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EDITOR'S NOTE

Journalism practices and framework of communicative actions are interestingly blended in most of the articles in this issue. Being a period of post-covid scenario, people excitedly indulge in as many opportunities as they could to perform than the minimal ways of earlier everyday lives. This shifting of plot is seen in the new ways of research inquiries. Aspects and devices of research in the area of media is also not an exception.

The idea of inclusivity by all means was challenged in the Covid period. The privileges, the obliterations, the exclusiveness, and elitism in terms of different levels of social categories were visibly transpired during this period. This is one of the reasons that the inquiry on the exclusion of senior citizens finds its place when the new space imagined completely focuses on digital idealism to a certain extent. Scientists who read popular journalism materials and their perception on the contents of science and technology is another significant question that sheds light on the new arena. This investigation is a gesture in the history of journalism that engages a critique within the domain.

Self as the subject in the backdrop of communicative plan holds an inquiry by initiating a debate. This is fundamentally rooted in the community practices and the rhythm of those lives. The attempt to explore the Peppa Peg animated series as an exemplar in creating a sense of inclusiveness also shows the capacity of the content to generate emotions. Studies alike on media content in the post-covid age are invigorating as it carries forward the discussion on the capacity of content to hold human emotions.

Paulo Freire's idea on conscientisation is a building framework to locate the power asymmetry by looking at the works and practices. This helps to re-invent a theoretical structure with practices and bell hooks' acknowledgement on Freire leaves room for more inquiries.

Work on climate change and awareness of journalists in Kerala is a study focusing more on the understanding of journalists on the issues they deal with in everyday journalism practices. The study with a large volume of data suggests ingrained information like the positive association of the awareness with the field of work and years of experience which again affirm the gravity of practices in media research.

The studies show a thread though not formally entwined, but opening an avenue to enrich the inquiries in this field with more critiques and scholarship.

Lalmohan P., PhD
Chief Editor

Senior Citizens as Digital Immigrants: Digital Spatial Exclusion in the Context of COVID-19

■ **DHANYA S. NAIR***
LALMOHAN P.#

Abstract

Regardless of generation, digital technologies have become so pervasive and had a significant impact. However, unlike the younger generation, most senior citizens are technologically alienated and are frequently referred to as digital immigrants. Numerous studies have revealed that seniors are demotivated to even attempt new technologies due to their dissatisfaction with them, worries about their privacy, health problems, and lack of support, as well as their doubts about their capacity to learn and adapt. The adoption of digital technology has been accelerated by Covid-19, and many of the changes could be sustained in the long term. However, it is doubtful if the elderly people, who were among the most obvious victims of the coronavirus and lockdown procedures, benefited from these digital solutions. The concept of an age-based digital divide and resultant digital exclusion is not new. But what makes it relevant is that it prevents a significant portion of the population are the most susceptible to all the pandemic's adverse effects—from using the digital tools that were meant to support them and give their lives momentum during those critical days.

Who goes faster and safely needs to be addressed constructively in a world where life and culture are evolving toward digital representation, communication, and interconnections. The paper uses a qualitative analytical methodology to investigate the digital spatial exclusion of elderly adults in Kerala within the framework of COVID-19. The need to address the issue is so critical as every country in the world is experiencing significant growth in the size and proportion of older persons in their population.

Keywords: senior citizens, digital immigrants, social exclusion, digital-spatial exclusion, COVID-19

Introduction

The COVID-19 pandemic was a stagnant point in people's lives from almost all walks of life. Preventive measures and the subsequent lockdown drastically changed the way people live. All these measures were important and effective strategies to tackle the spread of the infectious virus, it may have a negative impact on a person's mental health and psychological stress levels. According to studies, isolation or quarantine for any reason can have a negative

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impact on both mental and physical health through a variety of interrelated factors. It is also linked to serious mental health issues like fear, anxiety, depression, anger, sleep disturbances, and a sense of loneliness.

The pandemic may affect different people differently depending on their differences in coping mechanisms, perception styles, stress levels and political and socio-economic backgrounds. Different mental health issues may arise for individuals at different moments of the pandemic. To change behavior, attitudes, thoughts and emotions, may take a long period and go through several stages of motivation. It is very important to understand how people perceive and respond to these uncertainties which are created by the pandemic.

Pandemics frequently have a greater psychological impact than direct bodily symptoms. (Desclaux et al., 2017). Due to psychological stress, lack of exercise, and social ties, more people may die during the lockdown than from COVID-19. (VanderWeele, 2020). Additionally, it appears that the psychological pandemic caused some people to tremble in fear while they were in lockdown, while others danced their fears away while attending pandemic celebrations. (Vos, 2021). The next major coronavirus challenge is to flatten the mental health curve.

To adjust to the new 'normal' and to cope with the uncertainties, people all over the world began to adopt digital alternatives to many day-to-day activities ranging from personal to professional, infotainment to entertainment, and from pastime to social interaction. Every element of life is influenced by digital technologies. The digitalization of daily life has been taking place in recent years thanks to technological advancement. The worldwide social-distancing rules during COVID-19 limit social interaction, yet many people get around these restrictions by employing ICTs to stay connected. (Marston et al., 2020). It entailed a massive change in the usage patterns and usage behaviour of digital technologies and digital platforms which has been widely accepted as a possible means of reducing the impact of the negative consequences. But the question is whether the elderly population, one of the most visible victims of both the coronavirus and lockdown measures, benefited from these digital solutions. Age-based digital divide and subsequent digital exclusion is not a novel concept. But what makes it a matter of discussion is that it makes a large portion of the population who are the most vulnerable to all the negative effects of the pandemic, unable to make use of the digital measures that were intended to help them and give momentum to their life in those frozen days. The paper uses a qualitative analytical methodology to investigate the digital spatial exclusion of elderly adults in Kerala within the framework of COVID-19.

Senior Citizens

As stated by the 'National Policy on Older Persons' adopted by the government of India in January 1999 senior citizen is a person who is of age 60 years or above.

COVID-19 and Senior Citizens

The COVID-19 pandemic poses a serious threat to public health, and senior citizens are especially susceptible to negative health effects. (Le Couteur et al., 2020; Verity et al., 2020; Zhou et al., 2020). The United Nations' report *Everyone Included: Social Impact of COVID-19* points out that the COVID-19 pandemic can have an impact on all sections of society and is especially harmful to those individuals who belong to the social categories that are most at risk. It continues to have an impact on populations, including those living in poverty, the elderly, people with disabilities, children, and indigenous peoples. The COVID-19 Situation Report-51 of the World Health Organisation confirms this issue by clearly stating COVID-19 virus can infect people belonging to all age groups. Evidence, however, points to two types of persons who may be more susceptible to developing severe COVID-19 disease. They are older individuals and those with underlying medical issues.

A new level of ageism has also been shown by the pandemic. Older persons have experienced discrimination, and isolation, and are often represented as weak and helpless. Their rights have often been ignored. Their health and wellbeing have suffered as a result, and older people now run the danger of experiencing more aggression, abuse, and neglect than they did prior to the pandemic. For elderly persons, COVID-19's indirect effects and reactions can pose significant difficulties.

According to World Health Organisation, a key player during the pandemic, older people's daily routines, the care and support they get, their capacity to maintain social connections, and how others view them are all changing as a result of COVID-19. The need to spend more time at home, the absence of physical touch with other family members, acquaintances, and coworkers, the temporary suspension of employment and other activities, as well as worry and fear of disease and death - both their own and others' - present challenges to older people. It is, therefore, important that we provide opportunities to promote healthy ageing while the pandemic is ongoing. But what is most important is whether the elderly who are already identified by themselves and others as digital immigrants are able to make use of these opportunities.

Digital Immigrants Vs Digital Natives

The term 'digital native' is used to describe those from Generation X and younger who were born in the digital era. This generation is also known as the "iGeneration" and is said to have had 'digital DNA' from birth. In contrast, 'digital immigrant' is used to describe people who were born and raised in a world without computers. Dr Mark Prensky (2001) popularised and expanded these two terms- 'digital immigrants' and 'digital natives,' and Harding (2010) among others critiqued the validity and applicability of these concepts.

Digital immigrants will never interact with technology as naturally as people who grew up with it, whereas digital natives know and breathe the language of computers and the culture of the web into which they were born. The generation of young people known as "digital natives," who were born into the digital era, are thought to be innately tech-savvy. (Prensky 2001a; Tapscott 1998). In contrast, digital immigrants are those who picked up computer skills at some point in their adult lives. New technology is typically met with resistance or at the very least some difficulties by digital immigrants. (Vodanovich et al. 2010).

A model addressing the contrasts between present-day students and their teachers was presented by Marc Prensky in 2001. Prensky uses the analogy of digital immigrants and natives, which requires a brief summary in order to fully comprehend what he is saying.

As per Prensky (2001):

"Our students today are all native speakers of the digital language of computers, video games and the Internet". Thus they get the designation, digital natives. "Those of us who were not born into the digital world but have, at some later point in our lives, become fascinated by and adopted many or most aspects of the new technology are ... digital immigrants".

This model has reinforced the tension between people who grew up in a technologically advanced society and those who were forced into it. VanSlyke (2003) stated that the native/immigrant analogy can help us comprehend the distinctions between those who are at ease with technology and those who are not. According to Visser (n.d.), Marc Prensky coined the terms "digital native" and "digital immigrant" to imply a spectrum of fluency with the use of digital technology,

Digital natives take use of the advantages of sharing items and ideas with one other, and by doing so, they transcend social class divides. (DeGraff, 2014). Digital natives prefer to multitask and absorb information in parallel and are accustomed to learning new things quickly. They also favour random access (such as hypertexts). They work optimally when networked. (Prensky, 2001). They are over-

connected and are affected by media convergence. They multitask using a variety of screens, including smart TVs, cellphones, tablets, and laptops. The attention span of this new generation (digital natives) has decreased from 12 seconds in 2000 to 8 seconds. (Bershidsky, 2014).

Digital immigrants are making an effort to learn a new way of speaking the language of technology, much like people learning a second language. An interpreter is needed for digital immigrants for this type of language. Therefore, just like with any migration and adaptation, digital immigrants learn to fit in while yet maintaining some degree of their “accent,” or “foot in the past.” Prensky compares the concept of “accent” to how our mother tongue’s accent can still be heard when we learn a new language. The “digital immigrant accent” can be observed in behaviours like reading a program’s instructions rather than thinking that the programme will educate us how to use it or turning to the Internet for information second rather than first. Today’s older people are “socialised” differently than their children were, and they are currently learning a new language. Additionally, experts claim that a language acquired later in life affects a separate area of the brain. (Prensky, 2001). Prensky compares the development of digital technology to a “singularity,” a moment when everything is altered so completely that there is no turning back.

However, some scholars state there is an issue with terminology. The term “digital natives” has generated a significant deal of debate. It is criticized by most academics for valid reasons. The concept implies that digital skills are innate rather than taught and learnt, which is problematic among other things. (Palfrey & Gasser, 2011).

The majority of the prior research on digital immigrants and natives has a tendency to believe that these cohorts are mutually exclusive. In much of the literature, clear and sharp generational boundary is assumed. (Jones and Czerniewicz, 2010, p. 317). Age and accessibility are the two qualities that are frequently utilised to distinguish between the two. Though the cut-off year for birth varies, but the majority of experts agree that it falls between the end of the 1970s and the end of the 1990s. However, this binary viewpoint has come under criticism. (Brown & Czerniewicz, 2010; Jones & Czerniewicz, 2010). One issue with this perspective is that many young people around the world do not have access to technology, making it difficult to consider them to be “digital natives.” Another issue is that having access to technology does not necessarily mean using it more effectively. (Ching et al., 2005, p. 394; Li & Ranieri, 2010, p. 1041). As a result, some have suggested that it could be more useful to think about digital nativity as a continuum. (Vodanovich et al. 2010, p. 711).

It’s crucial to understand that not all digital immigrants and natives

are created equally. The digital native/immigrant divide is one of the generations, which means, people were either born in the digital era or were not. (Rosen, 2010; Zur & Zur, 2011). While the majority of digital natives are tech-savvy by virtue of growing up with technology, some lack the aptitude for computers and technology or even the desire to learn more. In terms of their attitudes and skill sets related to digital technologies, digital immigrants are unquestionably a highly diverse population.

When we examine the demographics of digital fluency in more detail one of the factors used to distinguish between digital natives and immigrants is age. Age and digital fluency are both significantly and adversely correlated, according to several studies. (Li & Ranieri 2010; Salajan et al., 2010). Seniors may experience psychological challenges to using technology, such as computer anxiety, computer self-efficacy, and ageing anxiety. (Jung et al. 2010).

Senior Citizens as Digital Immigrants

Empirical studies have shown that there is a digital gap between the generations. (Chang, McAllister, & McCaslin, 2015; Hunsaker & Hargittai, 2018; Olson, O'Brien, Rogers, & Charness, 2011; Seifert, Doh, & Wahl, 2017).

According to Becker & Hermkens (1993), the formative years of a person's life—those between the ages of 15 and 25—are crucial since everyone in a cohort who was born in the same year “had encountered specific life events.” The introduction of new technology falls within this category and can result in the emergence of a new “technology generation.”

Successful cohorts grow up with their own unique constellation of available media, media proficiency, and media preferences. Early media exposure may set the stage for common behaviour patterns in the future.

The majority of knowledge is acquired through “situated learning,” and the older a person is when learning to use new media, the more difficulty this tends to produce, especially if the person in question has not had much intensive practice (such as at work), which is frequently the case for older women (Bouma, 2000, pp. 68, 76). This is where “experience concentration” can come into play:

According to the theory of experience concentration, as people age, experience quantity will typically grow while experience diversity will decrease, leading to people becoming more informed about a smaller and smaller field of expertise (translation). (Thijssen, 2006, p. 21)

In short, some elderly people find it difficult or impossible to use

this modern technology since they did not have exposure to it earlier in life.

The Socialization theory, which claims that a person's formative years determine who they become, can further explain it. Their behaviour is shaped by the socioeconomic, political, and technological environments in which they grow up. The concept of "technological generations" is thus congruent with socialisation theory. This influence is also assumed for media use: generations may very well develop specific patterns of media use when young and remain loyal to these patterns throughout the rest of their life," says Van der Goot, in response to the relevance of socialisation theory for media use. (Hofmann & Schwender, 2007; Mares & Woodard, 2006).

Biological changes that occur during life have an impact on how we use media. Examples include functional limits brought on by ageing and deteriorating visual, hearing, cognitive, and motor abilities. In this context, Chisnell & Redish (2004, p. 50) refer to Hawthorn (2003), who uses the term "age-restricted users."

Recognizing the intersection of various factors, including cultural, social, economic, psychological, as well as health and disability status, is crucial to understanding the barriers to digital technology adoption in later life. These factors influence whether an older person uses digital technologies or refrains from doing so. Inadequate knowledge, experience, lack of motivation, confidence, interest, and relevance, inaccessible design, and physical or cognitive problems in later life are some other obstacles to overcome besides having access to digital equipment or an internet connection.

Older persons with a less favourable socioeconomic status run the risk of being excluded from society in the wake of rapid technological and digital development. (Helsper & Reisdorf, 2013). Digital gaps and inequalities between older adults and younger age groups can be caused by variables other than age, including working experience, education, socioeconomic status, and demographics related to this age group. (Friemel, 2016; Huxhold et al., 2020; van Deursen & Helsper, 2015a).

Adoption of ICT devices was associated with personal factors such as functional health, age, education, and interest in technology as well as the living environment. (Schlomann et al., 2020).

The "grey digital divide," as seen from the viewpoints of older persons (Millward, 2003), results in increased disparities in the distribution of knowledge and resources that have an impact on social involvement and social networking (Kuoppamäki, 2018) as well as health and welfare (Friemel, 2016). Recent research on digital inclusion began examining disadvantaged groups across the population and emphasised the need for greater information about

how the digital gap affects older persons. (Friemel, 2016; Mihelj et al., 2019; Millward, 2003; Van Regenmortel et al., 2019).

Few research has focused on older individuals' digital exclusion as a form of social exclusion. (Arcury et al., 2018; Holttum, 2016; Kania-Lundholm, 2019). The double burden of social exclusion weighs heavily on older folks who are fragile and do not use the internet. During times of physical distance, older folks may feel excluded from society due to their lack of participation in the digital world. (Xie et al., 2020).

Defining Social Exclusion

According to Throat et al. (2007), social exclusion is the denial of equal opportunity imposed by some social groups on others, which prevents an individual from taking part in the fundamental political, economic, and social functions of the community. According to Silver (1994), in a way that advantages the included, exclusion comes from the interaction of class, status, and political power. Age is undoubtedly an important player in this context.

The Department of International Development (DFID) defines social exclusion as a process whereby certain groups are systematically discriminated against based on their ethnicity, race, religion, sexual orientation, caste, descent, gender, age, disability, HIV status, migrant status, or where they live.

It is crucial to distinguish between 'active exclusion,' which is the deliberate policy interventions by the government or by any other willful agents (in order to exclude certain people from certain opportunities), and 'passive exclusion,' which operates through the social process and involves no deliberate attempts to exclude but may still lead to exclusion under certain conditions. (Amartya Sen cited in Thorat et al., 2013).

Social Exclusion in Later Life

In later life, social exclusion refers to the marginalisation of older people and older groups from mainstream society. For older people, their families, and communities in ageing countries, it represents a complicated set of research problems, a significant public and social policy challenge, and a serious societal concern towards them.

Social isolation in later age is a relative phenomenon, like other complicated social phenomena. This is both a valuable conceptual attribute and a barrier that hinders the creation of frameworks for investigating and minimising exclusion in various jurisdictions, similar to multidimensionality (Atkinson, 1998). There are four factors that can affect how older communities build and interpret exclusion mechanisms in later life. (Scharf & Keating, 2012; Macleod et al.,

2019). First, there are various patterns of demographic ageing, with differences in across and within older people in terms of race, sexual orientation, class, and expectations for rights. Second, there are many levels of institutional infrastructure tied to ageing, supported by various value systems. Third, various cohort experiences have been related to context-specific cultural, socioeconomic, and geopolitical influences (*e.g.*, conflict; recession; immigration). Fourth, there are scientific paradigms that are country/ region-specific and are not included in English-language literature but have an impact on how older people are perceived to be disadvantaged. (Walsh et al. 2017).

However, understanding the social exclusion of older persons requires more than simply a focus on older age and the ways in which changes brought on by ageing and how society reacts to those changes might result in exclusionary mechanisms. Additionally, it aims to shed light on how risk accumulates over the course of a person's life, pinpoint key moments for early intervention, and emphasise the severity of the effects when earlier forms of exclusion go unaddressed. (Grenier et al. 2020).

This was highly strengthened, across the world, by the outbreak of the (COVID-19) pandemic. It is particularly challenging to separate out and address social exclusion because of the complex effects it can have on older persons' day-to-day experiences and because it reflects the entrenched status of older people and ageing inside our institutions and structures.

From Social Exclusion to Digital Spatial Exclusion

Social exclusion is defined as a multifaceted, relational process of gradual social disengagement, one with undesirable consequences on the quality of life that are associated and well-being of the individual, from a sociological perspective. (Böhnke and Silver, 2014, p. 6064).

Digital exclusion is the exclusion from a society where the internet and other digital technologies are prevalent in many facets of daily life. Absence from these digital spaces might occasionally cause people to feel subjectively excluded from society. (Seifert et al., 2018).

According to Walsh, Scharf, and Keating's (2017) social exclusion, the spatial exclusion is a complicated process that involves the lack of or denial of [spatial] resources, rights, goods, and services as people age, as well as the impossibility to engage in the typical relationships and activities that the majority of people across the various and multiple domains of society can access. It has an impact on both the equality and cohesiveness of an ageing society as a whole as well as on the quality of life of older people.

Henri Lefebvre's (1991) work is particularly helpful for our

knowledge and can be used to support older people's "right to the city" in more specific ways as well. Early on in his theory of urban evolution, Lefebvre introduces his conception of the production of space, which has influenced subsequent basic urban research work. According to Lefebvre's (1991) urban theory, a place is the product of the interaction between people's perceptions and daily activities (spatial practice), cognitive concepts or theories of space (representations of space), and the spatial imaginary (spaces of representation). It is known that different disciplines may be more interested in a particular feature of each of these conceptions of space as we work from an interdisciplinary perspective.

Such concepts might help to provide a fuller understanding of the experiences of everyday life of place (spatial practice) in relation to public or governmental policies (which are influenced by representations of space). Additionally, it could serve as a platform for developing novel approaches to the problems of social exclusion and place (spaces of representation), particularly with respect to the elderly population—for example, Wanka (2018) demonstrates how the interplay between these logics might be illustrated using a public park in a troubled Vienna neighbourhood: an older man who appears to be excluded and is classified as a tramp by social services is included into the park's local security system and feels a sense of community because of this role; similarly, a local woman who appears to be in ill health tells that she was formerly the leader of a local effort to save the park against being destroyed to make way for a parking lot.

There is still much to understand about how and to what extent elderly people's unique requirements are taken into account, how diverse lifestyles are incorporated or omitted, and how certain neighbourhood surroundings affect daily living. For instance, Hagestad and Uhlenberg (2005) raise the question of whether age-based separation indirectly encourages exclusionary practices.

Digital Exclusion in the Era of Pandemic

A recent and relevant example of the necessity to pay attention to the complex interactions between policy and exclusionary experiences at later age is the COVID-19 epidemic. There is no doubt in arguing that the COVID-19 pandemic has contributed to making these exclusions more severe.

Exclusion relates to two main dimensions: processes of inclusion versus invisibilisation and practices of exclusion (greatly influenced by power relations). Power relations denotes the political and structural aspect of space. Lefebvre's Marxist viewpoint, as expressed in his triad of production (Lefebvre 1991), emphasises the movement of power. According to critical urban studies, various

influential stakeholders' actions and decisions have an impact on urban development. Neighborhoods and cities' social, economic, physical, and spatial structures are thought to be dynamic and produce relational spatial structures, which are frequently referred to as 'social space' or 'practise of daily life' in theories of urban development. (de Certeau, 1984; Sennett, 1999). Such spaces are thought to reflect social relations, as well as the full range of human activity, and to be the product of both human action and inaction.

From a community perspective, members and non-members of the community both experience place. A number of complementary descriptions of the older population (not as a fundamental aspect of old age but as a process changing across the life cycle) may result in invisibilization, even though power relations may urge the 'diversity of ageing' to be taken into account.

Against this background, it is urgent to address the stagnated discussions on social and digital exclusion in older age as well as the research and policy gaps they maintain. First, there are mechanisms that are a direct result of the COVID-19 control measures that created exclusions in lives of older people. (Le Couteur et al., 2020). The well-publicized increased risk of loneliness and lack of support due to self-isolation and 'cocooning' are a few of these. They include profound forms of digital exclusion, where some older adults may struggle to access vital online health information; barriers to attending necessary medical appointments due to the fear of contracting the virus; and stigmatisation related to using health services during the pandemic. (Brooke & Jackson, 2020).

Even while the COVID-19 pandemic resulted in positive digital involvement outcomes for people all over the world, older folks nevertheless run the risk of feeling doubly excluded—first from physical touch and then from a digitally dominant culture. During the COVID-19 epidemic, focusing solely on digital events for social interaction runs the risk of encouraging ageism. In other words, older people who don't use technology are perceived as outsiders in addition to the widely-held belief that older people are weak and physically isolated as a result of the COVID-19 pandemic. Older individuals who don't use the internet will be left behind as more service providers start to offer some information and services only online (or charge extra for offline services). Older persons who are not online or otherwise engaged on the internet run the risk of being socially excluded if inclusion in modern society is defined as active participation in the digital realm. Therefore, society must cooperate to reduce the risk of social exclusion related to digital content on the internet, particularly for crucial health information or programmes for social involvement during periods of physical distance.

The idea of "ideal production of space," which refers to the

“spatialization” of social inequalities—that is, the tendency of disadvantaged populations to live in disadvantaged areas and privileged populations to do the opposite—should be brought up here.

Conclusion

The adoption and development of ICT products have accelerated in the last decade, following the path of technological advancement and the spread of innovation in society. (OECD, 2019). The widespread acceptance and ongoing use of ICT products have encouraged their progress, leading to more sophisticated functionalities and more powerful computing capabilities that meet needs in a variety of industries. How we live, work, and communicate have already undergone significant change as a result of industrial digitalization. (Turkle, 2011). People need to be linked to the Internet in order to participate in modern society, and this need is only growing. (Huxhold et al., 2020). The digital change of society, however, puts individuals who are not connected at risk of exclusion. The perceived gap between the connected and non-connected is called the digital divide (Helsper, 2012).

Ageism can prevent people from adopting and using digital technology. There are many misconceptions and biases concerning older people’s competence and willingness to use digital technologies, frequently ignoring their diversity of knowledge and experiences. Cartoons, media, birthday cards, ads, and regular social interactions frequently portray elderly people as technophobic, incapable of using new technology, or uninterested in it. Over the course of their lives, older people may internalise age stereotypes and embrace derogatory narratives about ‘the older technology user.’ (Levy, 2009.)

The unequal access to digital technology across and within populations has been brought to light by the COVID-19 pandemic. Older people are more likely to suffer challenges in accessing goods and services that are increasingly offered online and thus being digitally excluded. Even though there exists a trend of increase in older adults’ usage of internet using the internet, generational differences still exist. Digital literacy became one of the most crucial elements in ensuring that older people are included in society as more and more areas of daily life are digitalized.

Opportunities for social and economic participation, as well as active and healthy ageing, are reduced by digital exclusion. The difficulty lies not only in boosting digital literacy and enabling access to digital tools for older people. It is also important to guarantee age-friendly digital service design and relevance of digital services, as well as ageism-free, ethical, and secure digital environments that welcome the diversity of ageing populations.

REFERENCES

- Arcury, T. A., Sandberg, J. C., Melius, K. P., Quandt, S. A., Leng, X., Latulipe, C., Miller, D. P., Smith, D. A., & Bertoni, A. G. (2018). Older Adult Internet Use and eHealth Literacy. *Journal of Applied Gerontology*, 39(2), 141–150. <https://doi.org/10.1177/0733464818807468>
- Atkinson, A. B. (1998) Social Exclusion, Poverty and Unemployment in Hills, J. (ed.) *Exclusion, Employment and Opportunity*, Centre for Analysis of Social Exclusion (CASE), London School of Economics and Political Science. pp 1-20.
- Bershidsky, L. (2014). Here Comes Generation Z. Bloomberg Asia Edition. <https://www.bloomberg.com/opinion/articles/2014-06-18/nailing-generation-z#xj4y7vzkg>
- Böhnke, P., & Silver, H. (2014). Social Exclusion. In A. C. Michalos, (Ed.), *Encyclopedia of Quality of Life and Well-Being Research* (pp. 6064–6069). Dordrecht: Springer. https://doi.org/10.1007/978-94-007-0753-5_2757
- Bouma, H. (2000). Document and Interface Design for Older Citizens'. In Westendorp, P., Jansen, C. & Punselie, R. (eds), *Interface Design & Document Design*. Amsterdam: Rodopi
- Brooke, J., & Jackson, D. (2020). Older People and COVID-19: Isolation, Risk and Ageism. *Journal of Clinical Nursing*, 29(13–14), 2044–2046. <https://doi.org/10.1111/jocn.15274>
- Brown, C., & Czerniewicz, L. (2010). Debunking the 'Digital Native': Beyond Digital Apartheid, Towards Digital Democracy. *Journal of Computer Assisted Learning*, 26(5), 357–369. <https://doi.org/10.1111/j.1365-2729.2010.00369.x>
- Chang, J., McAllister, C., & McCaslin, R. (2015). Correlates of, and Barriers to, Internet Use Among Older Adults. *Journal of Gerontological Social Work*, 58(1), 66–85. <https://doi.org/10.1080/01634372.2014.913754>
- Ching, C.C., Basham, J.D. and Jang, E. (2005). The Legacy of the Digital Divide. *Urban Education*, 40(4), 394-411
- Chisnell, D., & Redish, J. (2004). Designing Web Sites for Older Adults: A Review of Recent Research. <http://www.aarp.org/olderwiserwired>
- DeGraff, J. (2014). *Digital Natives vs. Digital Immigrants*. Jeff DeGraff. <https://jeffdegraff.com/blog/2014/06/digital-natives-vs-digital-immigrants/>
- Desclaux, A., Badji, D., Ndione, A. G., & Sow, K. (2017). Accepted Monitoring or Endured Quarantine? Ebola Contacts Perceptions in Senegal. *Social Science & Medicine*, 178, 38–45. <https://doi.org/10.1016/j.socscimed.2017.02.009>

- Friemel, T. N. (2016). The Digital Divide has Grown Old: Determinants of a Digital Divide among Seniors. *New Media & Society*, 18(2), 313–331. <https://doi.org/10.1177/1461444814538648>
- Grenier, A., Hatzifilalithis, S., Laliberte-Rudman, D., Kobayashi, K., Marier, P., & Phillipson, C. (2020). Precarity and Aging: A Scoping Review. *The Gerontologist*, 60(8), e620–e632. <https://doi.org/10.1093/geront/gnz135>
- Hagestad, G. O., & Uhlenberg, P. (2005). The Social Separation of Old and Young: A Root of Ageism. *Journal of Social Issues*, 61(2), 343–360. <https://doi.org/10.1111/j.1540-4560.2005.00409.x>
- Harding, T. (2010, December 14). *Digital Natives and Digital Immigrants*. Columbia CTL. https://ccnmtl.columbia.edu/enhanced/primers/digital_natives.html
- Hawthorn, D. (2003). How Universal is Good Design for Older Users? Conference paper, ACM SIGCAPH Computers and the Physically Handicapped, Proceedings of the 2003 conference on Universal Usability Issue, 73-74.
- Helsper, E. J. (2012). A Corresponding Fields Model for the Links Between Social and Digital Exclusion. *Communication Theory*, 22(4), 403–426. <https://doi.org/10.1111/j.1468-2885.2012.01416.x>
- Helsper, E. J., & Reisdorf, B. C. (2013). A Quantitative Examination of Explanations for Reasons for Internet Nonuse. *Cyberpsychology, Behavior, and Social Networking*, 16(2), 94–99. <https://doi.org/10.1089/cyber.2012.0257>
- Hofmann, D., & Schwender, C. (2007). Biographical Functions of Cinema and Film Preferences among Older German Adults. A Representative Quantitative Survey. *The European Journal of Communication Research*, 32, 473-491
- Holttum, S. (2016). Do Computers Increase Older People's Inclusion and Wellbeing? *Mental Health and Social Inclusion*, 20(1), 6–11. <https://doi.org/10.1108/mhsi-11-2015-0041>
- Hunsaker, A., & Hargittai, E. (2018). A Review of Internet Use among Older Adults. *New Media & Society*, 20(10), 3937–3954. <https://doi.org/10.1177/1461444818787348>
- Huxhold, O., Hees, E., & Webster, N. J. (2020). Towards Bridging the Grey Digital Divide: Changes in Internet Access and its Predictors from 2002 to 2014 in Germany. *European Journal of Ageing*, 17(3), 271–280. <https://doi.org/10.1007/s10433-020-00552-z>
- Jones, C., & Czerniewicz, L. (2010). Describing or Debunking? The Net Generation and Digital Natives. *Journal of Computer Assisted Learning*, 26(5), 317–320. <https://doi.org/10.1111/j.1365-2729.2010.00379.x>

- Jung, Y. et al. (2010). Low-Income Minority Seniors' Enrollment in a Cybercafe: Psychological Barriers to Crossing the Digital Divide. *Educational Gerontology*, 36(3), 193-212.
- Kania-Lundholm, M. (2019). Slow Side of the Divide? *Digital Culture & Society*, 5(1), 85–104. <https://doi.org/10.14361/dcs-2019-0106>
- Kuoppamäki, S. (2018). *The Role of Age and Life Course Stage in Digital Consumption*. University of Jyväskylä.
- Langer, B., & de Certeau, M. (1984). The Practice of Everyday Life. *Contemporary Sociology*, 17(1), 122. <https://doi.org/10.2307/2069486>
- le Couteur, D. G., Anderson, R. M., & Newman, A. B. (2020). COVID-19 Through the Lens of Gerontology. *The Journals of Gerontology: Series A*, 75(9), e119–e120. <https://doi.org/10.1093/gerona/glaa077>
- Lefebvre, Henri, & Nicholson-Smith, D. (1991). *The Production of Space* (1st ed.). Wiley-Blackwell.
- Levy, B. (2009). Stereotype Embodiment: A Psychosocial Approach to Aging. *Current Directions in Psychological Science*, 18(6), 332–336. <https://doi.org/10.1111/j.1467-8721.2009.01662.x>
- Li, Y. and Ranieri, M. (2010). Are 'Digital Natives' Really Digitally Competent? -A Study on Chinese Teenagers. *British Journal of Educational Technology*, 1029-1042.
- Loos, E. (2012). Senior Citizens: Digital immigrants in Their Own Country? *Observatorio*, 6, 1–23.
- Macleod, C. A., Ross, A., Sacker, A., Netuveli, G., & Windle, G. (2019). Re-thinking Social Exclusion in Later Life: A Case for a New Framework for Measurement. *Ageing and Society*, 39(1), 74–111. <https://doi.org/10.1017/s0144686x17000794>
- Mares, M.L., & Woodard, E. (2006). In Search of the Older Audience: Adult Differences in Television Viewing. *Journal of Broadcasting & Electronic Media*, 50, pp. 595-614
- Marston, H. R., & Kowert, R. (2020). What Role can Videogames Play in the COVID-19 Pandemic? *Emerald Open Research*, 2, 34. <https://doi.org/10.35241/emeraldopenres.13727.2>
- McNicoll, G., Becker, H. A., & Hermkens, P. L. J. (1993). Solidarity of Generations: Demographic, Economic and Social Change, and Its Consequences. *Population and Development Review*, 22(4), 802. <https://doi.org/10.2307/2137820>
- Mihelj, S., Leguina, A., & Downey, J. (2019). Culture is Digital: Cultural Participation, Diversity and the Digital Divide. *New Media & Society*, 21(7), 1465–1485. <https://doi.org/10.1177/1461444818822816>

- Millward, P. (2003). The 'Grey Digital Divide': Perception, Exclusion and Barriers of Access to the Internet for Older People. *First Monday*, 8(7). <https://doi.org/10.5210/fm.v8i7.1066>
- Molnár, G., Szűts, Z., & Nagy, K. (2017). Digital Immigrants – Strangers. *Acta Universitatis Sapientiae Communicatio*, 4(1), 79–91. <https://doi.org/10.1515/auscom-2017-0004>
- Moulaert, T., Wanka, A., & Drilling, M. (2018). The Social Production of Age, Space and Exclusion: Towards a More TheoryDriven Understanding of Spatial Exclusion Mechanisms in Later Life. *Sociální Studia / Social Studies*, 15(1), 9–23. <https://doi.org/10.5817/soc2018-1-9>
- Newman, K. & Thorat, S. (2013). *Blocked by Caste: Economic Discrimination in Modern India* (Reprint ed.). Oxford University Press.
- Olson, K. E., O'Brien, M.A., Rogers, W.A., Charness, N. (2011). Diffusion of Technology for Younger and Older Adults. *Ageing International*, 36, 123-145. <https://doi.org/10.1007/s12126-010-9077-9>
- Palfrey, J., & Gasser, U. (2011). Reclaiming an Awkward Term: What We Might Learn from 'Digital Natives'. *A Journal of Law and Policy for the Information Society* 7(1): 33–55.
- Prensky, M. (2001). Digital Natives, Digital Immigrants Part 1. *On the Horizon*, 9(5), 1–6. <https://doi.org/10.1108/10748120110424816>
- Rosen, L. D. (2010). *Rewired: Understanding the iGeneration and the Way They Learn* (1st ed.). St. Martin's Griffin.
- Salajan, F.D., Schönwetter, D.J., & Cleghorn, B. M. (2010). Student and Faculty Inter-Generational Digital Divide: Fact or Fiction?. *Computers & Education*, 55(3), 1393-1403.
- Scharf, T., & Keating, N. C. (2012). *From Exclusion to Inclusion in Old Age: A Global Challenge (Ageing and the Lifecourse)* (First ed.). Policy Press.
- Schlomann, A., Seifert, A., Zank, S., Woopen, C., & Rietz, C. (2020). Use of Information and Communication Technology (ICT) Devices Among the Oldest-Old: Loneliness, Anomie, and Autonomy. *Innovation in Aging*, 4(2). <https://doi.org/10.1093/geroni/igz050>
- Seifert, A., Christen, M., & Martin, M. (2018). Willingness of Older Adults to Share Mobile Health Data with Researchers. *GeroPsych*, 31(1), 41–49. <https://doi.org/10.1024/1662-9647/a000181>
- Seifert, A., Cotten, S. R., & Xie, B. (2020). A Double Burden of Exclusion? Digital and Social Exclusion of Older Adults in Times of COVID-19. *The Journals of Gerontology: Series B*, 76(3),

- e99–e103. <https://doi.org/10.1093/geronb/gbaa098>
- Seifert, A., Doh, M., & Wahl, H.-W. (2017). They Also Do It: Internet Use by Older Adults Living in Residential Care Facilities. *Educational Gerontology*, 43, 451–461. doi:10.1080/03601277.2017.1326224
- Seifert, A., Hofer, M., & Rössel, J. (2018). Older Adults' Perceived Sense of Social Exclusion from the Digital World. *Educational Gerontology*, 44(12), 775–785. <https://doi.org/10.1080/03601277.2019.1574415>
- Sennett, R. (1999). *The Corrosion of Character: The Personal Consequences of Work in the New Capitalism* (1st ed.). W. W. Norton & Company.
- Silver, H. (1994). Social Exclusion and Social Solidarity: Three Paradigms. *International Labour Review*, 133(5), 531–578.
- Tapscott, D. (1998). *Growing Up Digital: The Rise of the Net Generation* (New ed). McGraw-Hill.
- Thorat, S., & Newman, K. S. (2007). Caste and Economic Discrimination: Causes, Consequences and Remedies. *Economic & Political Weekly*, 42(41), 4121–4122.
- Toledo, Cheri. (2007). Digital Culture: Immigrants and Tourists Responding to the Natives' Drumbeat. *International Journal of Teaching and Learning in Higher Education*. 19.
- Turkle, S. (2011). *Alone Together: Why We Expect More from Technology and Less from Each Other*. Basic Books.
- van Deursen, A. J., & Helsper, E. J. (2015). A Nuanced Understanding of Internet Use and Non-Use among the Elderly. *European Journal of Communication*, 30(2), 171–187. <https://doi.org/10.1177/0267323115578059>
- van Regenmortel, S., de Donder, L., Dury, S., Smetcoren, A. S., de Witte, N., & Verté, D. (2019). Social Exclusion in Later Life: A Systematic Review of the Literature. *Journal of Population Ageing*, 9(4), 315–344. <https://doi.org/10.1007/s12062-016-9145-3>
- VanderWeele, T. J. (2020). Challenges Estimating Total Lives Lost in COVID-19 Decisions. *JAMA*, 324(5), 445. <https://doi.org/10.1001/jama.2020.12187>
- VanSlyke, T. (2003). *Digital Natives, Digital Immigrants: Some Thoughts from the Generation Gap*. The Technology Source Archives at the University of North Carolina. http://www.technologysource.org/article/digital_natives_digital_immigrants/
- Verity, R., Okell, L. C., Dorigatti, I., Winskill, P., Whittaker, C., Imai, N., Cuomo-Dannenburg, G., Thompson, H., Walker, P. G. T., Fu, H., Dighe, A., Griffin, J. T., Baguelin, M., Bhatia, S., Boonyasiri, A.,

- Cori, A., Cucunubá, Z., FitzJohn, R., Gaythorpe, K., & Ferguson, N. M. (2020). Estimates of the severity of coronavirus disease 2019: a model-based analysis. *The Lancet Infectious Diseases*, 20(6), 669–677. [https://doi.org/10.1016/s1473-3099\(20\)30243-7](https://doi.org/10.1016/s1473-3099(20)30243-7)
- Visser, K. (2010). *Digital Immigrants Abroad: Learning the Language of e-learning*. Wayback Machine. http://web.archive.org/web/20100929190416/http://ilp.anu.edu.au:80/Digital_natives.html
- Vodanovich, S., Sundaram, D., & Myers, M. (2010). Research Commentary – Digital Natives and Ubiquitous Information Systems. *Information Systems Research*, 21(4), 711–723. <https://doi.org/10.1287/isre.1100.0324>
- Vos, J. (2021). *The Psychology of Covid-19: Building Resilience for Future Pandemics* (First ed.). SAGE Publications Ltd.
- Walsh, K., Scharf, T., & Keating, N. (2017). Social Exclusion of Older Persons: A Scoping Review and Conceptual Framework. *European Journal of Ageing*, 14(1), 81–98. <https://doi.org/10.1007/s10433-016-0398-8>
- Walsh, K., Scharf, T., Regenmortel, V. S., & Wanka, A. (2021). *Social Exclusion in Later Life: Interdisciplinary and Policy Perspectives (International Perspectives on Aging Book 28)* (1st ed. 2021 ed.). Springer.
- Wang, Q., Myers, M. D., & Sundaram, D. (2012). Digital Natives and Digital Immigrants: Towards A Model of Digital Fluency. ECIS 2012 - Proceedings of the 20th European Conference on Information Systems. 10.1007/s11576-013-0390-2.
- Wanka, A., & Gallistl, V. (2018). Doing Age in a Digitized World—A Material Praxeology of Aging with Technology. *Frontiers in Sociology*, 3. <https://doi.org/10.3389/fsoc.2018.00006>
- Xie, X., Xue, Q., Zhou, Y., Zhu, K., Liu, Q., Zhang, J., & Song, R. (2020). Mental Health Status among Children in Home Confinement During the Coronavirus Disease 2019 Outbreak in Hubei Province, China. *JAMA Pediatrics*, 174(9), 898. <https://doi.org/10.1001/jamapediatrics.2020.1619>
- Zhou, F. (2020). Clinical Course and Risk Factors for Mortality of Adult in Patients with COVID-19 in Wuhan, China: A Retrospective Cohort Study. *Journal of Medicine Study & Research*, 3(1), 01–02. <https://doi.org/10.24966/msr-5657/100015>
- Zur O. and Zur, A. (2011) *Psychology of the Web & Internet Addiction*. Zur Institute

Scientists and the Mass Media: Perceptions, Concerns and Challenges

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Abstract

The current study was envisaged to explore the perception of scientists towards media coverage of Science and Technology in the Indian context. In-depth interviews using a structured questionnaire with 11 leading scientists in the country yielded findings related to various challenges faced by the Science communication sphere. The 11 scientists were purposively selected based on their contributions in their respective fields, as well as their involvement in public engagement of science. Scientists have expressed a clear concern for the general lack of emphasis on S&T in the media, lopsided coverage of certain streams of science, lack of knowledge and interest among science journalists, and concerns regarding the accuracy and validity of S&T coverage in the media.

Keywords: science communication, public engagement, lopsided coverage, accuracy, validity

Introduction

The prospect of being interviewed by a reporter is akin to a visit to the dentist for a scientist, notes science journalist Cristine Russell in her essay *Covering Controversial Science: Improving Reporting on Science and Public Policy* (2010). Such interviews often feel like pulling teeth, as reluctant scientists measure their words for fear of being misquoted, she says.

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News media are one of the largest platforms through which information is consumed, including the dissemination of Science Communication (SciCom). Indeed, for the common man, media is the basic source of information for developments related to science and technology (Gascoigne & Metcalfe, 1995; Nelkin, 1990). Even so, it is no secret that the media and the scientific community share an uneasy relationship—a fact that has major implications for science communication through the mass media.

Essentially, science communication through the mass media involves the convergence of two unlikely worlds and professional traditions. One is rooted in the bedrock of rigid methodologies, punishing peer reviews and a painstaking quest for new knowledge based on verified facts. While the other gives more weightage to creativity, and flexibility, and has a whole different set of priorities and pressures. For scholars in the field of science communication, this dynamic is both an indispensable and an interesting aspect of studies related to Public Understanding of Science (PUS).

Factors Influencing Scientists' Media Interactions-Past Studies

According to Cristine Russell, part of the tension between the scientific community and the media stems from the scientific tradition of presenting research first to colleagues at scientific meetings and later to the scientific world through peer-reviewed journals. Only then was it considered appropriate to talk to the public through news media translators (Russell, 2010). In a five-country study of biomedical researchers held in 2005, 71% to 83% of the respondents agreed that “scientists should communicate research findings to the general public only after they have been published in a scientific journal.” This is, clearly, in stark contrast to the “breaking news” culture of the media, which loves to have its stories always fresh and hot, right out of the oven.

In an older survey, conducted in 1999 among English scientists and science journalists, it was revealed that scientists were more likely than journalists to perceive coverage as too sensational and dramatic, too speculative, with too much emphasis on risks. Scientists did not exhibit much trust in journalists, even though journalists were as likely as scientists to agree that media reporting should be more sober, balanced, and focused on the facts.

Another contested area is the accuracy of science stories. Dunwoody (2008) notes, while scientists expect high level of detailing and accuracy in stories sourced by them, journalists believe that high level of detailing and accuracy, as desired by the scientists, will affect the readability of science stories.

Hans Peter Peters (2008) explains the tense relationship between scientists and journalists with the support of various theories and studies. Intercultural communication theory predicts misunderstandings caused by the cultural difference between science and journalism. According to the Game Theory, conflicts of interest arise between scientists and journalists because of partly incongruent goals and competing strategies. Citing Kohring (2005) says that because of the different 'logics' of science and public communication, scientific and journalistic constructs of the same research necessarily differ.

Based on his studies, Peters gives the following accounts on interactions between journalists and scientists:

- Communication norms: scientists tend to apply scientific communication norms to public communication. They prefer to focus on knowledge in their specialist field and – compared with journalists – they like a serious, matter-of-fact, cautious and educational style of communication. Their journalistic interaction partners do not completely disagree, but look for overview knowledge, preferring clear messages, evaluative comments and an entertaining style.
- Model of journalism: scientists favour a kind of 'service model', normatively expecting journalists to help them promote scientific goals and interests. Based on their professional norms, journalists, at least verbally, insist on keeping distance from the objects they are reporting, on their independence, and on a watchdog perspective.
- Control of communication: a clear-cut disagreement exists in the issue of control: who should control the communication with the public and the media content? Journalists consider themselves as responsible authors, and consider the scientist as their 'source' – as a resource for their task of writing a story. According to journalism norms, journalists owe sources fair treatment (e.g. correct quotation) but nothing more. In particular, they are very critical of demands from sources that may be viewed as censorship. Scientists, however, think that they are the real authors and should control the communication process because they are the originators of the message to be conveyed to the public. In accordance with their service model of journalism, they tend to assign journalists a role as disseminator only (Peters, 2008, p.138).

Dr. Martin Gibala, chair of the Department of Kinesiology at McMaster University in Ontario, notes in a 2016 article that the media's tendency to work in sound bites and boiling down the messages to the bare minimum is often a challenge for scientists. On the other hand, scientists often lament that most science journalists are misinformed or unprepared to report on scientific topics. They do not invest enough effort to understand complex scientific issues, says Dr. John H. Johnson, economist and author.

Meanwhile, the advent of new media has made scientists much more media savvy, points out Sharon Dunwoody (2008). This has radically shifted the dynamics in the relationship among scientists, journalists and media. Now both science journalists and their sources come equipped to interact with the public, with their own needs and motivations for shaping their public images. Citing Goepfert (2007) she says that this change in the relationship dynamics will make it much harder for science journalists to maintain their status as independent, critical observers.

Overall, some of the main areas of contentions in the scientists-media dynamics can be summarised as the following:

- The scientific tradition of presenting research first to colleagues and peers and then to the world at large. While this is a must for the scientific community, it is often cited as an impediment for the timely reporting of science news by science journalists
- Concern among scientists about being misquoted or having their research taken out of context
- Many prominent scientists do not see interacting with the media as part of their job and are not trained to deal with the media
- In the Indian context, there is the problem of hierarchy in many research institutions, where young scientists are ready and willing to speak to the media, yet are seldom allowed to do so by their supervisors or institute directors
- Concern about fitting science into the structure of journalism through sensationalisation and over-simplification
- Scientists don't have enough funds, resources, time or rewards to involve in public engagements. Meanwhile, journalists do not have the leeway to pursue science stories to the full extent.

Method

To better understand scientists' perception of news stories in the Indian context, this researcher undertook interviews with 11 leading scientists in the country. This exercise was part of a larger research

undertaken to study the status of science communication through the mainstream media in India. The structured interviews were conducted over e-mail and post using a common pre-defined questionnaire. The 11 scientists were purposively selected based on their contributions in their respective field, as well as their involvement in public engagement of science. The specific objectives of this study were:

- Understanding the scientists' perception of media coverage in general
- Understanding the scientists' perception of media coverage of Science and Technology (S&T)
- Challenges in S&T journalism, according to the scientists
- Understanding the scientists' perception of science journalists

The 11 scientists who took part in the interviews were: Bharat Ratna Prof. C.N.R. Rao, science communicator and bioinformatics expert Dr Achuthsankar S Nair, former Atomic Energy Commission chairman Anil Kakodkar, former ISRO chairman G Madhavan Nair, director of CSIR-NISCAIR Manoj Kumar Patra, renowned nuclear scientist M.P. Parameswaran, eminent cardiac surgeon Dr M.S. Valiyathan, space scientist Nambi Narayanan, noted biologist Dr Oommen V. Oommen, former director-general of CSIR R.A. Mashlekar and science communicator and former director of ANERT Prof R.V.G. Menon.

Major Findings

- All scientists who responded to the survey had interacted with journalists at some point in their career
- 9 out of 11 scientists were dissatisfied with the coverage of S&T news in the media
- Inaccuracy, low prioritisation of science and sensationalisation of news were quoted as the major reasons for dissatisfaction
- Most scientists (34%) believed that the biggest challenge that S&T journalism in India faced today was lack of training for science reporters, followed by sidelining of S&T stories by the media (26%). Around 17% of scientists felt a severe lack of understanding between the media and the scientific community. Meanwhile, 21% of scientists cited other reasons as challenges for S&T journalism in India.

- All except one scientist believed that the coverage of S&T was lopsided. Most of them felt that glamorous topics like space technology, health and sensational news items got more coverage than topics like research on basic sciences, life sciences, agriculture, etc.
- 9 out of 11 scientists believed that inaccuracy was a significant issue in science reporting
- 8 out of 11 scientists felt that a background in science was necessary to be a successful science reporter
- 6 out of 11 scientists (54%) felt that new media has widened the scope of science journalism. Reasons cited for this were access to more sources, reach to a wider audience, faster news dissemination, direct connect with scientists/researchers, advantage to involve in insightful online discussions on science, etc.

Conclusion and Recommendations

The scientists' interviews on coverage of S&T in the news media in India reinforce findings of earlier studies held around the world. The interviewed scientists expressed a clear concern for the general lack of emphasis for S&T in the media, lopsided coverage of certain streams of science, lack of knowledge and interest among science journalists, and concerns regarding accuracy and validity of S&T coverage in the media.

The following recommendations may be worthwhile to undertake:

- For better understanding between the scientific and journalists community, scientists should be urged to come out of their labs and visit the newsrooms to understand the news cycle and the constraints that journalists operate under. Similarly, S&T organisations can invite journalists regularly to explain and educate them on their work.
- It would be better if scientist and researchers wrote their own press releases with the help of their institution's press office whenever there is a development to be conveyed to the media. Also, it would be better they answered reporters' inquiries in writing rather than giving telephone interviews in order to reduce the potential for misinterpretation of results.

- All institutes of higher education in STEM areas should include a curriculum for science communication, so that S&T professionals who pass out of these institutes are better equipped to interact with the media, write their own stories and take an active role in public engagement.

REFERENCES

- Beyleveld, D., Gunter, B. and Kinderlerer, J. (1999) 'The Media and Public Understanding of Biotechnology: A Survey of Scientists and Journalists' in *Science Communication Journal*: Sage Publications
- Dunwoody, S. (2008) 'Science Journalism', in *Handbook of Public Communication of Science and Technology*, London and New York: Routledge, 15-26
- Russell, C. (2010) 'Covering Controversial Science: Improving Reporting on Science and Public Policy', in Kennedy, D. and Overholser, G (eds) *Science and the Media*, Cambridge: American Academy of Arts and Sciences, 13-43
- Hoyt, A. (2016, June) 'What Do Scientists Think of Science Coverage in the Media?'. *How Stuff Works*. Retrieved from <https://science.howstuffworks.com/innovation/science-questions/what-do-scientists-think-science-coverage-the-media.htm>
- Peters, H.P. (2013) 'Gap between science and media revisited: Scientists as public communicators', in *Proceedings of the National Academy of Sciences of the United States of America*, Washington: National Academy of Sciences of the United States of America, 110 (Suppl 3)

Royal Society, Research Councils UK and the Wellcome Trust, 2006.
Survey of factors affecting science communication by scientists and engineers. Retrieved from https://royalsociety.org/~media/royal_society_content/policy/publications/2006/1111111395.pdf

Peters, H.P. (2008) 'Scientists As Public Experts', in Bucchi, M. and Trench, B. (eds) *Handbook of Public Communication of Science and Technology*, London and New York: Routledge, 131-146

‘Traversing Indigenous Self-Determination’: An Inquiry into the Role of Communication in the Self-Determination of Indigenous Peoples

■ ROHAN PILLAY A.*
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Abstract

“Self-determination is not only a basic human right to which all peoples are entitled as a basic requirement of justice, it is also a basic human need to which all peoples can lay claim as a fundamental component of their well-being” (M. Murphy, 2014, p. 35). The Article 3 of the United Nations Declaration on the Rights of Indigenous Peoples further entails the importance of self-determination as a right. Therefore, it is imperative that self-determination plays a critical role in the betterment of the conditions of the indigenous peoples of the world.

There has been an increase in the number of conflicts between different indigenous communities and nation states with regards to matters of national self-determination such as their claims to land, culture, political representation, and so on. The role played by communication in helping these communities raise their voice against these injustices therefore cannot be looked down upon. In this light, this paper aims to examine the role played by communication in helping communities uphold their right to self-determination while also helping them further their rightful claims.

Keywords: self-determination, indigenous peoples, knowledge systems, indigenous communication

Introduction

Self-determination can be considered to be one of the key factors that help in the development and recognition of indigenous communities. The importance of self-determination is further detailed in the Article 3 of the United Nations Declaration on the Rights of Indigenous Peoples which entails self-determination as a right of the indigenous communities, “Indigenous peoples have the right to self-determination. By virtue of that right they freely determine

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their political status and freely pursue their economic, social and cultural development.” (*United Nations Declaration on the Rights of Indigenous Peoples*, 2007).

The United Nations General Assembly adopted the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) on the thirteenth of December 2007. This declaration entails a universal framework that enumerates the various minimum standards with respect to the survival, dignity, and well-being of the indigenous peoples living in various parts of the world. It further extends as an application of the contemporary standards of human rights and the fundamental freedom on the specific conditions of the indigenous peoples (United Nations for Indigenous Peoples, 2020). Therefore, the article can be considered as the sum total of essential concepts to be kept in mind for raising the standards of life of the marginalized indigenous communities. The presence of self-determination as a right in this document therefore brings out the significant role played by self-determination in the upliftment of indigenous communities.

There has been an increase in the number of conflicts between different indigenous communities and nation states with regard to matters of national self-determination such as their claims to land, culture, political representation, and so on. The role played by communication in helping these communities raise their voice against these injustices therefore cannot be looked down upon. In this light, this paper aims to examine the role played by communication in helping communities uphold their right to self-determination while also helping them further their rightful claims.

Realizing the Need for Indigenous Self-Determination

Years of imperialism, colonisation, and so on have resulted in many communities being pushed down to the margins. This marginalization has indeed, therefore, affected the methods by which many indigenous communities express themselves in their homelands as well (Woons, 2014, p. 9). Although the experience of the individual communities may differ, they have a shared collective loss at the hands of their oppressor. This loss can be considered to be the historical and ongoing injustices that they have been subjected to as a result of colonialism, imperialism, and other forms of oppression that have existed and continue to exist in the world even today.

However, to go back in time and reverse the effects of imperialism and colonialism cannot be possible. What should be done in this regard is to realise and identify the ongoing injustices and find ways to oppose the same (Hall, 1996). For those effects which have deeper impact, the idea of restitution provides the way forward. It has to be the indigenous peoples themselves who have to be the judge of these

effects and this is where self-determination comes to the fore. “Self-determination is a capability that can only be realized in common by the members of a distinct political community, working together within shared political institutions to determine the laws and policies that will shape their individual and collective futures” (M. Murphy, 2014, p. 35).

If the non-indigenous people are given the opportunity to choose the details of the restitution, they would believe that the claims of the indigenous peoples would be reduced to “more limited state recognition and greater forms of redistribution in the form of funding or access to state programs” (Woons, 2014, p. 11). This stems from the belief of the new settlers that they should not be punished for the acts of their ancestors. However, for the indigenous peoples to truly get back their rights, self-determination would be a key driving factor.

Moreover, self-determination of the indigenous communities not just affect their internal and external political identifications. It has been shown to affect their physical well-being as well. This stems from the fact that the lack of self-determination serves as a trove of extreme frustration, anger, resentment, insecurity, and despair for the people who belong to these marginalized communities. “It is also, in the eyes of many, one of the primary causal factors behind the tragic physical and mental health outcomes that plague indigenous communities virtually everywhere they are found, whether it be in the developing world or in the highly developed democracies of the modern West” (M. Murphy, 2014, p. 36). This brings to light that self-determination not just ensures the awarding of justice to a marginalized community, it moreover goes on to affirm the health benefits for the communities as well.

The Complexities of Self-Determination

In spite of the imagined control that we associate with self-determination of indigenous communities, it can provide a landscape that is tricky for them to negotiate. This idea stems from the fact that self-determination necessitates a politics that involves a politics of not just cultural revision but also adaptation. They need to debate among themselves about the various aspects of their traditions rooted in their beliefs that they would preserve and others they would do away with for adaptive innovation (Rowse, 2014, p. 43).

Therefore, there is a need for constant communication and deliberation not just with the external communities in order to withhold their rights but also among themselves to ensure that self-determination can be achieved in the truest sense. This means that by merely relying on exogenous communication tools and methods,

these ideals cannot be achieved. The inclusion of indigenous methods of communication plays a critical role in ensuring that the communication among themselves can be more effective and faster.

Leveraging Indigenous Knowledge and Knowledge Systems

One of the methods through which self-determination can be encouraged among indigenous peoples is to actively leverage indigenous knowledge and knowledge systems. This not only makes learning more inclusive, but it also helps indigenous peoples get more in touch with their roots while also inherently promoting self-determination. However, while implementing indigenous knowledge systems, care needs to be taken to ensure that the system is founded on the basis of “respect and understanding, transparent and open dialogue, and informed consent and just returns” that can reach the practitioners of indigenous knowledge by availing them the gifts and rewards in exchange (Kaya, 2014, p. 90). For this exchange to be fruitful, it needs to be undertaken between equal partners.

Many researchers around the world have started to take a keen interest in indigenous knowledge systems both in developed as well as developing countries. In this light, the study by Hassan O. Kaya from the University of Kwazulu-Natal, South Africa, enumerates a few opportunities that the integration of African Indigenous Knowledge Systems into the educational system in Africa. He opines that since the African indigenous communities have lived for generation in sync with the environment and also finds a healthy balance in the usage of natural resources, it also promotes within the learners appropriate attitudes and values that encourage sustainable livelihood. The usage of cultural resources such as folk stories, songs, drama, and so on in the classrooms also helps the learners in going through more interesting methods of learning while also getting to know their cultural origins. Finally, by involving the community knowledge holders in the learning process, the learners are able to understand and appreciate their elders better by encouraging the communities to learn across generations thereby transforming higher education into portal that offers the transfer of culture beyond generations (Kaya, 2014, pp. 91-92). Similarly, by extrapolating this instance to other communities as well, a more comprehensive educational system that is able to shine the light on indigenous communities and their knowledge can be formed in various parts of the global.

Bridging the Gap between Knowledge and Communication

By ensuring that the different knowledge systems around the globe can actively communicate with each other, the systems can provide to be a platform that lays the foundation for self-determination of

indigenous communities around the world by helping them analyse shortcomings and advantages while not being dogged by the hegemony of the dominant communities. In this regard, communities need to develop ways to integrate indigenous and exogenous communication methods as well as knowledge.

Indigenous peoples can communicate among themselves and further the reach of these knowledge systems by leveraging indigenous techniques of communication. This ensures that greater participation can be achieved while also improving the means for self-determination among the community as a whole. By becoming more focused on their roots, they also get a better understanding of not just the communities that they belong to but also where they come from.

On the other hand, through the use of exogenous communication techniques, these communities can create a network of knowledge systems across the world that refrain from participating in the dominant hegemony. The communities can share their learned knowledge and experience which may help in bringing up newer and effective methods thereby helping in bettering the conditions of these communities around the globe.

Conclusion

Self-determination can be considered to be an important element in the betterment of the conditions of the marginalized communities and provides a strong foothold in helping them freely pursue their economic, social, and cultural development. The role played by communication in realizing these ideals is very significant. By making use of effective communication tools and methods, self-determination as a right can be upheld thereby giving more voice and visibility to the indigenous peoples around the globe which would thereby enable the betterment of their living standards while also creating a global community of indigenous integration.

REFERENCES

- Dei, G. (2016). REVISITING THE QUESTION OF THE "INDIGENOUS". *Counterpoints*, 491, 291-309. Retrieved January 15, 2021, from <http://www.jstor.org/stable/45157417>
- Hall, S. (1996). When was 'the post-colonial'? Thinking at the limit. In L. Curti & I. Chambers (Eds.), *The Postcolonial Question: Common Skies, Divided Horizons* (1st ed., pp. 242–260). Routledge.
- Kaya, H. O. (2014). Revitalizing African Indigenous Ways of Knowing and Knowledge Production. In *Restoring Indigenous Self-*

- Determination* (pp. 88–95). E-International Relations.
- Kukutai, T., & Taylor, J. (2016). Data sovereignty for indigenous peoples: Current practice and future needs. In KUKUTAI T. & TAYLOR J. (Eds.), *Indigenous Data Sovereignty: Toward an agenda* (pp. 1–22). Acton ACT, Australia: ANU Press. Retrieved January 15, 2021, from <http://www.jstor.org/stable/j.ctt1q1crgf.8>
- Mundy, P. A., & Compton, J. L. (1995). 7. Indigenous Communication and Indigenous Knowledge. *The Cultural Dimension of Development*, 112–123. <https://doi.org/10.3362/9781780444734.007>
- Murphy, M. (2014). Self-Determination and Indigenous Health: Is There A Connection? In *Restoring Indigenous Self-Determination* (pp. 34–41). E-International Relations.
- Picq, M. L. (2014). Self-Determination as Anti-Extractivism: How Indigenous Resistance Challenges World Politics. In *Restoring Indigenous Self-Determination* (pp. 26–33). E-International Relations.
- Pitty, R. (2014). Restoring Indigenous Self-Determination through Relational Autonomy and Transnational Mediation. In *Restoring Indigenous Self-Determination* (pp. 72–79). E-International Relations.
- Rowse, T. (2014). Self-Determination as Self-Transformation. In *Restoring Indigenous Self-Determination* (pp. 42–51). E-International Relations.
- Simpson, J. (2020). SELF-DETERMINATION WITH RESPECT TO LANGUAGE RIGHTS. *Indigenous Self-Determination in Australia*, 293–314. <https://doi.org/10.2307/j.ctv1bvncz1.19>
- Salazar, J. (2009). Self-Determination in Practice: The Critical Making of Indigenous Media. *Development in Practice*, 19(4/5), 504–513. Retrieved January 15, 2021, from <http://www.jstor.org/stable/27752090>
- United Nations Declaration on the Rights of Indigenous Peoples*. (2007, September). United Nations General Assembly. https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf
- United Nations For Indigenous Peoples. (2020, September 12). *United Nations Declaration on the Rights of Indigenous Peoples*. <https://www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html>
- Woons, M. (2014). Introduction: On the Meaning of Restoring Indigenous Self-Determination. In *Restoring Indigenous Self-Determination* (pp. 8–16). E-International Relations.

Depiction of ‘Inclusiveness and Cooperation’ Through Cartoons: A Study of Selected ‘Peppa Pig’ Episodes

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Abstract

This study explores how the British animated series Peppa Pig serves as a pedagogical tool to promote inclusiveness, cooperation, and emotional intelligence among preschoolers. Through qualitative content analysis of five episodes—Best Friend, Hide and Seek, The Play Group, Peppa Learns Teamwork, and Piggy in the Middle—the research examines how the show addresses developmental themes such as exclusion, frustration, and sibling dynamics. Each episode demonstrates how challenges are resolved through adult guidance, empathy, and collaborative play. Drawing on scholarship by Binder (2019), Marsh (2015, 2017), Buckingham and Sefton-Green (2021), and Davies (2016), the study situates Peppa Pig within broader conversations on children’s media, digital literacy, and global consumer culture. Peppa Pig blends humour and moral learning to make foundational life skills like teamwork, empathy, and inclusion accessible to young viewers. This research underscores the show’s value in early learning environments, illustrating the potential of animated media to reinforce essential social-emotional development and support the ‘first lessons of life skills’ in both home and educational settings.

Keywords: social learning, inclusiveness, early learning, life skills and emotional intelligence

Introduction

Peppa Pig is a British animated television series that has reaped widespread global acclaim for its engaging content tailored to preschool audiences. Created by Neville Astley and Mark Baker, the series premiered in 2004 and has since evolved into one of the most recognized and commercially successful children’s television programs worldwide (Marsh, 2015). The show’s narrative follows the titular character Peppa, an anthropomorphic pig, along with her family—Mummy Pig, Daddy Pig, and her younger brother George—as they navigate various everyday experiences in a light-hearted, humorous, and didactic manner.

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The popularity of *Peppa Pig* is evidenced by its distribution in over 180 countries and its translation into more than 40 languages (Davies, 2016). Its global reach has extended beyond the screen, evolving into a substantial transmedia franchise that includes books, toys, digital content, live performances, and theme parks (Buckingham & Sefton-Green, 2021). This widespread appeal is partly attributed to its accessible animation style, repetitive dialogue structures, and relatable narratives that resonate with early childhood developmental stages (Marsh, 2017).

While primarily educational and entertainment-oriented, *Peppa Pig* also subtly imparts social and moral values such as cooperation, empathy, familial affection, and routine-based learning. Each episode, typically five minutes in length, encapsulates themes from daily life—such as visiting grandparents, playing with friends, or attending playgroup—thereby reinforcing concepts familiar to its target audience (Binder, 2019). Furthermore, its simplistic yet consistent character design and use of humour contribute to its long-standing success in a competitive global children's media market. *Peppa Pig* exemplifies the ability of children's media to blend entertainment with pedagogical function, achieving not only commercial success but also cultural resonance across diverse societies.

The scholarly discourse surrounding children's media, particularly animated television programming like *Peppa Pig*, highlights complex intersections between entertainment, education, globalization, and consumer culture. Some of the important studies provide a multifaceted understanding of how children engage with televised content and how these engagements influence early literacy, social learning, and cultural orientation.

The researcher used the social learning theory of Albert Bandura as the theoretical framework to explain how children internalize social-emotional lessons through vicarious learning and observational reinforcement from animated characters and adult figures. *Peppa Pig* models prosocial behaviours—such as empathy, cooperation, and inclusion—which young viewers can observe and potentially imitate. According to Bandura, children learn by watching others, especially role models (including media characters). The adult interventions in the episodes further reflect the importance of modelled behaviour and guided reinforcement.

Albert Bandura, through his work on social learning theory, identified three primary models of observational learning. First one is live model that explain the observation of an actual individual who performs a behaviour. The second is the verbal instructional model which emphasizes the listening to detailed descriptions of behaviour and then acting accordingly. The third is the symbolic model that explain the learning through media, such as books, movies, television

or online media where behaviours are demonstrated.

The reviewed literature explores the educational, cultural, and commercial dimensions of children's media, with a focus on *Peppa Pig*. Binder (2019) highlights its pedagogical potential, arguing that such programs support cognitive and emotional development through storytelling, repetition, and character engagement. She emphasizes the role of caregivers in guiding media use to enhance learning outcomes. Buckingham and Sefton-Green (2021) critique the commercialization of children's television, positioning *Peppa Pig* as both an educational tool and a brand icon, raising concerns about consumer influence on identity formation. Davies (2016) examines the show's global success, attributing it to cultural hybridization—balancing universal themes with local adaptations to maintain educational and commercial relevance.

Marsh (2015, 2017) investigates how children integrate televised content into off-screen play, storytelling, and digital interaction, thereby advancing their literacy and communication skills. Her research underscores the role of children's media in fostering multimodal literacy and calls for early education to recognize and build on children's existing digital competencies. Collectively, these studies suggest that while *Peppa Pig* functions as a site of entertainment and commerce, it also plays a significant role in shaping early learning, identity, and digital literacy in a globalized media environment.

Collectively, these works underscore the dual nature of children's media as both educational and commercial products. While Binder (2019) and Marsh (2015, 2017) emphasise the cognitive and social benefits of media engagement, Buckingham and Sefton-Green (2021) and Davies (2016) highlight the broader cultural and economic implications. These studies contribute to a nuanced understanding of how animated series like *Peppa Pig* function within the evolving landscape of early childhood education, digital literacy, and global media culture.

This study included five episodes of *Peppa Pig* series – *Best Friend*, *Hide and Seek*, *The Play Group*, *Peppa Learns Teamwork* and *Piggy in the middle* to analyse how the idea of inclusiveness and cooperation is depicted through the playful life of Peppa and her brother George in the series. The study uses qualitative content analysis to bring out the use of animated cartoons in the process of early learning of the 'first lessons of life skills.

The *Peppa Pig* episode titled "Best Friend" offers a compelling narrative that explores the dynamics of childhood friendship, familial bonds, and the subtle social lessons imparted through guided adult intervention. At its core, the episode underscores the emotional complexities of early socialisation and the evolving awareness of

inclusivity, empathy, and cooperative play among young children.

The episode begins with Peppa expressing unbounded excitement about her best friend Suzy Sheep coming over to play. As Suzy arrives, the two friends immerse themselves in exclusive role-play activities, taking on characters such as nurses and shopkeepers. George, Peppa's younger brother, tries repeatedly to join the play, but is either ignored or subtly excluded. Peppa appears indifferent to George's feelings, showcasing a common early childhood behaviour—prioritising peer friendship over familial relationships without fully understanding the impact of exclusion.

This initial exclusion of George sets the foundation for a subtle but powerful moral lesson. The narrative captures the emotional discomfort experienced by George, who is visibly disappointed but too young to articulate his feelings. This dynamic reflects real-life sibling relationships, where older children may seek independence and exclusive companionship, often overlooking the emotional needs of younger siblings.

The turning point in the episode comes when the adult characters, particularly Mummy Pig, gently intervene. Without scolding, they introduce a new game that naturally includes George and creates an opportunity for collaborative play. Through the adults' calm and inclusive approach, the children are steered towards a more harmonious interaction. The role-play is restructured into one where all participants can engage, highlighting the role of elders as facilitators of empathy and social cohesion. This intervention does not rely on didactic instruction but instead models inclusive behaviour through example and creative play redirection.

As the episode progresses, Peppa begins to acknowledge George's presence and eventually includes him in the group activity. This moment signifies a subtle but meaningful transformation in Peppa's understanding of relationships—learning that joy in play is enhanced through inclusion rather than exclusion. By participating together, the children discover that shared experiences can be more fulfilling than exclusive ones, and that familial bonds do not have to compete with friendships.

Importantly, the structure of the episode emphasises the value of role-play in childhood development. Through imaginative games, children experiment with social roles and emotional responses, building skills in cooperation, negotiation, and empathy. The storyline resolves with all characters happily engaged in joint play, signifying emotional reconciliation and mutual respect. George's happiness and Peppa's eventual inclusion of him not only restore familial harmony but also reinforce the broader values of fairness and kindness.

The educational undertone of the episode lies in its ability to show, rather than tell, what inclusion looks like. Children watching the

episode are not subjected to overt moralising; instead, they witness the natural consequences of exclusion and the joy of inclusive play. This form of storytelling aligns with pedagogical principles in early childhood education, where experiential learning and emotional modelling are more effective than didactic teaching (Binder, 2019; Marsh, 2015).

The “Best Friend” episode of *Peppa Pig* presents a nuanced narrative that balances entertainment with meaningful life lessons. Through its depiction of exclusion, gentle adult guidance, and ultimate inclusion, the episode provides young viewers with a relatable framework for understanding the values of empathy, cooperation, and social harmony. By resolving the tension through shared play and emotional connection, the story reinforces the message that happiness and friendship grow stronger when everyone is included.

The *Peppa Pig* episode “Hide and Seek” subtly addresses themes of capability, inclusion, and the supportive role of adults in early childhood socialisation. The episode begins with Peppa and her friends playing the game “Hide and Seek.” When George expresses a desire to join, Peppa initially dismisses him, insisting that he is too young to understand the rules. This interaction reflects a common developmental phenomenon in which slightly older children underestimate the abilities of their younger peers or siblings, often defining competence based on age-based hierarchies (Binder, 2019).

George’s exclusion illustrates a moment of social imbalance, where assumptions about ability lead to marginalization. However, the episode shifts when Daddy Pig intervenes. Rather than correcting Peppa directly, Daddy Pig offers George patient guidance and encouragement, helping him understand and participate in the game. His support exemplifies the role of adults as facilitators in bridging social and developmental gaps among young children (Marsh, 2017).

As the game progresses, George successfully hides and surprises everyone by doing it well. Peppa’s reaction changes from scepticism to admiration, revealing a transformation in her perception of George’s capabilities. This narrative arc promotes an important message: inclusion often leads to unexpected learning and joy, especially when children are given the chance to prove themselves in a supportive environment (Buckingham & Sefton-Green, 2021).

The episode ends on a harmonious note, with all the children, including George, playing together. Through playful storytelling, *Peppa Pig* conveys the significance of empathy, patience, and inclusive play in early childhood settings. It affirms that adults play a pivotal role in modeling acceptance and encouraging children to reevaluate their assumptions about others.

The *Peppa Pig* episode “The Play Group” provides a subtle yet insightful exploration of sibling relationships, social inclusion, and

early childhood identity within the context of a preschool setting. The episode opens with Peppa reluctantly bringing her younger brother George to her playgroup, expressing initial hesitation and concern over his ability to integrate with her established peer group. This reluctance reflects a common emotional response in young children who may perceive younger siblings as social liabilities rather than companions in formal or semi-formal environments like school (Binder, 2019).

Peppa's reaction to George's presence reveals her internalized assumptions about age, competence, and group dynamics. She views George as someone who does not belong in her space and is initially dismissive of his ability to participate in playgroup activities. This perspective illustrates early developmental stages in which children begin to form peer-based identities that are sometimes defined in contrast to family roles (Buckingham & Sefton-Green, 2021). Peppa's fear that George may embarrass her or disrupt the group dynamic is rooted in a desire for social belonging and perceived maturity.

However, the episode carefully shifts this narrative through the intervention of Madame Gazelle, the playgroup teacher, who serves as a mediator and facilitator of inclusive behaviour. Rather than directly correcting Peppa's behaviour, Madame Gazelle helps George find his place by encouraging participation in activities that align with his interests—most notably, his fondness for dinosaurs. This engagement draws positive attention from the other children and allows George to contribute meaningfully to the group. Peppa, witnessing her brother's acceptance and success, gradually changes her attitude.

This transformation highlights the value of adult facilitation in nurturing inclusivity and empathy among young children. Educators and caregivers play a crucial role in shaping how children view difference and capability, especially within peer groups (Marsh, 2017). By the end of the episode, Peppa not only accepts George's presence but also expresses pride in his contributions, illustrating her development toward a more inclusive and cooperative mindset.

"The Play Group" episode underscores key social-emotional lessons relevant to early childhood: the importance of empathy, the potential of every child to contribute, and the role of adults in guiding inclusive behaviour. The episode affirms that inclusiveness, when modelled and supported, fosters harmony and mutual respect within group settings.

The episode "Peppa Learns Teamwork" presents an accessible and engaging depiction of cooperation and collaborative learning. The episode is set on a football field where Peppa and her friends play under the supervision of Mummy Pig, who acts as the referee. When asked to form teams, Peppa initially resists the idea, asserting that she

prefers to play alone.

As the game progresses, Peppa's individual efforts fail to produce the desired outcome. She is unable to score a goal on her own, and when placed as the goalkeeper, she also fails to save a goal. These experiences leave her confused and disheartened, prompting her to ask Mummy Pig why she is not succeeding. Mummy Pig gently explains that football is not about individual effort, but about teamwork—a key message that initiates a change in Peppa's understanding of group dynamics.

This turning point in the episode highlights the role of guided adult mediation in helping children process social challenges and internalize cooperative values (Marsh, 2015). Once Peppa understands the importance of working together, she rejoins the game with a new perspective, participating as part of a team. The remainder of the game unfolds with enthusiasm and cooperation, underscoring the emotional and practical benefits of shared play.

By embedding this lesson within the context of a familiar activity like football, *Peppa Pig* makes the concept of teamwork tangible and memorable for young viewers. The episode demonstrates how animated narratives can foster essential life skills such as cooperation, communication, and empathy.

The *Peppa Pig* episode "Piggy in the Middle" presents a nuanced depiction of early childhood dynamics, particularly around the themes of ability, empathy, and inclusive play. At the start of the episode, Peppa is engaged in a ball-catching game with her younger brother George. However, she quickly grows frustrated when George struggles to catch and throw the ball as skilfully as she can.

The intervention by Mummy Pig serves as a turning point in the episode. By positioning herself in the middle and introducing a new rule—throwing the ball over her head—she gently reorients the focus from competition to shared participation. While Peppa succeeds in this new challenge, George initially fails. However, George adapts creatively by crawling under Mummy Pig to pass the ball. Peppa, recognizing the playfulness of his approach, follows suit. This moment reflects how children, when given the space to explore and improvise, can create inclusive and joyful play environments (Marsh, 2015).

The arrival of Daddy Pig adds further depth to the narrative. He lifts George up to help him succeed in throwing the ball over Mummy Pig's head, an act that demonstrates how adults can scaffold learning and facilitate participation for younger or less skilled children (Buckingham & Sefton-Green, 2021). Peppa, inspired by the shared enjoyment, also requests to be lifted, creating a harmonious conclusion that centres on cooperation and familial bonding.

Through gentle humour and relational dynamics, the episode

models how caregivers can nurture empathy, inclusion, and harmony by supporting those who struggle. “Piggy in the Middle” thus becomes a subtle but effective illustration of how animated media can foster essential life skills in early learners.

This study highlights *Peppa Pig* as a pedagogical resource that promotes inclusiveness, cooperation, and emotional intelligence among preschool viewers. Through qualitative analysis of five key episodes, it is evident that the series effectively addresses early social challenges—such as exclusion, sibling rivalry, and group dynamics—through age-appropriate storytelling and guided adult intervention. Episodes like *Best Friend*, *Hide and Seek*, and *Peppa Learns Teamwork* illustrate how empathetic caregiving and creative facilitation can foster cooperative play and moral understanding. The study situates *Peppa Pig* within broader frameworks of children’s media, global consumer culture, and digital literacy. Major findings underscore the show’s role in shaping foundational life skills by modelling emotional responses and problem-solving behaviours. As a globally recognized children’s program, *Peppa Pig* blends entertainment with subtle pedagogy, demonstrating the power of animated narratives to support early childhood development in both home and educational settings.

REFERENCES

- Ronfenbrenner, U., & Morris, P. (1998). The ecology of developmental processes. In W. Damon, & N. Eisenberg (Eds.), *Handbook of child psychology* (5th ed., pp. 993–1028; 17). New York: Wiley.
- Buckingham, D., & Sefton-Green, J. (2021). *Children, media and consumer culture*. Palgrave Macmillan.
- Baker, K. and Raney, A.A. (2007). Equally super? Gender-role stereotyping of superheroes in children’s animated programs. *Mass Communication & Society* 10: 24–41.
- Pempek, T.A. and Lauricella, A.R. (2017). The effects of parent-child interaction and media use on cognitive development in infants, toddlers, and preschoolers. In: *Cognitive Development in Digital Contexts* (eds. F.C. Blumberg and P.J. Brooks), 53–74. Cambridge, MA: Academic Press.
- Marsh, J. (2015). *Literacy and play in the digital world: Stories from a generation*. Routledge.
- Marsh, J. (2017). The digital literacy skills and competences of children of pre-school age. *Media Education Research Journal*, 25(50), 69–77. <https://doi.org/10.3916/C50-2017-06>

An Epistemological Inquiry on Paulo Freire's Concept of Conscientização¹ and Critical Consciousness

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Abstract

In *Pedagogy of the Oppressed*, Freire defines conscientização as an active process whereby people learn to “perceive social, political, and economic contradictions, and to take action against oppressive elements of reality” (Freire, 1970). Freire believes that conscientização aims to comprehend the existence of people ‘in and with the world’. In this light, this article aims to undertake an epistemological analysis of the terms conscientização and critical consciousness. To fulfil the study’s objectives, the researcher outlines the roots of the word conscientização and traces Freirean thinking on critical consciousness. Finally, the researcher presents and discusses the concept of Conscientização through different thinkers and practitioners.

Keywords: Paulo Freire, conscientização, conscientization, critical consciousness, Brazil, philosophical thought

Introduction

Paulo Freire, a twentieth-century educator, writer, philosopher, intellectual, and political activist (Schugurensky, 2011) believed that knowledge must be understood from its pedagogic, political, scientific, and human perspectives (Freire, 1994). Diaz (2018) points out that to better understand Paulo Freire’s thought and work, it is imperative to analyse the context from which Freire developed his thoughts and philosophy. The influence of Freire’s theories and methods had significant impacts; it was begun in Latin America and moved throughout the world. Gadotti (2001) argued that the ability to connect with others helped Freire to link different fields, disciplines,

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and thoughts (“epistemological connectivity”). As a humanist, Freire’s ontological vocation is not just repositioning the oppressed in a better environment. It aims to redraw the oppressed-oppressor relationship and rectify its power asymmetry. (Zuzina and Tufti). Levy (2020) opines that, In the *Pedagogy of the Oppressed*, Paulo Freire’s urges for a better understanding of “action” as a crucial point in the struggle against the oppressor. The political action of the oppressed should be their own “Conscientização” (Freire, 1970). In *Pedagogy of the Oppressed*, Freire defines conscientização as an active method whereby people learn to perceive social, political, and economic contradictions and to take action against oppressive elements of reality (Carleton, 2014). According to Gerhardt (2000) Conscientização is the process by which people achieve a deepened awareness, both of the sociocultural reality that shapes their lives and their capacity to transform that reality. The process of conscientização helps the oppressed to see themselves as both the products and potential changers of their social conditions.

In this context, the researcher believes it critical that the study should begin with an inquiry which explains the socio-economic and political roots of the world conscientização. The researcher then elaborates the term critical consciousness. In the final section, the study elaborates how others view Freire’s thinking beyond a pedagogical method and as a model with a social significance. The researcher selected a qualitative analysis methodology for the study.

Tracking the roots of ‘Conscientização’

Cruz (2013) observed that the word “conscientização” originated from Brazilian Portuguese. Cruz elaborated that “the etymological roots are in the Latin word “conscientia”, which means joint knowledge, consciousness, feeling, or sense. In Portuguese, the noun is consciência, and also the verb “conscientizar” exists, meaning to raise somebody’s awareness.” Conscientização is a noun that was created by adding the suffix – “ção” to the verb “conscientizar”. Since - ção denotes a process, conscientização can be translated literally as the procedure used to enhance someone’s awareness.

Freire (1971, 1972) denied himself as the contributor of the word conscientização. Schugurensky (2011) opines that conscientização is a term which denotes the development of critical consciousness and, most of the time, translated as “consciousness-raising” or “awareness-raising,” has been wrongly attributed to Freire. The concept was initially invented in the early 1960s by the ISEB (Advanced Institute of Brazilian Studies) team and was popularized by Bishop Helder Camara. Concerning this matter, Freire elaborates:

“It is generally believed that I am the author of this strange term,

conscientização, because it is at the core of my educational ideas. In reality, the term was created around 1964 by a ISEB team, philosopher Álvaro Pinto and Professor Guerreiro. It was Helder Câmara who was responsible for popularizing it and for translating it into English and French.” The standard English translation of conscientização is conscientization.

Although ISEB coined the term, Freire applied meaning to it. Schugurensky (2011) stated that this idea was elaborated by Freire, who also created and used a methodology to put it into effect in educational programmes intended to bring about social change. *Pedagogy of the Oppressed* is the pioneering work of Freire that elaborates the concept of conscientização. Freire (1970) defines conscientização as:

“The process in which men, not as recipients, but as knowing subjects, achieve a deepening awareness of the sociocultural reality that shapes their lives and capacity to transform that reality. (p. 519)”

Two Freirean concepts: the concept of ‘praxis’ and the concept of ‘dialogue’ is also involved in Conscientização (Freire, 1994). For Freire, praxis is the continuing dialectic relationship of action and reflection. Melkote and Steeves (2015) argue that Freire’s concept of dialogue originated from Martin Buber’s book *I and Thou* (1958). Buber (1958) distinguishes the relationship between I–Thou and I–It. The relationship between I–Thou involves equality, openness, and mutual respect in conversation and action. Freire (1970) believes that the genuine dialogue in the spirit of Buber’s I and Thou liberates people and communities and helps to identify their futures.

In 1974, Freire stopped using the term “conscientização” because he believed it was widely misunderstood (Freire, 1984). Freire & Vittoria (2007) observe that in the early 1990s, Freire returned to started writing once more and again utilised the concept.

Philosophical Influences on Conscientização

Paulo Freire’s historical backdrop, Brazilian history, and personal experiences significantly impacted his thinking and creative output (Dias, 2018). He was influenced by several schools of thought, including existentialism, phenomenology, Marxism, and psychoanalysis (Schugurensky, 2011).

Freirean philosophy has a strong connection with the historical backdrops of Brazil. From 1500 to 1822, Brazil was a Portuguese colony. Freire’s background was in the North Eastern region of Brazil from the 1930s through the 1960s. The educational systems in Brazil and Chile are dissatisfied Freire. He argued for replacing the old system with one that is more receiver-centred and involves the learners’ experience, particularly of their existential problems

through reflection and dialogue. Freire believes that through the new education system, one can develop action plans to free themselves from dependency and exploited situations. This empowerment pedagogy rejected the banking education practice and leveraged conscientização process. (Melkote and Steeves, 2015)

Cruts (2013) points out that it is notable that even though various schools of thought and philosophers influenced Freire's thoughts, Freire consistently came up with genuine, groundbreaking concepts that had immediate or foreseeable applications. Freire always believes in legitimate and groundbreaking concepts that find immediate or potential future applications. Freire was influenced by various Philosophies, including existentialism, phenomenology, Marxism, and psychoanalysis. (Schugurensky, 2011) Overall, it is essential to mention that, even though Freire's thoughts were influenced by the philosophers and social scientists of his time and the past, Freire managed always to propose authentic and revolutionary ideas that led to immediate or future practical application. In other words, Freire was not a follower of any particular philosophical idea; he read them, digested them, reinvented them, and recombined ideas into his philosophy, a philosophy that is centred on the betterment of humankind and rooted in social justice: and it all starts with education. (crutz, 2013)

Freire's PhD thesis, pinpoint the influence of the Instituto Social de Estudos Brasileiros (ISEB), a think tank associated with the national development project established by the government of Juscelino Kubitschek. This effect can be seen in the contribution of the term conscientização, which played a crucial role in Freire's pedagogical approach. By elaborating the term Conscientização, Freire conceptualized it as an ongoing process in which the oppressed attain a capacity to read the social world critically and become subjects of history (Vittoria and Araujo Freire, 2007).

Regarding the philosophical influences on Freire's theoretical framework, academicians have no shared agreement. Gadotti (1994) considered Hegel's intellectual works as the primary source for Freire's philosophy of conscientização. Hegel's social ethics, process of metaphysics, phenomenology and the tension of the master versus slave dialectics influenced Freire. The tension between oppressor and oppressed is similar to Hegel's master versus slave dialectics. In contradiction to this Taylor (1993) put forth an argument that Freire got influenced by the works of Lucien Febvre, a French historian, who elaborated on the stages of consciousness. Taylor also argued that Lucien Febvre has a solid epistemological connection with Brazil. In this regard, it ensured that in the work *Pedagogy of the oppressed* Freire credited both Febvre and Hegel.

Dias (2022) argued that Existentialism influenced Freire's

philosophy. Freirean thoughts inclined toward the idea that human beings are free to choose and responsible for their choices. At the time of the academic sessions, Freire taught students how to read and write and shared conscientização and through this awareness, students were free to choose the life they created for themselves.

Valenzano (2021) put forth an argument that a theoretical consequence that Freire assimilated from the French philosopher, Mounier, is the critique of individualist capitalism that rejected human dignity. In this light, the core of Freire's interpretation of conscientização is a critique of capitalism and how it creates political and symbolic alienation and exclusion.

Freire was inspired by the Marxist ideologies in several areas of his thinking and civil commitment. False-consciousness is a fundamental Marxist theory that had a substantial impact on Freire. According to Marx, when a person gains consciousness of their class, they identify their economic position in the society and thus become aware of class interests (Valenzano, 2021). Conscientização, according to Freire, is the process of becoming conscious of one's class and, more broadly, of the roles that one's race, gender, physical ability, and other characteristics play in our society.

Friaries Focus on Critical Consciousness

Diemer & Li (2011) stated that critical consciousness comprises socio-political control and social action. Critical consciousness was created as a pedagogical strategy to encourage Brazilian peasants to read critically and feel empowered to change oppressive social structures through dialogue and action. (Freire, 1973,1993). Freire believes that in order to change their social circumstances, oppressed people must be able to critically "read" and take action. Valenzano (2021) noted that the three French philosophers Pierre Teilhard de Chardin, Jacques Maritain, and Emmanuel Mounier had had a significant influence on Freire's writings, particularly in his understanding of critical consciousness.

Building on the perspectives of prior literature, it became evident that critical consciousness involves reflection and action. (Diemer & Blustein, 2006; Fine,1991; Giroux, 1983; Morsillo & Prilleltensky, 2007; O'Connor, 1997). Critical consciousness signifies how oppressed individuals critically read and act to change their social situations. According to Freire (1970) critical consciousness entails both critical action and reflection. Here, critical reflection is the critical analysis of structural oppression, including social-economic, and political conditions that limit access to opportunity and disseminate injustice (Giroux, 1983; Watts & Flanagan, 2007). Critical action

involves control of socio-political situations, the ability to alter the social and political environment, and the involvement in individual or collective social action to make a social change (Ginwright & James, 2002; Zimmerman, Ramirez- Valles, & Maton, 1999). For Freire (1993) Critical action presupposes some critical analysis of one's social conditions.

Freire (1992) claimed there are different levels of critical consciousness which include semi-intransitive consciousness, naive transitive consciousness, and critical transitive consciousness. Alajlan & Aljohani, (2019) elaborate that, in the first stage, semi-intransitive consciousness, people's consciousness is constrained, and their primary concern is survival. Naive transitivity, the second stage of consciousness, causes people to become more aware of their surroundings and begin thinking about their actions and responsibilities. Instead of dialogue, this stage is marked by the practice of polemics. In the third and last stage, individuals enter into a critical transitive consciousness which is characterised by having a critical awareness as a result of educational efforts. Individuals develop their capacity for critical engagement, prevent distortion when identifying problems, disregard preconceived conceptions when assessing problems, reject passive status, and empower their ability to engage in critical thinking and dialogue. The liberation process needs to move from a naive to a critical consciousness, but it should not be assumed that a critical consciousness indeed leads to a transformation. This means that a critical consciousness is a necessary but insufficient condition for collective change (Bhattacharya, 2011)

Bhattacharya (2011) makes a link between Freire's concept of 'assistentialism' and critical consciousness. Bhattacharya observed that, for Freire assistentialism is an unorthodox method of trying to vitiate popular participation in the historical process. It is opposed to the process of "fundamental democratisation". The greatest threats of assistentialism are imposing silence and passivity. Without an increasingly critical consciousness, men/women cannot integrate themselves into a transitional society, marked by intense change and contradiction.

Conscientização through Thinkers and Practitioners

Freire's liberating pedagogy was defined and refined over the 50 years of his academic career. Although he had a lot of philosophical and imaginative ideas, his thought was firmly based on real-world application and a strict pedagogical approach. It made his ideas not only understandable and applicable, but also inspirational to many. Paulo Freire has had a significant influence on a wide range of social and development sectors, social movements, civil society groups, and communities that are concerned with issues of social justice

and social change. (Zuzina & Tufte, 2020). Zuzina & Tufte (2020) points out that, Freire's intellectual impact was collected in the book *Communication for Social Change Anthology: Historical and Contemporary Readings* written by Alfonso Gumucio-Dagron and Thomas Tufte. From 2004 to 2006, the writers identified 200 texts as seminal for the field. Among them, 40% were texts from Latin America, and most had thoroughly referenced to Freire.

Kidd (1984) discusses the influence of the conscientização method on art. Kidd argued that Bertolt Brecht, an earlier theatre pioneer, used theatre platform as a consciousness-raising tool. However, his concepts limitedly impacted popular education in Third World countries. Today, the world's most famous performance art forms are often intended to make strategies for counterattacking the dominant hegemony. Augusto Boal's Forum Theatre is one among them (Prentki, 2016). Kidd (1984) elaborates that Boal was close to Freire and was influenced by Freire's concept of conscientização. Boal used theatre for conscientização while he was in Brazil. After his exile from Brazil Boal developed a methodology for 'theatre of the oppressed'. Mazzini (2007) commented that Boal and Freire share a common cultural basis. Both of them speak about dialogue, oppression, generative themes, oppressive relations, and humanizing persons and their goals are the same. They help to bring human liberation, and call for a transformation from a 'naïve consciousness' to 'critical, transitive and organizational consciousness'.

Jurrien (2013) analyses that Indonesian artists creatively used Freire's idea of conscientização in theatre art and installation, drawing, and other creative arts. The Indonesian Pioneer Moelyono (1997) considers art, as a political tool for education, expression, and dialogue. It is a powerful medium through which people critically interpret their position and role in society. Art inspires them to express their aspirations and alter their future. Moelyono has used various names for art, all of which allude to social participation, social awareness, and social change, including conscientização.

Schugurensky (2011) elaborated that, in 1971, after their exile in Switzerland, Freire associated with Institute for Cultural Action (Instituto de Ação Cultural, IDAC) and provided educational assistance to the southern countries where people were struggling for complete independence. In this centre, they applied conscientização method as a tool for social transformation. In the case of ISEB, Conscientização was an essential element of a pedagogical, political project aimed at social transformation.

Rozario (1997), while tracing the history of the concept of empowerment, divides empowerment into two primary models. One model is for the empowerment of the individual and it does not encourage the collective actions of the oppressed. The other model

incorporates Paulo Freire's method, which stresses 'conscientização and radical social action'. Melkote and Singha (2021) argued that the method *Conscientização* inspired many development projects and initiatives, including community radios in Colombia. From the early literature of participatory communication, precisely, in the works of scholars like Ansu-Kyeremeh, Diaz Bordenave, Childers, Gerace, Kaplun, Jamias, Pasquali, Quebral, Ramirez, Snowden, Ugboajah or Vajrathon (Barranquero, 2019; Colle, 2008; Huesca, 2008; McAnany, 2012; Ramirez, 1986) it is clear that the most general theories for participatory communication could be attributed to Paulo Freire's work (1970, 1973, 1983, 1994, 1997).

Bell Hooks claimed that, their development as a critical thinker had been greatly influenced by the works of Paulo Freire (Watkins, 1993). As a reaction to sexism in language and the phallogocentric paradigm of liberation in Freire's work, hooks commented that freedom and the experience of patriarchal manhood are always linked as though they are one and the same.

Conclusion

The significance of Paulo Freire's work, in particular his concept of *conscientização*, provides a deeper awareness of the social-political-economic reality that dominates one's life and how to change the existing reality.

The concept of *Conscientização* is influenced by several schools of thought, philosophers and practical methods. Thus, it is difficult to put the concept *Conscientização* in a single thread. The term's epistemology lies on Freire's lived experiences and the socio-economic and political backdrops of Brazil.

The philosophy of *conscientização* influences the intellectual arena. Paulo Freire has a prominent influence on different social and development sectors, social movements, civil society groups, and communities that are concerned with issues of social justice and social change.

Notes

1. Instead of the common English-translated word 'conscientisation', the researcher used the original Brazilian Portuguese word '*conscientização*' as Freire (1971, 1972), who believed the word should be adopted unchanged into English.

REFERENCES

- Alajlan, S. M., & Aljohani, O. H. (2019). Critical Consciousness and Empowerment Issues in Undergraduate Classrooms. *International Journal of Adult Vocational Education and Technology*, 10(2), 17–24. <https://doi.org/10.4018/ijavet.2019040102>
- Barranquero, A. (2020). De-westernizing Alternative Media Studies: Latin American Versus Anglo-Saxon Approaches from a Comparative Communication Research Perspective. *Handbook of Communication for Development and Social Change*, 329–340. https://doi.org/10.1007/978-981-15-2014-3_69
- Bhattacharya, A. (2011). *Paulo Freire: Rousseau of the Twentieth Century*. SensePublishers.
- Colle, R. (2008). Threads of development communication. In *Communication for development and social change* (pp. 96–157). Sage.
- Diemer, M. A., & Li, C. H. (2011a). Critical Consciousness Development and Political Participation Among Marginalized Youth. *Child Development*, 82(6), 1815–1833. <https://doi.org/10.1111/j.1467-8624.2011.01650.x>
- Diemer, M. A., & Li, C. H. (2011b). Critical Consciousness Development and Political Participation Among Marginalized Youth. *Child Development*, 82(6), 1815–1833. <https://doi.org/10.1111/j.1467-8624.2011.01650.x>
- Freire, P. (1996). *Letters to Cristina: Reflection on My Life and Work* (1st ed.). Routledge.
- Freire, P. (2005). *Education for Critical Consciousness (Continuum Impacts)* (unknown ed.). Bloomsbury Academic.
- Freire, P. (2013). *Education for Critical Consciousness*. Bloomsbury Academic.
- Freire, P., Macedo, D., & Giroux, H. A. (1985). *The Politics of Education: Culture, Power and Liberation* (1st ed.). Bergin & Garvey Publishers.
- Gadotti, M. (1994). *Reading Paulo Freire: His Life and Work (SUNY Series, Teacher Empowerment and School Reform)*. SUNY Press.
- Gerhardt, H.-P. (2000). Paulo Freire (1921–97). *N Prospects: The Quarterly Review of Comparative Education*, 439–458.
- Huesca, R. (2008). Tracing the history of participatory communication approaches to development: A critical appraisal. In *Communication for development and social change* (pp. 180–200). Sage.
- Juliastuti, N. (2006). Moelyono and the Endurance of Arts for Society. *Afterall: A Journal of Art, Context and Enquiry*, 13, 3–7. <https://doi.org/10.1086/aft.13.20711600>
- Lake, R., & Kress, T. (2013). *Paulo Freire's Intellectual Roots*. Van Haren

Publishing.

- Levy, H. (2020). Grammars of contestation and pluralism: Paulo Freire's action in Brazil's periphery and the rise of right-wing discourse on YouTube. *International Communication Gazette*, 82(5), 474–489. <https://doi.org/10.1177/1748048520943696>
- Martin, B. (1972). *I And Thou*. (LATER PRINTING ed.). Scribners.
- McAnany, E. G. (2012). *Saving the World: A Brief History of Communication for Development and Social Change* (1st ed.). University of Illinois Press.
- McLaren, B. D. (2015). *We Make the Road by Walking: A Year-Long Quest for Spiritual Formation, Reorientation, and Activation*. Jericho Books.
- Melkote, S. R., & Singhal, A. (2021). *Handbook of Communication and Development*. Edward Elgar Publishing.
- Melkote, S. R., & Steeves, L. H. (2015). *Communication for Development: Theory and Practice for Empowerment and Social Justice* (Third ed.). SAGE Publications Pvt. Ltd.
- Paulo, F. (2017). *Pedagogy of the Oppressed*. PENGUIN.
- Paulo Freire. (1992). Routledge.
- Paulo Freire | Internet Encyclopedia of Philosophy. (2018). The Internet Encyclopedia of Philosophy. <https://iep.utm.edu/freire/>
- Ramirez, M. M. (1986). Participatory Action Research as a Communication Process. *Media Asia*, 13(4), 189–194. <https://doi.org/10.1080/01296612.1986.11726227>
- Roberts, P. (2000). *Education, Literacy, and Humanization: Exploring the Work of Paulo Freire (Critical Studies in Education and Culture Series) (Critical Studies in Education & Culture (Hardcover))* (First Printing ed.). Praeger.
- Schugurensky, D., & Bailey, R. (2014). *Paulo Freire*. Bloomsbury Academic.
- Suzina, A. C., & Tufte, T. (2020). Freire's vision of development and social change: Past experiences, present challenges and perspectives for the future. *International Communication Gazette*, 82(5), 411–424. <https://doi.org/10.1177/1748048520943692>
- Suzina, A. C., Tufte, T., & Jiménez-Martínez, C. (2020). Special issue: The legacy of Paulo Freire. Contemporary reflections on participatory communication and civil society development in Brazil and beyond. *International Communication Gazette*, 82(5), 407–410. <https://doi.org/10.1177/1748048520943687>
- Valenzano, N. (2021). Marxist and Personalist influences in Paulo Freire's pedagogical anthropology. *Tendencias Pedagógicas*, 38, 68–82. <https://doi.org/10.15366/tp2021.38.007>

A Study on Climate Change Awareness of Journalists in Kerala: An Analysis of Personal and Professional Characteristics

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Abstract

This study aimed to measure climate change awareness of media persons in Kerala and also investigated its nature of linkage with their respective personal & professional characteristics. To measure climate change awareness, the study uniquely designed a conceptual model which incorporated four knowledge scales as casual & basic knowledge, effect knowledge, action-related knowledge and agreement/event knowledge (knowledge scales proposed by Tobler, Visschers & Siegrist, 2012). Based on this a standardized survey instrument was developed and performed among 518 media persons in Kerala. The study adopted a multistage stratified random sampling method to identify the sample population. The collected data were subjected to statistical analysis using the independent T-Test and ANOVA, carried out to understand the relationship of climate change awareness with their personal and professional characteristics. For the study, personal characteristics constituted were age, gender, education, science education, type of science education and environmental organization membership. Professional characteristics were job designation, type of media, experience, media education, field of work, working region, climate change reporting and media awards. Results revealed that majority of the media persons (N= 325, 62.7%) had a moderate level of climate change awareness. Besides to that study results also showed that a few personal and professional characteristics had significant relationship with climate change awareness.

Keywords: climate change (CC), climate change awareness, climate change knowledge scale, personal and professional characteristics

Introduction

Numerous empirical studies have consistently affirmed that Anthropogenic climate change constitutes a critical global challenge requiring urgent attention (Houghton, 1992; Carte, 1995; Houghton, 1996; Watson, 1997; Nakicenovic & Swart, 2000; Houghton, 2001). Recognized as one of the most pressing

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threats of the 21st century, climate change represents a profoundly complex and multifaceted issue with significant interdisciplinary and multidisciplinary implications. The Intergovernmental Panel on Climate Change (IPCC) defines climate change as “a change in the state of the climate that can be identified by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer,” attributing it to both natural variability and human activities (IPCC, 2007).

Since the publication of Rachel Carson’s seminal work *Silent Spring* (1962), the fields of environmentalism and environmental journalism have gained substantial academic attention and debate. However, the abstract, incremental, and often intangible nature of climate change presents significant challenges for public comprehension. For many individuals, the issue remains disconnected from immediate social, political, and economic concerns that dominate everyday life (Moser, 2010). Scholarly investigations have underscored the critical role of mass media in framing, interpreting, and disseminating information about environmental issues (Schoenfeld et al., 1979; Spector & Kitsuse, 1977), with research indicating that the public primarily acquires scientific knowledge through media channels (Wilson, 1995).

Mass media, therefore, play a pivotal role in shaping public awareness and understanding of climate change and in influencing policy discourse. This research posits that mass media serve as crucial intermediaries between scientific expertise and public perception. Journalists, operating as an interpretive community, often engage with the scientific consensus on anthropogenic climate change. Their perspectives and reporting practices are shaped by various factors, including professional norms, source utilization, personal ideologies, and engagement with scientific communities. Given the global-local character of climate change, the issue transcends conventional journalistic beats, encompassing a diverse spectrum of media practitioners across different platforms and geopolitical contexts.

Statement of the Problem

This study is premised on the assumption that mass media function as vital intermediaries between scientific discourse and public understanding of climate change. Within this framework, journalists—as key content creators—play a central role in shaping how climate science is communicated and understood by the broader public. However, a critical examination of the existing empirical literature reveals a persistent knowledge gap between the scientific consensus on climate change and its journalistic representation. This gap can hinder effective public engagement and policy support concerning climate issues.

To address this gap, it is essential to investigate the extent of climate change awareness among journalists, particularly in relation to their personal and professional characteristics. This study, therefore, seeks to examine the climate change awareness of journalists in Kerala, India, with the aim of understanding how factors such as educational background, journalistic experience, interaction with scientific communities, and media organizational culture influence their reporting on climate-related issues. By doing so, the study aspires to contribute to the broader discourse on enhancing the efficacy of environmental journalism in bridging the divide between scientific knowledge and public perception.

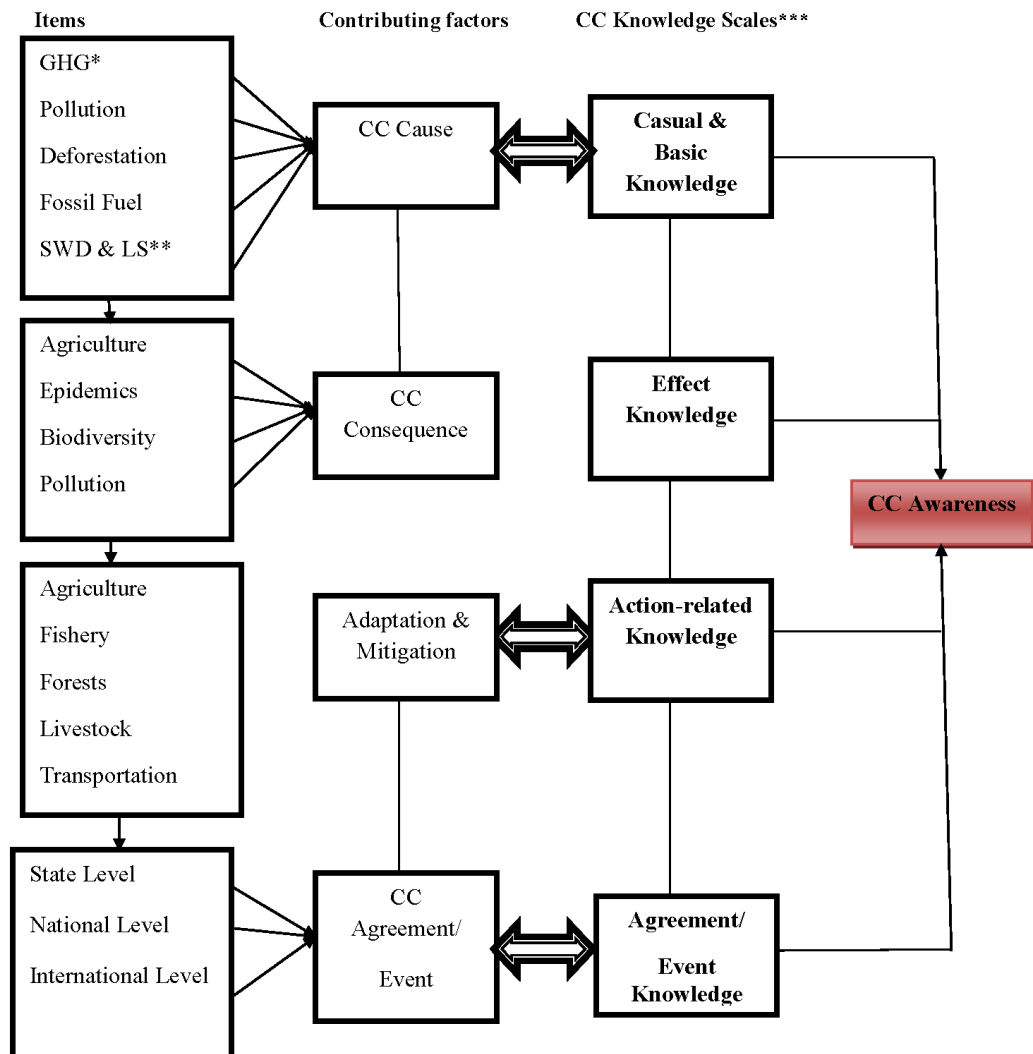
Study Objectives

1. To determine the level of climate change (CC) awareness of journalists in Kerala.
2. To understand the nature of linkage of climate change (CC) awareness of journalists in Kerala with their respective personal and professional characteristics.

Literature review

Studies reiterated that climate change awareness level is high in developed countries (Bostrom *et al.*, 1994; Bord, Fisher, and O'Conner, 1998; Pew Research Centre, 2006; Pugliese and Ray, 2009), but still not a priority environmental issue in most of these countries (Leiserowitz Kates and Parris, 2005; Leiserowitz, 2006; Pew Research Centre, 2013). There were only a few studies explored the knowledge of journalists about climate change. Wilson (2000) surveyed environmental journalists and found substantial deficits in their knowledge about the scientific consensus and the debates on par with the perspective of climatologists. Another study based on Sweden, found that knowledge of climate change among journalists ranking second behind scientific experts but ahead of policy makers and laypersons (Sundblad *et al.*, 2009). Elsasser and Dunlap (2013) showed that the conservative newspaper columnists in the US questioned anthropogenic climate change in their pertinent columns.

Here, quite interestingly W. Stoutenborough, Robert Nicholas Fette, Arnold Vedlitz and Carol L. Goldsmith (2014) analyzed media and climate change communication in the climate scientists' perspective. Climate scientists believe the media inaccurately report on scientific research regarding global climate change. At the same time, Martin Rice, Ann Henderson-Sellers and Greg Walkerden (2015) used a lens to focus on journalists and researchers at the forefront of communicating climate science.

Figure 1: Climate Change Awareness of Journalists (Conceptual Model)

**Green House Gas (GHG), **Solid Waste Disposal & Life Style (SWD & LS)*

****Climate Change Knowledge Scales (CC Knowledge Scale)*

Knowledge scales proposed by Tobler, Visschers & Siegrist (2012)

Conceptual Model of Climate Change Awareness of Journalists

As an important construct climate change awareness is conceived to have four unique knowledge scales: casual & basic knowledge, effect knowledge, action-related knowledge and agreement/event knowledge (see figure 1). Each knowledge scale is associated with their respective contributing factors like cause, consequence, adaptation & mitigation and climate change agreement. The whole four contributing factors were spread across 17 items. In the basis of this conceptualization, study uniquely designed the above conceptual model to drive further elaboration.

Methodology

The objectives of the study warrant a quantitative survey method. The study conducted a survey among journalists who were enlisted in the Public Relations Department (PRD) directory of Government of Kerala that constituted the population of the study. By adopting a multistage stratified random sampling method, study sample constituted of 518 journalists. Besides to this study designed a standardized survey instrument to measure climate change awareness. A 25 statement survey instrument consisted of two sections. First section of the questionnaire enquired the journalists about their personal and professional characteristics. The second section consisted of 25 statements spread across four knowledge scales: casual & basic knowledge, effect knowledge, action-related knowledge and agreement/event knowledge with their respective four contributing factors. 17 items across four contributing factors under each knowledge scale were measured on a 3-point Likert scale (true/false/don't know) with item-wise scores as the 1 score for each correct response and 0 score for the wrong response. Both positive and negative statements were presented. The responses to the positive statements, 'true' indicates as 'informed', 'false' indicates as 'misinformed' and 'don't know' indicates as 'not informed' (for the negative statements 'true' & 'false' will denote vice versa).

For the study, the ranges of climate change awareness score based on each knowledge scale were equally divided into three levels as 'High', 'Moderate' and 'Low'. For the study, the climate change awareness score is greater than mean + standard deviation ($\mu + \sigma$), the awareness level will consider as High, whereas the score less than mean - standard deviation ($\mu - \sigma$), the awareness level will consider as Low. Since, the score value in-between mean + standard deviation ($\mu + \sigma$) & mean - standard deviation ($\mu - \sigma$) is considered as Moderate.

Population Profile

To describe the population, study used the enlisted journalists in the directory of Public Relations Department (PRD), Government of Kerala published in 2019. The total number of journalists in Kerala is 3,941.

Personal and Professional Characteristics

For the study, personal characteristics constituted were age, gender, education, science education, type of science education and environmental organization membership. Professional characteristics were job designation, type of media, experience, media education, field of work, working region, climate change reporting and media awards.

Results

Knowledge Scale-wise Climate Change Awareness Level of the Journalists

Prior to determine the climate change awareness level of journalists in Kerala, study tested knowledge scale-wise climate change awareness. The results are reported below (table: 1).

Table 1: Knowledge Scale-wise CC Awareness Level of the Journalists

Knowledge Scales	CC Awareness Level	N	Mean	Std. Dev.	F	Sig.
Casual & Basic Knowledge	High ^	108	6.64	.56	217.24	.000*
	Moderate^^	325	5.48	1.07		
	Low^^^	85	3.47	1.41		
	Total	518	5.39	1.43		
Effect Knowledge	High	108	4.77	.41	134.588	.000*
	Moderate	325	3.86	.87		
	Low	85	2.75	1.12		
	Total	518	3.87	1.04		
Action-related Knowledge	High	108	4.57	.51	213.737	.000*
	Moderate	325	3.24	1.00		
	Low	85	1.85	.92		
	Total	518	3.29	1.22		
Agreement/Event Knowledge	High	108	4.87	.37	172.330	.000*
	Moderate	325	3.50	1.10		
	Low	85	2.12	1.24		
	Total	518	3.56	1.32		

*p < 0.05

High^ = Awareness score value is greater than $\mu + \sigma$, **Moderate**^^ = Awareness score value in-between $\mu + \sigma$ & $\mu - \sigma$, **Low**^^^ = Awareness score is less than $\mu - \sigma$

Data shows that 108 journalists with high level of CC awareness in respect of causal & basic knowledge ($M= 6.64$, $SD= .56$) whereas majority of journalists ($N=325$) had moderate CC awareness level in the same knowledge scale ($M= 5.48$, $SD= 1.07$). However, minority of them ($N= 85$) had low level of CC awareness in the casual & basic knowledge scale ($M= 3.47$, $SD= 1.41$). But the difference on mean scores of three different levels of CC awareness in respect of causal & basic knowledge was statistically significant, since $p < 0.05$.

ANOVA results showed that the difference on mean scores of three different levels of CC awareness in respect of effect knowledge was statistically significant, since $p < 0.05$. Data showed that 108 journalists with high level of CC awareness in respect of effect knowledge ($M= 4.77$, $SD= .41$) whereas majority of journalists ($N=325$) had moderate CC awareness level in the same knowledge scale ($M= 3.86$, $SD= .87$). However, minority of them ($N= 85$) had low level of CC awareness in the effect knowledge scale ($M= 2.75$, $SD= 1.12$).

Similarly, ANOVA results showed that the difference on mean scores of three different levels of CC awareness in respect of action-related knowledge was statistically significant, since $p < 0.05$. Data showed that 108 journalists with high level of CC awareness in respect of action-related knowledge ($M= 4.57$, $SD= .51$) whereas majority of journalists ($N=325$) had moderate CC awareness level in the same knowledge scale ($M= 3.24$, $SD= 1.00$). However, minority of them ($N= 85$) had low level of CC awareness in the effect knowledge scale ($M= 1.85$, $SD= .92$).

Remarkably, data shows that that 108 journalists with high level of CC awareness in respect of agreement/event knowledge ($M= 4.87$, $SD= .37$) whereas majority of journalists ($N=325$) had moderate CC awareness level in the same knowledge scale ($M= 3.50$, $SD= 1.10$). However, minority of them ($N= 85$) had low level of CC awareness in the agreement/event knowledge scale ($M= 2.12$, $SD= 1.24$).

Table 2: CC Awareness Level of the Journalists

CC Awareness Level	N	Percentage
High Level [^]	108	20.8%
Moderate Level ^{^^}	325	62.7%
Low Level ^{^^^}	85	16.4%
Total	518	100.0%

High[^] = Awareness score value is greater than $\mu + \sigma$, **Moderate^{^^}** = Awareness score value in-between $\mu + \sigma$ & $\mu - \sigma$, **Low^{^^^}** = Awareness score is less than $\mu - \sigma$

Data shows that (table: 2) out of the total sample of the study (N= 518), 20.8% of journalists had high level of CC awareness whereas majority of the journalists (N= 325, 62.7%) had moderate level of CC awareness and minority of them (N= 85, 16.4%) had low level of CC awareness.

Table 3: Mean Scores of journalistic CC Awareness by Personal Characteristics

Group Statistics						ANOVA Results				
Personal Characteristics		N	Mean Score	Std. Dev	Std. Error Mean	Between/ Within groups	Sum of Squares	DF	F	Sig.
Age	20 - 30	151	17.90	3.74	.30	Between Groups	171.135	3	3.155	.025*
	30 - 40	189	18.41	4.29	.31					
	40 - 50	125	19.05	4.79	.42	Within Groups	9292.851	514		
	50 - 60	53	19.71	4.10	.56					
	Total	518	18.55	4.27	.18	Total	9463.986	517		
Education	Plus Two	12	14.75	3.44	.99	Between Groups	563.018	3	10.837	.00*
	Graduation	71	16.56	4.46	.53					
	PG	306	18.82	4.12	.23					
	PG Diploma	129	19.37	4.14	.36	Within Groups	8900.969	514		
	Total	518	18.55	4.27	.18	Total	9463.986	517		
Type of Science Education	Plus Two	130	19.67	3.86	.33	Between Groups	32.010	3	.695	.556
	Graduation	99	19.68	3.48	.35					
	PG	21	19.42	4.17	.91	Within Groups	3916.422	255		
	PG Diploma	9	17.77	7.52	2.50					
	Total	259	19.59	3.91	.24	Total	3948.432	258		
Group Statistics						T-Test Results				
Personal Characteristics		N	Mean Score	Std. Dev	Std. Error Mean	DF		T	Sig. (2-tailed)	
Gender	Male	394	18.44	4.42	.22	516		-1.042	.298	
	Female	124	18.90	3.764	.33					
Science Education	Yes	259	19.59	3.91	.24	516		5.701	.000*	
	No	259	17.51	4.38	.27					
Environmental Organization Membership	Yes	81	19.64	4.18	.46	516		2.504	.013*	
	No	437	18.35	4.27	.20					

*p < 0.05

Elder journalists belonging to the age group of 50-60 years (M = 19.71, SD= 4.10) and 40-50 years (M=19.05, SD= 4.79) had better CC awareness that of younger journalists belonging to the age groups of below 20-30 years (M = 17.90, SD = 3.74) and of 30-40 years (M

= 18.41, SD = 4.29). Data showed that age had significant interaction with CC awareness of the journalists (see Table 3) as the result yielded by ANOVA ($F(3, 514) = 3.15, p = .025$).

Data shows that PG diploma holders ($M = 19.37, SD = 4.14$) had a greater mean score of CC awareness than journalists who had Post Graduation ($M = 18.82, SD = 4.12$) & Graduation ($M = 16.5, SD = 4.46$). ANOVA results ($F(3, 514) = 10.83, p = .00$) showed that differences in CC awareness of journalists based on their educational qualification found to be statistically significant.

The data shows that CC awareness mean scores of journalists belonging to different types of science education background was not statistically significant ($F(3, 255) = .695, p = .556$). Journalists who have science education in graduation level had higher CC awareness score ($M = 19.68, SD = 3.48$) than their counter parts.

The t-test results showed that Gender had no significant influence on CC awareness of journalists ($t(516) = -1.042, p = .298$) though Female journalists had slightly higher mean score ($M = 18.90, SD = 3.76$) with their male counterpart ($M = 18.44, SD = 4.42$).

Remarkably, journalists who possessed science education above 10th standard had better CC awareness score ($M = 19.59, SD = 3.91$) than their counterparts ($M = 17.51, SD = 4.38$). Independent sample t-test result showed that journalistic science education above 10th standard had a significant influence on their CC awareness ($t(516) = 5.701, p = .00$).

Independent sample t-test results ($t(516) = 2.504, p = .013$) showed that journalists' with environmental organization membership had significant relationship with their CC awareness. Journalists with environmental organization membership had higher CC awareness score ($M = 19.64, SD = 4.18$) than the rest journalists who have not membership.

(See Table 4 in the next page)

Comparative analysis of CC awareness scores of three job designation categories such as field, desk and supervisory position yielded a result that supervisory position enjoyed more CC awareness score ($M = 19.06, SD = 4.47$) than their counterparts. Yet, ANOVA result ($F(2, 515) = 1.599, p = .203$) showed that the difference on mean score was not statistically significant.

ANOVA revealed that CC awareness score of journalists belonging to different types of media was statistically not significant ($F(3, 514) = .604, p = .612$). Journalists in Newspaper ($M = 18.70, SD = 4.45$) and Online media ($M = 18.56, SD = 3.73$) professed slightly higher CC awareness score than that of their counterparts in Radio ($M = 18.17, SD = 4.44$) and Television ($M = 18.05, SD = 3.95$).

Table : 4 Mean Scores of journalistic CC Awareness by Professional Characteristics

Group Statistics						ANOVA Results				
Professional Characteristics		Number	Mean	SD	Std. Error Mean	Btw/ Within groups	Sum of Squares	DF	F	Sig.
Job Designation	Field Based	213	18.69	4.14	.28	Between Groups	58.390	2	1.599	.203
	Desk Based	208	18.17	4.30	.29					
	Supervisory Position	97	19.06	4.47	.45	Within Groups	9405.596	515		
	Total	518	18.55	4.27	.18	Total	9463.986	517		
Type of Media	Newspaper	343	18.70	4.45	.24	Between Groups	33.271	3	.604	.612
	Radio	17	18.17	4.44	1.07					
	Television	92	18.05	3.95	.41	Within Groups	9430.716	514		
	Online Media	66	18.56	3.73	.46					
	Total	518	18.55	4.27	.18	Total	9463.986	517		
Field of Work	Reporting	243	18.72	4.34	.27	Between Groups	298.967	2	8.400	.000*
	Editing	231	18.84	3.91	.25					
	News Management	44	16.06	4.97	.74	Within Groups	9165.019	515		
	Total	518	18.55	4.27	.18	Total	9463.986	517		
Experience	Upto 1 Year	40	17.62	4.44	.70	Between Groups	449.953	4	6.402	.000*
	1 - 5 Years	137	17.64	3.87	.33					
	6 - 10 Years	103	17.80	4.24	.41					
	11 - 15 Years	87	19.32	4.60	.49	Within Groups	9014.033	513		
	Above 15 Years	151	19.68	4.11	.33					
	Total	518	18.55	4.27	.18	Total	9463.986	517		
Region	Southern	181	18.42	4.53	.33	Between Groups	119.185	3	2.185	.089
	Central	138	18.68	4.19	.35					
	Northern	170	18.27	4.20	.32					
	Outside Kerala	29	20.41	3.01	.56	Within Groups	9344.802	514		
	Total	518	18.55	4.27	.18	Total	9463.986	517		
Group Statistics						T- test Result				
Professional Characteristics		Number	Mean	SD	Std. Error Mean	DF		T	Sig. (2-tailed)	
Professional Media Education	Yes	436	18.74	4.13	.19	516		2.329	.020*	
	No	82	17.54	4.89	.54					
CC News Reporting	Yes	423	18.97	4.05	.1972	516		4.870	.000*	
	No	95	16.66	4.74	.48715					
Media Award	Yes	105	19.91	3.90	.38	516		3.693	.000*	
	No	413	18.20	4.30	.21					

*p < 0.05

CC awareness score of journalists' worked in the field of Editing reported to have highest ($M = 18.84$, $SD = 3.91$) and followed by journalists in the field of Reporting ($M = 18.72$, $SD = 4.34$) and News Management ($M = 16.06$, $SD = 4.97$). ANOVA results showed that the difference among the journalists belonging to various fields yielded the statistical significance ($F(2, 515) = 8.400$, $p = .000$).

Journalists of above 15 years experience reported the highest CC awareness mean score ($M = 19.68$, $SD = 4.11$). It indicates the fact that journalists' CC awareness score get increase on par with their increase in professional experience. ANOVA results showed that difference of mean score in different periods of journalistic professional experience was statistically significant ($F(4, 513) = 6.402$, $p = .000$).

CC awareness score of the journalists belonged to the region outside Kerala had the highest ($M = 20.41$, $SD = 3.01$) followed by journalists from the region of Central Kerala ($M = 18.68$, $SD = 4.19$). Journalists belonged to Southern Kerala ($M = 18.42$, $SD = 4.53$) and Northern Kerala ($M = 18.27$, $SD = 4.20$) were in the slightly lowest range of CC awareness. ANOVA results showed that difference of mean score in different regions was not statistically significant ($F(3, 514) = 2.185$, $p = .089$).

The journalists with professional media education ($M = 18.74$, $SD = 4.13$) had higher CC awareness score than that of journalists with no professional media education ($M = 17.54$, $SD = 4.89$). Hence, the difference was statistically significant ($t(516) = 2.329$, $p = .020$).

The t-test results showed that reporting climate change news had a significant influence on CC awareness of journalists ($t(516) = 4.870$, $p = .000$). Notably, journalists who reported climate change news had a higher CC awareness score ($M = 18.97$, $SD = 4.05$) than those journalists who have not yet reported ($M = 16.66$, $SD = 4.74$).

Interestingly, journalists who secured media awards had higher CC awareness score ($M = 19.91$, $SD = 3.90$) than that of journalists who have not received any media awards ($M = 18.20$, $SD = 4.30$). The difference in CC awareness score between journalists with and without media awards were statistically significant ($t(516) = 3.693$, $p = .000$).

Discussion

Empirical evidence from a wide body of academic literature underscores the influential role of mass media in shaping public understanding and perception of climate change (Moser, 2010, 2014; Nerlich et al., 2010; Schmidt et al., 2013). In alignment with this consensus, the past decade has seen a significant expansion of scholarly inquiries into how media cover and frame climate change,

particularly focusing on the science, impacts, and mitigation strategies associated with the phenomenon.

One of the principal objectives of the present study was to assess the level of climate change awareness among journalists in Kerala. The findings reveal that a substantial proportion of the sample ($N = 518$) demonstrated a moderate level of awareness across four identified knowledge dimensions, with 325 journalists (approximately 63%) falling into this category. Conversely, a smaller segment of the sample ($N = 85$; approximately 16%) exhibited a low level of awareness, indicating a noteworthy disparity in understanding within the journalistic community.

The analysis further identified that certain personal characteristics—namely age, level of education, background in science education, and membership in environmental organizations—had a statistically significant influence on climate change awareness. In contrast, other variables such as gender and the type of science education did not exhibit a significant correlation with awareness levels.

In terms of professional attributes, climate change awareness was positively associated with variables such as field of journalistic work, years of experience, formal media education, history of climate change reporting, and receipt of media awards. However, other professional characteristics—including job designation, type of media organization, and geographical region of operation—did not significantly affect awareness levels.

While the present study offers valuable insights, its scope is limited to the regional media landscape of Kerala. Future research could expand this inquiry to include broader geographic contexts and diverse media ecosystems, thereby allowing for more comprehensive analyses of journalists' awareness and practices. Additionally, subsequent studies may focus on exploring journalists' interpretive frameworks, professional routines, and organizational policies regarding climate change communication.

Given the critical importance of informed media discourse in shaping public engagement and policy responses to climate change, the domain of Media Communication on Climate Change (MCCC) requires sustained academic attention. Continued scholarly exploration is essential to bridge the gap between scientific knowledge and media representation, ultimately enhancing the efficacy of climate change communication at both local and global levels.

REFERENCES

- Bostrom A, Morgan MG, Fischhoff B, Read D (1994). What do people know about global climate change? *Mental models. Risk Anal*, 14(6):959–970.
- Bord, J.R., Fisher, A. & O’Conner, R.E. (1998). Public perceptions of global warming: United States and international perspectives. *Climate Research*, vol. 11, pp. 75- 84.
- Elsasser, S. W., & Dunlap, R. E. (2013). Leading voices in the denier choir: Conservative columnists’ dismissal of global warming and denigration of climate science. *American Behavioral Scientist*, 57(6), 754–776. Retrieved from <http://doi.org/10.1177/0002764212469800>.
- Houghton, J.T., & Callander, B.A. (1992). *Climate Change 1992: The Supplementary Report to the IPCC Scientific Assessment*. Cambridge, UK: IPCC.
- Intergovernmental Panel on Climate Change. (2007). IPCC Fourth Assessment Report: Climate Change 2007. Retrieved from http://doi.org/www.ipcc.ch/publications_and_data/publications_and_data_reports.htm.
- Leiserowitz, A., Kates, R.W., & Parris, T.M. (2005). Do global attitudes and behaviors support sustainable development? *Environment*, vol. 47, pp. 22-38.
- Moser, S. (2014). Communicating adaptation to climate change: the art and science of public engagement when climate change comes home. *Wiley Interdisciplinary Reviews: Climate Change*, 5(3), 337-358. Retrieved from <http://doi.org/10.1002/wcc.276>.
- Moser, S. C. (2010). Communicating climate change: History, challenges, process and future directions. *WIREs Climate Change*, 1, 31–53. Retrieved from <http://doi.org/10.1002/wcc.11>.
- Nakicenović, N. (2000). Greenhouse Gas Emissions Scenarios. *Technological Forecasting And Social Change*, 65(2), 149-166. Retrieved from [http://doi.org/10.1016/s0040-1625\(00\)00094-9](http://doi.org/10.1016/s0040-1625(00)00094-9).
- Nerlich, B., Koteyko, N., & Brown, B. (2009). Theory and language of climate change communication. *Wiley Interdisciplinary Reviews: Climate Change*, 1(1), 97-110. Retrieved from <http://doi.org/10.1002/wcc.2>.

- Pew Research Centre (2006). *No global warming alarm in the U.S., China*. Washington, D.C.: The Pew Research Centre for the People & the Press.
- Pew Research Centre (2013). *Most Americans believe climate change is real, but fewer see it as a threat*. Washington, D.C.: The Pew Research Centre for the People & the Press.
- Pugliese, A. & Ray, J. (2009). Gallup presents...A heated debate: Global attitudes toward climate change. *Harvard International Review*, vol. 31, pp. 64-68.
- Spector, M., & Kitsuse, J. (1977). *Constructing Social Problems*. Menlo Park, CA: Cummings.
- Stoutenborough, W. J., Fette, N. R., Vedlitz, A., & Goldsmith, L. C. (2014). Understanding the Communication of Climate Change Risk: Climate Scientists' Perspectives of Media Sources and Policy Makers. *Risk, Hazards & Crisis in Public Policy*, Vol. 5, No. 4.
- Sundblad, E. L., Biel, A., & Garling, T. (2009). Knowledge and confidence in knowledge about climate change among experts, journalists, politicians and laypersons. *Environment and Behavior*, 41 (2), pp. 281–302. Retrieved from <https://doi.org/10.1177/0013916508314998>.
- Tobler, C., Visschers, V. H. M. and Siegrist, M. (2012). Consumers' knowledge about climate change. *Climatic Change*. 114 (2), pp. 189–209. Retrieved from <http://doi.org/10.1007/s10584-011-0393-1>
- Wilson, K. M (1995). Mass media as sources of global warming knowledge. *Mass Communication Review*, 22: 75–89.
- .Wilson, K. M (1995). Mass media as sources of global warming knowledge. *Mass Communication Review*, 22: 75–89.

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