addressed at universal, selective, and indicated levels. At Tier 1, mass communication is used to change norms and reduce stereotyped beliefs; at Tier 2, targeted messaging can be used to focus on key gatekeepers (teachers, school leaders, community workers) with skill, building and corrective feedback; and at Tier 3, individualized and family-centered supports can be used to address internalized stigma, affiliate stigma, and coping in contexts where stigma is already harming participation and well-being. The problem is that media-based work is mostly focused on Tier 1 visibility while there is a lack of investment in Tier 2 and 3 pathways that facilitate behavior change and inclusion (Genovesi et al., 2024; Kim et al., 2024). Content and evaluation of campaigns within a tiered model must also be aligned. Tier 1 outcomes should go beyond awareness to include normative beliefs (e.g., perceived acceptability of inclusive education), social distance preferences, and willingness to support accommodations; Tier 2 outcomes should reflect changes in practices among gatekeepers (e.g.,

inclusive classroom strategies, referral behaviors); Tier 3 outcomes should feature lower levels of internalized stigma, increased help, seeking, and enhanced parent, school collaboration.

2.11 Methodological Patterns and Measurement Challenges

A common limitation identified in both the campaign and the intervention literature, is the heavy reliance on brief, proximal measures (knowledge quizzes, self, reported attitudes) as opposed to demonstrated inclusive behaviors or longer, term structural outcomes. This is important because stigma can change its form instead of going away; for instance, explicit stigma may decline while implicit bias, paternalism, or avoidance may remain. In the case of disabilities, the measurement of behavioral intentions is good but still incomplete; more convincing evidence should come from the observation of inclusive practices, peer interaction patterns, or actual support behaviors, particularly in schools where children are the ones directly experiencing stigma (Kim et al., 2024).

Another challenge is ecological validity: experimental stimuli (e.g., single news articles) demonstrate causal effects of framing, but real-world media consumption is repeated, multi-source, and algorithmically curated. Campaign evaluations must therefore consider message frequency, cross-platform diffusion, and the role of user-generated commentary, which can alter meaning and emotional tone. Systematic evidence on social media campaigns indicates that “campaign awareness” and repeated exposure may be important for change yet sustaining that exposure requires strategic planning and resources that many awareness initiatives lack (Plackett et al., 2025; Kite et al., 2023).

2.12 Synthesis and Implications for Special-needs Awareness Campaigns

Across the reviewed literature, a convergent implication is that media can reduce stigma when it (a) provides accurate, non-stereotyped information, (b) humanizes disability through authentic narratives without exceptionalism, (c) models’ respectful interaction and inclusion, and (d) links audiences to concrete actions and supports. Conversely, media can amplify stigma when it relies on tragedy, burden, blame, or sensationalized risk narratives, or when it frames disability primarily as a problem to be solved rather than a social inclusion issue. The experimental evidence on news portrayals and the corpus-based evidence on autism coverage together show that representational choices can plausibly shape stigma-related attitudes and intentions at scale (Karaminis et al., 2022; Yu & Farrell, 2020).

Finally, the literature suggests that “awareness” should be treated as an intervention component, not the endpoint. Effective stigma reduction likely requires multi-level reinforcement: campaigns that trigger engagement and discussion, materials that build capacity among gatekeepers, and opportunities for meaningful contact and inclusion in schools and communities. Reviews of autism stigma interventions and social media campaign effects both indicate that stronger evidence will come from multi-component designs and evaluations that measure longer-term inclusive behaviors and structural outcomes rather than only short-term attitude shifts (Genovesi et al., 2024; Kim et al., 2024; Plackett et al., 2025).

3. RESEARCH METHODOLOGY

3.1 Research Design

This study adopted a quantitative, cross-sectional survey design to examine how exposure to media-based awareness campaigns (e.g., TV, radio, social media, and community media) was associated with awareness/knowledge and social stigma surrounding children with special needs at a single point in time. The cross-sectional approach was used to estimate patterns and relationships within the population without making causal claims.

3.2 Population and Sampling

The population comprised teachers working in inclusive setups (mainstream schools implementing inclusive education) in the selected study area of Lahore division, as teachers were key stakeholders influencing peer attitudes, classroom climate, and day-to-day inclusion of children with special needs. A

population frame was prepared using available school lists and was verified through school administrations to ensure that eligible inclusive schools and teachers of Lahore division were covered. A probability-based sampling strategy was used, preferably stratified random sampling, to enhance representativeness by ensuring adequate coverage across school types (e.g., public/private) and levels (e.g., primary/secondary), of Lahore division where feasible. Where complete lists were limited, a multi-stage approach was applied (selection of schools followed by selection of teachers). This approach was used to strengthen generalizability and reduce sampling bias. Sample size was determined using a recognized sample size planning approach aligned with the primary inferential analyses (e.g., regression/SEM), considering confidence level, margin of error, expected effect size, and statistical power. The minimum required sample was calculated, and an allowance was added to account for nonresponse and incomplete questionnaires.

3.3 Instrument Development

A structured, self-administered questionnaire was developed with sections covering: (a) demographics (e.g., gender, teaching level, experience, training), (b) media exposure to disability-related awareness content (frequency, channels, recall), (c) awareness/knowledge about special needs (myths vs. facts), and (d) social stigma indicators (stereotypes, social distance, blame, discomfort, and exclusionary intentions) measured on a 5-point Likert scale. Instrument development followed a standard scale development process including construct definition, item generation, pretesting, refinement, and psychometric assessment.

3.4 Validity and Reliability of Research Instrument

Content validity was confirmed by an expert panel of specialists (e.g., inclusive education, psychology, and communication/media) who reviewed the items for relevance, clarity, and representativeness. The internal consistency of the different dimensions (media exposure, awareness, and stigma) was measured by Cronbach's alpha and McDonalds Omega for each subscale. The reliability results were evaluated by comparing them to the standards recognized in the field and by looking at item total statistics and factor loadings, to ensure that the items within each construct were consistent in eliciting the same responses.

Table 1: Reliability analysis of the questionnaire (N = 150)

Scale	k	Cronbach's α	McDonald's ω
Media Exposure	8	0.77	0.88
Awareness/Knowledge	8	0.78	0.90
Stigma (higher = more stigma)	10	0.59	0.82
Inclusive Practices	8	0.46	0.84
Media as RTI/MTSS Support	6	0.63	0.87
Overall	40	0.74	0.73

Table 1 shows that the Omega (ω) supported stronger internal consistency than alpha for some subscales; this pattern is common when items are ordinal and/or multidimensional.

3.5 Data Collection and Analysis

After all the required permissions and ethical approval were secured, the questionnaire was given to students either online or in a printed version depending on the school's feasibility. Participation was voluntary, informed consent was obtained, and anonymity and confidentiality were guaranteed.

Respondents were granted a specified time to complete the questionnaire, and reminders were sent to enhance response rates and reduce missing data. Data were examined for completeness, missing values, outliers, and basic assumptions prior to analysis. Descriptive statistics (frequencies, percentages, means, and standard deviations) were calculated, followed by reliability testing (and) and validity checks (EFA/CFA where applicable). The relationships between variables were explored using correlation

analysis, and the predictors of stigma outcomes were identified with multiple regression and/or SEM while controlling relevant demographic and training variables. The analytical approach was consistent with the cross, sectional recommendations for estimating associations rather than causation.

Table 2: Demographic characteristics of participants (N = 150)

Variable	Category	n	%
Gender	Male	91	60.67
	Female	59	39.33
School type	Public	82	54.67
	Private	68	45.33
Teaching level	Primary	69	46.00
	Middle	43	28.67
	Secondary	38	25.33
Age group	21–30	45	30.00
	31–40	60	40.00
	41–50	33	22.00
	51+	12	8.00
Experience	1–5	59	39.33
	6–10	52	34.67
	11–15	23	15.33
	16+	16	10.67
Training	Yes	96	64.00
	No	54	36.00

Table 2 shows the demographics information of the selected sample. As per collected data, results shows that in gender male were more as 60.67% most of the teachers were belongs to the government schools (54.67%), most of the teachers were primary level teachers (46%), most of the teachers were aged between 31-40 years old (40%), experience point of view, most of the teachers in the selected sample were experience of between 1-5 years (39.33%), most of the teachers got proper trainings (64%) as teacher.

Table 3: Descriptive statistics of study variables (N = 150)

Scale	M	SD	Min	Max
Media Exposure	2.97	0.82	1.50	4.63
Awareness/Knowledge	3.23	0.85	1.50	4.63
Stigma (higher = more stigma)	2.46	0.54	1.70	4.10
Inclusive Practices	2.98	0.61	1.88	4.00
Media as RTI/MTSS Support	3.01	0.78	1.33	4.50
Overall Score	2.90	0.39	2.08	3.78

Table 3 shows that the descriptive statistics in Table 3 summarize the central tendency and variability of the key study constructs for teachers (N = 150). Mean scores across most domains fall around the mid-point of the scale, indicating generally moderate levels of media exposure, inclusive practice, and perceived media support, with relatively higher awareness and moderate stigma.

Table 4: Section-wise frequency distribution: Media Exposure & Engagement (Items 1–8; N = 150)

Item	Statement (Short)	SD	D	N	A	SA
1	Frequently encounter special-needs media	18 (12.00%)	32 (21.33%)	46 (30.67%)	40 (26.67%)	14 (9.33%)
2	Seen inclusion awareness campaigns	12 (8.00%)	28 (18.67%)	44 (29.33%)	50 (33.33%)	16 (10.67%)
3	Social media is main source	10	24	40	54	22

		(6.67%)	(16.00%)	(26.67%)	(36.00%)	(14.67%)
4	Follow disability pages/accounts	22	38	46	34	10
		(14.67%)	(25.33%)	(30.67%)	(22.67%)	(6.67%)
5	Discuss campaign content with others	20	36	50	34	10
		(13.33%)	(24.00%)	(33.33%)	(22.67%)	(6.67%)
6	Campaigns increased my interest	14	30	44	50	12
		(9.33%)	(20.00%)	(29.33%)	(33.33%)	(8.00%)
7	Trust disability campaign information	16	34	52	40	8
		(10.67%)	(22.67%)	(34.67%)	(26.67%)	(5.33%)
8	Rarely notice special-needs media	32	40	46	22	10
		(21.33%)	(26.67%)	(30.67%)	(14.67%)	(6.67%)

Table 4 shows that most responses were Neutral-to-Agree, indicating moderate exposure/engagement with disability-related media content.

Table 5: Section-wise frequency distribution: Awareness & Knowledge (Items 9–16; N = 150)

Item	Statement (Short)	SD	D	N	A	SA
9	Understand “special needs” in education	8	16	26	66	34
		(5.33%)	(10.67%)	(17.33%)	(44.00%)	(22.67%)
10	Identify learning/behavioural needs	10	20	34	60	26
		(6.67%)	(13.33%)	(22.67%)	(40.00%)	(17.33%)
11	Distinguish myths vs facts	12	22	38	54	24
		(8.00%)	(14.67%)	(25.33%)	(36.00%)	(16.00%)
12	Campaigns corrected misconceptions	10	22	40	56	22
		(6.67%)	(14.67%)	(26.67%)	(37.33%)	(14.67%)
13	Know referral pathway	14	26	42	48	20
		(9.33%)	(17.33%)	(28.00%)	(32.00%)	(13.33%)
14	Confident explaining inclusion	12	24	44	50	20
		(8.00%)	(16.00%)	(29.33%)	(33.33%)	(13.33%)
15	Awareness messages are confusing	34	44	40	22	10
		(22.67%)	(29.33%)	(26.67%)	(14.67%)	(6.67%)
16	Campaigns give practical guidance	14	28	44	46	18
		(9.33%)	(18.67%)	(29.33%)	(30.67%)	(12.00%)

Table 5 mentioned that the responses leaned toward agree, showing generally good awareness, though some uncertainty was still present.

Table 6: Section-wise frequency distribution: Social Stigma (Items 17–26; N = 150)

Item	Statement (Short)	SD	D	N	A	SA
17	Children are unfairly judged	8	18	36	60	28
		(5.33%)	(12.00%)	(24.00%)	(40.00%)	(18.67%)
18	People avoid due to misconceptions	10	22	40	54	24
		(6.67%)	(14.67%)	(26.67%)	(36.00%)	(16.00%)
19	Parents feel embarrassed	14	26	44	48	18
		(9.33%)	(17.33%)	(29.33%)	(32.00%)	(12.00%)
20	Should be kept separate	42	46	36	18	8
		(28.00%)	(30.67%)	(24.00%)	(12.00%)	(5.33%)
21	Comfortable interacting in class	10	18	40	56	26
		(6.67%)	(12.00%)	(26.67%)	(37.33%)	(17.33%)
22	Others learn positive values	8	16	34	64	28
		(5.33%)	(10.67%)	(22.67%)	(42.67%)	(18.67%)

23	Society treats them as burden	12 (8.00%)	24 (16.00%)	44 (29.33%)	52 (34.67%)	18 (12.00%)
24	Disability due to parental negligence	50 (33.33%)	46 (30.67%)	30 (20.00%)	16 (10.67%)	8 (5.33%)
25	Stigma delays support seeking	10 (6.67%)	20 (13.33%)	36 (24.00%)	60 (40.00%)	24 (16.00%)
26	Can participate meaningfully	6 (4.00%)	12 (8.00%)	30 (20.00%)	70 (46.67%)	32 (21.33%)

Table 6 represents that Items reflect noticeable stigma-related perceptions in society, but many respondents also supported inclusion and participation.

Table 7: Section-wise frequency distribution: Inclusive Behaviour & Classroom Practices (Items 27–34; N = 150)

Item	Statement (Short)	SD	D	N	A	SA
27	Encourage respect toward peers	6 (4.00%)	14 (9.33%)	30 (20.00%)	68 (45.33%)	32 (21.33%)
28	Use inclusive strategies	10 (6.67%)	22 (14.67%)	44 (29.33%)	54 (36.00%)	20 (13.33%)
29	Modify activities when needed	12 (8.00%)	26 (17.33%)	44 (29.33%)	50 (33.33%)	18 (12.00%)
30	Feel unprepared to teach	18 (12.00%)	30 (20.00%)	42 (28.00%)	44 (29.33%)	16 (10.67%)
31	Promote peer support/buddy systems	10 (6.67%)	22 (14.67%)	42 (28.00%)	58 (38.67%)	18 (12.00%)
32	Intervene in teasing/exclusion	8 (5.33%)	18 (12.00%)	36 (24.00%)	64 (42.67%)	24 (16.00%)
33	Inclusion improves empathy/cooperation	10 (6.67%)	20 (13.33%)	40 (26.67%)	60 (40.00%)	20 (13.33%)
34	Special needs slow down class	34 (22.67%)	44 (29.33%)	36 (24.00%)	24 (16.00%)	12 (8.00%)

Table 7 depicts that the Teachers generally reported supportive inclusive practices, but a sizable portion still felt unprepared or concerned about classroom impact.

Table 8: Section-wise frequency distribution: Media as RTI/MTSS Support (Items 35–40; N = 150)

Item	Statement (Short)	SD	D	N	A	SA
35	Media can act as Tier-1 prevention	10 (6.67%)	18 (12.00%)	38 (25.33%)	62 (41.33%)	22 (14.67%)
36	Schools should share awareness regularly	8 (5.33%)	16 (10.67%)	34 (22.67%)	66 (44.00%)	26 (17.33%)
37	Targeted media-based training needed	10 (6.67%)	20 (13.33%)	40 (26.67%)	58 (38.67%)	22 (14.67%)
38	Campaigns should guide actions/support	8 (5.33%)	18 (12.00%)	36 (24.00%)	64 (42.67%)	24 (16.00%)
39	School-wide > one-time events	10 (6.67%)	18 (12.00%)	40 (26.67%)	60 (40.00%)	22 (14.67%)
40	Media has little role in inclusion	40 (26.67%)	46 (30.67%)	36 (24.00%)	18 (12.00%)	10 (6.67%)

Table 8 signifies that most teachers agreed media can support inclusion, but some still doubted media's role, showing the need for stronger, action-based campaigns.

Table 9: EFA summary: retained factors and explained variance (N = 150)

Factor	Label	Eigenvalue	% Variance	Cumulative %
1	Awareness/Knowledge	9.18	22.95	22.95
2	Media Exposure & Engagement	5.14	12.85	35.80
3	Social Stigma	4.02	10.05	45.85
4	Inclusive Practices	3.40	8.50	54.35
5	Media as RTI/MTSS	2.98	7.45	61.80

Table 9 expresses that A clear 5-factor structure aligned with the questionnaire domains and explained a strong portion of total variance.

Table 10: Moderation: Training × Media Exposure predicting Awareness (N = 150)

Predictor	B	SE	β	t	p
Media Exposure	0.31	0.06	.39	5.17	< .001
Training (0=No, 1=Yes)	0.22	0.08	.20	2.75	= .007
Media Exposure × Training	0.14	0.05	.18	2.80	= .006

Table 10 denotes that Media exposure predicted awareness more strongly among teachers who had received inclusive education training.

Table 11: Hierarchical regression predicting Stigma (higher = more stigma) (N = 150)

Model	Predictors Added	R ²	ΔR^2	F-change	p
1	Gender, School type, Experience, Training	.06	—	2.21	= .049
2	+ Media Exposure	.08	.02	3.04	= .083
3	+ Awareness	.23	.15	26.88	< .001

Table 11 clarified that awareness contributed the largest additional explanatory power for stigma, beyond demographics and media exposure.

Table 12: Multiple regression predicting Stigma (higher = more stigma)

Predictor	B	SE B	β	t	p
Media Exposure	0.083	0.052	0.126	1.61	= .110
Awareness	-0.315	0.053	-0.494	-5.94	< .001
Training Num	0.001	0.085	0.001	0.01	= .991
ExpOrd	0.011	0.042	0.021	0.27	= .786

Table 12 depicts that the Model fit: $R^2 = 0.221$, indicating that predictors explained 22.1% variance in stigma. The strongest predictor was Awareness, showing that higher awareness significantly reduced stigma.

Table 13: Welch independent-samples t-tests by demographic variables (N = 150)

Demographic factor	Dependent variable	Group 1 (n, M ± SD)	Group 2 (n, M ± SD)	Mean diff (G1–G2)	95% CI for diff	t(df)	p	Hedges' g
Gender	Awareness	Male (91, 3.15 ± 0.82)	Female (59, 3.36 ± 0.89)	-0.21	[-0.50, 0.08]	-1.44 (117.48)	.152	-0.24
Gender	Stigma	Male (91, 2.47 ± 0.55)	Female (59, 2.46 ± 0.53)	0.01	[-0.17, 0.19]	0.11 (126.91)	.912	0.02
School type	Awareness	Public (82, 3.12 ± 0.83)	Private (68, 3.37 ± 0.86)	-0.25	[-0.52, 0.02]	-1.81 (140.92)	.072	-0.30
School type	Stigma	Public (82, 2.47 ± 0.55)	Private (68, 2.46 ± 0.53)	0.18	[0.01, 0.35]	2.03 (140.92)	.044	0.33

		2.54 ± 0.56)	2.36 ± 0.52)		0.36]	(146.15)		
Training	Awareness	Yes (96, 3.37 ± 0.83)	No (54, 2.99 ± 0.83)	0.38	[0.10, 0.66]	2.69 (110.07)	.008	0.45
Training	Stigma	Yes (96, 2.42 ± 0.53)	No (54, 2.53 ± 0.56)	-0.11	[-0.30, 0.08]	-1.13 (105.57)	.006	0.37

Table 13 mentioned that the teachers with inclusive training scored significantly higher on awareness than those without training, $t(110.07) = 2.69$, $p = .008$, $g = 0.45$ (moderate effect). Public-school teachers reported significantly higher stigma than private-school teachers, $t(146.15) = 2.03$, $p = .044$, $g = 0.33$ (small-to-moderate effect). No significant differences were found for awareness or stigma by gender ($p > .05$).

Table 14: One-way ANOVA results for Awareness across demographic groups ($N = 150$)

Factor	Groups (k)	df (between, within)	F	p	η^2
Age group	4	(3, 146)	0.90	.445	.018
Teaching level	3	(2, 147)	1.27	.285	.017
Teaching experience	4	(3, 146)	2.98	.033	.058

Table 14 shows that no significant difference in Awareness across age groups, $F(3,146) = 0.90$, $p = .445$. No significant difference in Awareness across primary/middle/secondary levels, $F(2,147) = 1.27$, $p = .285$. Awareness differed significantly by experience, $F(3, 146) = 2.98$, $p = .033$, showing that teachers with 16+ years had higher Awareness than those with 1–5 years. (η^2 = effect size (variance explained))

4. DISCUSSION

The findings suggest that teachers recognized media campaigns as moderately useful and were exposed to disability-related messaging at moderate levels; however, stigma remained present at a moderate level, implying that awareness campaigns may increase visibility without automatically producing deep normative or behavioral shifts. This aligns with campaign research showing that many social media efforts emphasize reach and engagement while demonstrating less consistent evidence for sustained changes in attitudes and stigma-related outcomes unless evaluation and reinforcement mechanisms are built into the campaign design (Kite et al., 2023; Plackett et al., 2025).

A central result was that awareness/knowledge showed the strongest inverse association with stigma and emerged as the strongest predictor in multivariable analysis, indicating that reducing stigma is more likely when media exposure produces real learning and misconception correction. This is consistent with stigma-reduction evidence indicating that interventions combining information with empathy-building and structured engagement (rather than information alone) are more likely to reduce stigma-related attitudes and social distance (Kim et al., 2024).

The mediation finding strengthens the interpretation that media functions best as an RTI-informed tool when it is treated as a structured Tier 1 prevention input that increases disability literacy and shifts norms, rather than as a standalone “awareness event.” In MTSS terms, campaigns are likely to be most effective when universal messaging is paired with targeted supports (Tier 2) for gatekeepers (teachers’/school leadership) and linked to practical pathways training, school routines, referral guidance, and safe peer climates so that knowledge is converted into inclusive action (Institute of Education Sciences, 2024).

The significant training-related difference in awareness suggests that professional development plays a reinforcing role in translating inclusive messaging into teacher competence and confidence. This supports systems interpretation: media campaigns can initiate attention and normalize inclusion, but teacher training and school-level supports likely determine whether awareness becomes everyday inclusive practice and whether stigma decreases in routine interactions (Alhassan, 2025).

School-type differences in stigma (higher in public schools) may reflect variation in institutional resources, student-teacher ratios, support services, and consistency of MTSS implementation practices that shape classroom climate and teacher efficacy. MTSS guidance emphasizes consistent implementation and continuous improvement routines at the school level, suggesting that stigma reduction is more likely when awareness is integrated into systematic supports rather than treated as isolated messaging (Institute of Education Sciences, 2024).

The current study findings are consistent with scenarios in the world, for instance, communication, for, behavior, change (C4BC) disability campaigns that factor in community engagement coupled with social media outreach, to diminish stigma and enhance access to inclusive education. Initiatives such as the "See Every Colour" by UNICEF are examples that are able to achieve a broad reach; hence, these findings suggest that the reach has to be accompanied by knowledge dissemination and education sector, based support if there is to be a dependable decline of stigma among the main stakeholders (UNICEF, 2022).

5. CONCLUSION

The research found that simply exposing the public to media content is not enough to decrease the social stigma of children with special needs; rather, the main factor that contributed to the decrease of stigma was the awareness/knowledge of the issue. Teachers declared that they had been somewhat exposed to awareness campaigns and moderately endorsed the use of media as an RTI/MTSS support tool, however, stigma remained at a moderate level, which indicates that there is still a need for campaigns that not only provide visibility but also actively dispel stereotypes and encourage the

implementation of inclusive behaviors. In sum, the data pointed to a tiered, intervention understanding media, based awareness campaigns can operate as Tier 1 prevention within MTSS, but real stigma alleviation relies on the extent to which campaigns generate measurable learning and whether schools support the messages through training, habitual practices, and a positive atmosphere.

5.1 Recommendations

1. Make disability awareness a regular school routine (assemblies, posters, and school social media), not a one-time event.
2. Run short teacher training focuses on practical inclusion (classroom adjustments, peer support, anti-bullying, and referrals).
3. Measure impact with pre–post surveys on awareness and stigma and improve the campaign based on results.

Acknowledgments

The authors sincerely acknowledge the participants who generously gave their time to participate in the survey for this study. The authors acknowledge the use of Grammarly for grammatical improvement. Generative AI was not used to generate research data, participant responses, or research findings. All content refined using this tool was critically evaluated and appropriately reviewed by the authors. The authors take full responsibility for the accuracy, integrity, and originality of the content presented in this article.

Authors Contribution

Dr. Ghulam Safdar & Dr. Muhammad Javed Aftab contributed to the study design and data collection. Dr. Norasyikin Binti Mahmud & Dr. Muhamad Shamsul Ibrahim drafted the manuscript and revised it. Dr. Sarina Yusuf proofread and supervised the research work. All authors read and approved the final manuscript.

Disclosure Statement

No potential conflict of interest was reported by the authors.

Funding Source

The authors received NO funding to conduct this study.

Data Availability Statement

The survey data generated and analyzed for this study are not publicly available and will not be deposited in any repository, to protect the confidentiality and anonymity of participants, who were assured that no identifying information would be shared beyond the research team. The quantitative data set in this paper may be made available by the corresponding author upon reasonable request.

Ethical Approval

The study has been done under the current ethical guidelines followed by Sultan Idris Education University considering human participants. We confirm that the study was conducted in line with the ethical standards of the Declaration of Helsinki and all participants took part voluntarily after being informed about the purpose of the research, their right to withdraw, and the confidentiality measures in place. No identifying details have been included in the manuscript.

ORCID's

Ghulam Safdar ¹  <https://orcid.org/0000-0002-5152-0052>

Muhammad Javed Aftab ²  <https://orcid.org/0000-0001-7715-9085>

Norasyikin Mahmud ³  <https://orcid.org/0009-0008-4413-3485>

Sarina Yusuf ⁴  <https://orcid.org/0000-0002-6674-952X>

Muhamad Shamsul Ibrahim ⁵  <https://orcid.org/0000-0001-8298-8275>

REFERENCES

- Alhassan, A. M., Solheim, K., Mellemsether, B., & Hall Christensen, M. (2025). Teachers' perspectives on supporting special needs in inclusive high schools. *Educational Research*, 67(4), 407–424. <https://doi.org/10.1080/00131881.2025.2557641>
- Althubaiti, A. (2022). Sample size determination: A practical guide for health researchers. *Journal of General and Family Medicine*, 24(2), 72–80. <https://doi.org/10.1002/jgf2.600>
- Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quinonez, H. R., & Young, S. L. (2018). Best practices for developing and validating scales for health, social, and behavioral research: A primer. *Frontiers in Public Health*, 6, Article 149. <https://doi.org/10.3389/fpubh.2018.00149>
- Chatterjee, R., Fears, N. E., Lichtenberg, G., Tamplain, P. M., & Miller, H. L. (2023). Identity and discourse among #ActuallyAutistic Twitter users with motor differences. *Journal of Motor Learning and Development*, 11(3), 525–540. <https://doi.org/10.1123/jmld.2023-0007>
- Cho, E. (2021). Neither Cronbach's alpha nor McDonald's omega: A commentary on Sijtsma and Pfadt. *Psychometrika*, 86, 877–886. <https://doi.org/10.1007/s11336-021-09801-1>
- Davidson, D., & Morales, D. (2023). Reducing stigma toward autistic peers: A pilot investigation of a virtual autism acceptance program for children. *Frontiers in Education*, 8, Article 1207182. <https://doi.org/10.3389/fpsy.2023.1241487>
- Draganidis, A., Fernando, A. N., West, M. L., & Sharp, G. (2024). Social media delivered mental health campaigns and public service announcements: A systematic literature review of public engagement and help-seeking behaviours. *Social Science & Medicine*, 359, 117231. <https://doi.org/10.1016/j.socscimed.2024.117231>

- Duthie, G., Reavley, N., Wright, J., Morgan, A. (2024). The impact of media-based mental health campaigns on male help-seeking: a systematic review, *Health Promotion International*, 39(4), daae104, <https://doi.org/10.1093/heapro/daae104>
- Gelfgren, S., Ineland, J., & Cocq, C. (2022). Social media and disability advocacy organizations: caught between hopes and realities. *Disability & Society*, 37(7), 1085–1106. <https://doi.org/10.1080/09687599.2020.1867069>
- Genovesi, E., Yao, Y. I., Mitchell, E., Arad, M., Diamant, V., Panju, A., Hanlon, C., Tekola, B., & Hoekstra, R. A. (2024). Mapping awareness-raising and capacity-building materials on developmental disabilities for non-specialists: A review of the academic and grey literature. *International Journal of Mental Health Systems*, 18(1), Article 10. <https://doi.org/10.1186/s13033-024-00627-9>
- Hastall, M. R., Röhm, A., Kotarski, C., Resch, S., Langenbach, C., & Ritterfeld, U. (2024). Exemplification and stigmatization: How news stories affect stigma-related attitudes, emotional reactions, and behavioral intentions towards students with a disability. *Frontiers in Communication*, 9, Article 1363367. <https://doi.org/10.3389/fcomm.2024.1363367>
- Hayes, A. F., & Coutts, J. J. (2020). Use omega rather than Cronbach's alpha for estimating reliability. But.... *Communication Methods and Measures*, 14(1), 1–24. <https://doi.org/10.1080/19312458.2020.1718629>
- Institute of Education Sciences. (2024, November). *Consistent implementation of a multi-tiered system of supports (MTSS): Fact sheet* (REL Mid-Atlantic). National Center for Education Evaluation and Regional Assistance.
- Jansen-van Vuuren, J., & Aldersey, H. (2020). Stigma, acceptance and belonging for people with intellectual and developmental disabilities: A review of the literature. *Current Developmental Disorders Reports*, 7, 163–172. <https://doi.org/10.1007/s40474-020-00206-w>
- Karaminis, T., Gabrielatos, C., Maden-Weinberger, U., & Beattie, G. (2022). Portrayals of autism in the British press: A corpus-based study. *Autism*, 27(4), 1092–1114. <https://doi.org/10.1177/13623613221133359>
- Kearney, C. A., Fensken, M., Dupont, R. (2025). Implementing multi-tiered systems of support in rural schools: A blueprint and implementation considerations. *Frontiers in Education*, 10. <https://doi.org/10.3389/feduc.2025.1553528>
- Kim, S. Y., Song, D.-Y., Bottema-Beutel, K., & Gillespie-Lynch, K. (2024). Time to level up: A systematic review of interventions aiming to reduce stigma toward autistic people. *Autism*, 28(4), 798–815. <https://doi.org/10.1177/13623613231205915>
- Kite, J., Chan, L., MacKay, K., Corbett, L., Reyes-Marcelino, G., Nguyen, B., Bellew, W., & Freeman, B. (2023). A model of social media effects in public health communication campaigns: Systematic review. *Journal of Medical Internet Research*, 25, e46345. <https://doi.org/10.2196/46345>
- Koteyko, N., van Driel, M., & Vines, J. (2022). Autistic sociality on Twitter: Enacted affordances and affiliation strategies. *Discourse & Communication*, 16(4), 385–402. <https://doi.org/10.1177/17504813211070655>
- Kumar, A., Rajendran, A., Usman, M., Samad, S., Mittal, A., Garg, P., Baitha, U., Ranjan P., Wig, N. (2022). Development and validation of a questionnaire to evaluate the knowledge, attitude and practices regarding travel medicine amongst physicians in an apex tertiary hospital in Northern India. *Tropical Diseases, Travel Medicine and Vaccines*, 8, 13. <https://doi.org/10.1186/s40794-022-00170-w>

- Luetke Lanfer, H., Anderson, E., Bah, F., Krawiec, S., Rossmann, C., Vines, A. (2025). Experiences of stigma among caregivers of children living with disabilities. *Scientific Reports*, 15, 20236. <https://doi.org/10.1038/s41598-025-07034-1>
- Maftai, A. (2022). Children's self-esteem and attitudes toward disability: Links with empathy and demographic factors. *Children*, 9(11), 1705. <https://doi.org/10.3390/children9111705>
- Malkewitz, C. P., Schwall, P., Meesters, C., & Hardt, J. (2023). Estimating reliability: A comparison of Cronbach's α , McDonald's ω and the greatest lower bound. *Social Sciences & Humanities Open*, 7(1), 100368. <https://doi.org/10.1016/j.ssaho.2022.100368>
- McConkey, R., Slater, P. F., Dubois, L., Shellard, A., & Smith, A. (2021). An international study of public contact with people who have an intellectual disability. *Journal of Intellectual Disability Research*, 65(3), 272–282. <https://doi.org/10.1111/jir.12809>
- Mittmann, G., Schrank, B. & Steiner-Hofbauer, V. (2024). Portrayal of autism in mainstream media – a scoping review about representation, stigmatisation and effects on consumers in non-fiction and fiction media. *Current Psychology*, 43, 8008–8017. <https://doi.org/10.1007/s12144-023-04959-6>
- Nitz, J., Brack, F., Hertel, S., Krull, J., Stephen, H., Hennemann, T., Hanisch, C. (2023). Multi-tiered systems of support with focus on behavioral modification in elementary schools: A systematic literature review. *Heliyon*, 9(6), e17506. <https://doi.org/10.1016/j.heliyon.2023.e17506>
- Odukoya, D., Chege, W., Scior, K. (2024). The effect of an e-intervention on intellectual disability stigma among internet-users: Evidence from sub-Saharan Africa. *Frontiers in Psychiatry*, 15. <https://doi.org/10.3389/fpsy.2024.1331107>
- Plackett, R., Steward, J.-M., Kassianos, A. P., Duenger, M., Schartau, P., Sheringham, J., Cooper, S., Biddle, L., Kidger, J., & Walters, K. (2025). The effectiveness of social media campaigns in improving knowledge and attitudes toward mental health and help-seeking in high-income countries: Scoping review. *Journal of Medical Internet Research*, 27, e68124. <https://doi.org/10.2196/68124>
- Ahmed, S. K. (2024). *How to choose a sampling technique and determine sample size for research: A simplified guide for researchers*. *Oral Oncology Reports*, 12, 100662. <https://doi.org/10.1016/j.oor.2024.100662>
- Repke, L., Birkenmaier, B., & Lechner, C. (2024). *Validity in survey research – From research design to reporting* (GESIS Guidelines). GESIS.
- Rohwerder, B. (2018). *Disability stigma in developing countries* (GSDRC Helpdesk Research Report). GSDRC.
- Södergren, J., & Vallström, M. (2023). Disability in influencer marketing: A complex model of disability representation. *Journal of Marketing Management*, 39(11–12), 1012–1042. <https://doi.org/10.1080/0267257X.2022.2144418>
- Song, N., Hugh-Jones, S., West, R.M., Pickavance, J., Mir, G. (2023). The effectiveness of anti-stigma interventions for reducing mental health stigma in young people: A systematic review and meta-analysis. *Cambridge Prisms: Global Mental Health*. 10, e39 <https://doi.org/10.1017/gmh.2023.34>
- Thomas, G. M. (2021). “The media love the artificial versions of what's going on”: Media (mis)representations of Down's syndrome. *The British Journal of Sociology*, 72(3), 693–706. <https://doi.org/10.1111/1468-4446.12807>
- Thompson, A., Hollis, S., Herman, K. C., Reinke, W. M., Hawley, K., & Magee, S. (2020). Evaluation of a social media campaign on youth mental health stigma and help-seeking. *School Psychology Review*, 50(1), 36–41. <https://doi.org/10.1080/2372966X.2020.1838873>

- Thota, A. B., Mogo, E. I., Igbelina, C. D., Sheaf, G. S., Mustafa, R., Bakrania, S., Vásquez Encalada, A., & Wood, G. A. (2022). *Inclusion matters: Inclusive interventions for children with disabilities—An evidence and gap map from low- and middle-income countries*. UNICEF Innocenti.
- Turnock, A., Langley, K., & Jones, C. R. G. (2022). Understanding stigma in autism: A narrative review and theoretical framework. *Autism in Adulthood*, 4(1), 76-91. <https://doi.org/10.1089/aut.2021.0005>
- UNICEF Innocenti. (2025). *Inclusive interventions for children with disabilities* (Evidence and gap mapping update page). UNICEF Innocenti.
- UNICEF. (2022, June 14). *See Every Colour campaign addressing stigma around children with special education needs summarizes results* [Press release]. UNICEF.
- Vetter, J. B., Fuxman, S., Dong, Y.E. (2024). A statewide multi-tiered system of support (MTSS) implementation and school mental health outcomes: Policy and practice implications. *Social and Emotional Learning: Research, Practice, and Policy*, 3. 100046. <https://doi.org/10.1016/j.sel.2024.100046>
- Wang, X., & Cheng, Z. (2020). Cross-sectional studies: Strengths, weaknesses, and recommendations. *Chest*, 158(1), S65-S71. <https://doi.org/10.1016/j.chest.2020.03.012>
- Wu, M.-J., Zhao, K., & Fils-Aime, F. (2022). Response rates of online surveys in published research: A meta-analysis. *Computers in Human Behaviors Reports*, 7. 100206. <https://doi.org/10.1016/j.chbr.2022.100206>
- Yu, N., & Farrell, L. (2020). Autism in the media: A longitudinal study of stigma cues and framing of attribution. *Newspaper Research Journal*, 41(4), 489-505. <https://doi.org/10.1177/0739532920969887>
- Zhang, J., Martella, R. C., Kang, S., & Yenioğlu, B. Y. (2023). Response to Intervention (RTI)/Multi-Tiered Systems of Support (MTSS): A nationwide analysis. *Journal of Educational Leadership and Policy Studies*, 7(2), 1-26.
- Zhang, W., Henderson, C., Magnúsdóttir, E., Chen, W., Ma, N., Ma, H., & Thornicroft, G. (2022). Effect of a contact-based education intervention on reducing stigma among community health and care staff in Beijing, China: Pilot randomized controlled study. *Asian Journal of Psychiatry*, 73, 103096. <https://doi.org/10.1016/j.ajp.2022.103096>
- Zhou, W., Guan, W. (2024). How is autism portrayed in news media? A corpus-based, diachronic analysis of *China Daily* (2003–2022). *Frontiers in Communication*. <https://doi.org/10.3389/fcomm.2024.1460556>
- Zolezzi, M., Habib, S., Saadia, H., Elamin, S. (2024). Portrayal of autism spectrum disorder and its treatments in Qatari newspapers: A content analysis. *Mental Health and Prevention*, 34. 200327. <https://doi.org/10.1016/j.mhp.2024.200327>