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Firma (signature)

A handwritten signature in black ink, appearing to read 'Giovanni P. Corato', written over a dotted line.

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ABSTRACT

'Mezzi di comunicazione di massa' (o mass media) è un termine collettivo entrato nell'uso comune per indicare svariate tecnologie sviluppatesi in forme istituzionali per la diffusione su vasta scala dell'informazione e della cultura nelle società moderne. Queste tecnologie sono meglio note coi loro nomi tradizionali: stampa, radio, televisione, cinema, ecc (Denis McQuail, s.d.). Attualmente, i mezzi di comunicazione di massa sono parte integrante della nostra vita quotidiana. Grazie ai media, le informazioni possono diffondersi rapidamente e raggiungere un vasto pubblico, ma questo fenomeno porta con sé il rischio di emulare o attuare comportamenti scorretti o di dubbia moralità. In questa trattazione, esamineremo gli effetti potenziali dell'esposizione ai media di massa e le implicazioni che ciò comporta nella vita di tutti i giorni.

La trattazione è suddivisa in tre sezioni distinte. Nella prima parte illustreremo i principali media e le loro caratteristiche distintive. Nella seconda parte, passeremo in rassegna la letteratura, analizzando gli studi dei principali ricercatori e accademici del settore. Infine, il terzo e ultimo capitolo prenderà in analisi due dei numerosi documenti scientifici a supporto della nostra tesi, ovvero della capacità dei mass media di influenzare la vita quotidiana delle società sotto diversi punti di vista (fertilità, scelte di consumo e risparmio, criminalità, politica, istruzione, ...).

CHAPTER 1: MASS MEDIA

1.1. Characteristics of the Mass Media

Mass media is the main source of information for the vast majority of the population in most countries. Mass media is categorized into print media, broadcast media, and digital media. The print media refers to newspapers, magazines, and journals. It may also include widely distributed books and pamphlets. Broadcast media refers to radio and television, and finally, digital media comprises the Internet service (World Wide Web) and mobile services. For the mass media to be identified as such; there are certain distinguishing characteristics which it must or mostly conform to. Below, we will enumerate and elaborate in detail the distinctive characteristics mentioned.

I. It is a one-way communication

A prominent attribute of the media refers to the unidirectional flow of traffic, in which information is disseminated solely from the source to the recipients. The audience, while engaged in listening or reading, lacks the immediacy of response. This phenomenon often arises due to the physical distance of the audience from the primary source of information. For instance, entities such as the British Broadcasting Corporation, headquartered in London, can broadcast globally, as Canal France International from Paris. However, technological innovations have facilitated audience interaction with radio and television programs through various means, such as text messaging, emails, and social media platforms like Facebook or WhatsApp, among others.

II. Reaches a large audience

An additional hallmark of the mass media is its ability to disseminate information to a vast multitude of individuals simultaneously. For example, the inauguration ceremony of the 45th president of the United States of America was broadcasted, enabling it to reach millions of viewers. Similarly, a boxing match can be televised, reaching audiences all over the globe. The demographic served by a media establishment spans across diverse global locations and resides in different communities. To illustrate, an individual in Florida could access programming originating in Brazil, indicating the dispersion of audiences across extensive geographical regions. In addition, a television network located in Pittsburgh has the capacity to transmit content throughout Europe.

III. Reaches varying types of people

Furthermore, the mass media effectively reach a broad spectrum of demographics of the audience, including individuals of varying ages, religious beliefs, political inclinations, and occupational backgrounds who engage with various media platforms. The specific demographics that interact with radio programs, television broadcasts, or print publications cannot be definitively predetermined by the media outlets.

IV. Rapid dissemination

In the realm of mass communication, rapid dissemination refers to the fast and extensive circulation of information to a broad audience. This attribute is of paramount importance in the contemporary digital era, where instantaneous access to news and updates is the norm. Utilizing mediums such as social media and email, information can quickly cross the globe, thus establishing itself as a fundamental component of both broadcasting and journalism. Rapid dissemination is a crucial factor in mass communication to keep the population well informed and connected, particularly during critical situations and scenarios.

V. Standardized messages

Standardization constitutes a notable attribute within mass communication, particularly relevant in television and public relations mass communication. Standardized messages serve to guarantee a uniform and clear transmission of information to a wide-ranging audience. This consistency is paramount in upholding the integrity and transparency of the disseminated information, regardless of the chosen medium. A well-known example are national weather forecasts. Weather forecasts provide essential standardized information to a wide audience.

VI. Regulated

Regulation constitutes a central aspect of mass communication, serving to uphold ethical, legal, and professional norms. This is of particular importance within the realms of broadcasting and journalism, where adherence to regulatory frameworks is paramount for preserving the integrity and reliability of disseminated information. The regulatory mechanism exerts a profound influence on the landscape of mass communication, delineating the way information is presented and consumed. Thus, regulation plays a crucial role in safeguarding the equilibrium between freedom of expression and conscientious communication.

VII. Influences society

The mass media exerts a significant influence on the societies within which it operates and the individuals who engage with it. It possesses the capacity to mold public opinion on various matters. A stark example of this phenomenon occurred during the Rwandan genocide, where radio broadcasts were used extensively to incite Hutus to perpetrate violence against Tutsis, a message that tragically gained widespread acceptance. This last point represents the focus of this thesis. The influence of the mass media on society is profoundly significant for several reasons, that we're going to examine better in the next paragraphs.¹

Firstly, the media plays a crucial role in shaping cultural narratives and identities. It can showcase a wide range of perspectives, reflecting the diversity of human experiences and viewpoints. By presenting characters, stories, and voices from different backgrounds, cultures, and identities, the media contributes to a more inclusive representation of society. Whether through news coverage, entertainment content, or advertising, media convey implicit and explicit messages about what is considered important, desirable, or acceptable within a given culture.

In addition, the mass media serves as a powerful tool for setting and defining agendas, determining which issues receive attention and how they are interpreted and discussed within society. This ability to set agendas and frame narratives can have significant implications for public discourse, policymaking, and social changes. Imagine a major news network that dedicates extensive coverage to a series of protests advocating for environmental protection and climate action. By consistently featuring these protests as headline news and framing them as urgent calls for action to combat climate change, the media is effectively setting the agenda for public discourse on environmental issues.

Furthermore, in the realm of education, the media exerts a profound influence on learning processes, educational outcomes, and the broader educational landscape. This influence manifests itself through various channels and mechanisms, shaping both formal and informal educational experiences. The mass media supplements formal educational content by providing additional learning resources and enrichment materials. Online courses, interactive e-learning platforms, and digital libraries offer additional resources to reinforce classroom instruction and extend learning beyond the limits of the school day. When discussing informal educational

¹ <https://www.nimcj.org/blog-detail/characteristics-of-mass-communication.html>

experiences; radio, television, the internet, and social networks provide rich sources of educational content outside traditional classroom settings. Educational programs, documentaries, podcasts, and online tutorials offer individuals access to diverse knowledge domains, fostering self-directed learning and intellectual curiosity. Through these channels, students gain insights into different societies, historical events, and contemporary issues, fostering empathy, tolerance, and global awareness, also providing opportunities for critical reflection and discussion, enriching learners' socio-emotional development.

So far, our discourse has focused on the direct effects of exposure to the media. In the subsequent section, we are going to pivot our attention towards discussing the phenomenon of media substitution effect. This shift in focus will allow us to explore how media consumption patterns can lead to behavioral alterations and societal implications, providing a more comprehensive understanding of the nuanced influence wielded by the media.

1.2. Media Substitution Effect

The advent of mass media has transformed the landscape of human communication, fundamentally altering the way individuals consume information, interact with others, and perceive the world around them. Central to this paradigm shift is the concept of *media substitution*, a phenomenon wherein individuals' engagement with media content leads to alterations in their behaviors, preferences, and societal interactions. This chapter delves into the characteristics of the media substitution effect and its profound influence on societal behaviors, exploring the mechanism through which media consumption patterns shape individual and collective actions within contemporary society.

Media substitution refers to the process by which individuals replace traditional forms of social interaction and communication with mediated forms facilitated by mass media technologies. This substitution occurs across various domains of human activity including interpersonal relationships, information seeking, entertainment consumption and civic engagement.

We can now construct a model wherein it is assumed that individuals optimally allocate their time by choosing how much to dedicate to media activities, such as watching television series, versus other activities, such as socializing with friends. There are two primary drivers of variation in media effects. The first is a shock that affects the entertainment value of a channel or its cost, thereby influencing the audience of a communication medium. For instance, demand for violent films may increase during a particular weekend (a demand shock), or soap operas may become accessible across multiple platforms in a given year (a positive cost shock). In

both cases, as suggested by comparative statistics, the resulting estimates of media effects incorporate both the substitution effect and the direct effect. The screening of a well-known violent film in theaters implies that more individuals will watch it, consuming time they would have otherwise allocated to alternative activities.

The model additionally underlines a secondary origin of variation, originating from a direct perturbation in the content of media. Let's analyze a scenario where an episode of an ongoing soap opera introduces a portrayal of a homosexual couple or depicts a suicide incident. Such alterations in the content are inclined to minimally perturb the utility-maximizing selection of media entertainment, particularly if the content of the episode is unforeseen. Nevertheless, this content may potentially influence economic or social behaviors, perhaps through emulation. In such instances, the assessed media effect encapsulates the immediate influence of the media, as the engagement in substitute activities remains consistent (Della Vigna & La Ferrara, 2015).

The media substitution effect exerts a profound influence on societal behaviors, shaping patterns of social interaction, information consumption, cultural participation, and civic engagement. Excessive reliance on mediated forms of communication can lead to *social isolation and alienation*, as individuals prioritize virtual connections over face-to-face relationships. Moreover, the personalized nature of digital media platforms can create *information filter bubbles*, wherein individuals are exposed to a narrow range of perspectives and ideologies that align with their existing beliefs and preferences. This selective exposure to information can reinforce cognitive biases, limit exposure to diverse points of view, and hinder critical thinking and informed decision-making. Finally, the prevalence of online entertainment and social media consumption can detract from civic engagement and participation in public affairs.

A question arises naturally: *are the effects outlined in the preceding section universally applicable? Does the optimal time allocation model remain consistent across all countries, cultures, and societies? Or does it vary based on geographical region and the specific context in which one finds oneself?*

While the concepts of media substitution and media influence hold relevance across diverse contexts, their applicability and impact can vary based on geographical region, cultural norms, socioeconomic factors, and the specific context in which individuals find themselves. Different cultures and societies have unique values, beliefs, and norms regarding media consumption and

social interaction. Access to technology, educational opportunities, and economic resources varies widely across different regions and socioeconomic groups. Consequently, individuals' ability to engage with media content, their preferences for specific types of media, and their sensibility to media influence may differ based on the environment in which they live. Variations in media infrastructure and regulatory frameworks impact too the availability, accessibility, and diversity of media content within different countries and regions. Government censorship, media ownership structures, and content regulations can shape the media landscape and influence the types of information and messages disseminated to the public.

To effectively elucidate and comprehend the literature review to be addressed in the second chapter, as well as the analysis of the two papers delineated in the third and final chapter; I am going now to distinguish between developed and developing countries and overview how media usage, media content, and pervasiveness of mass media vary between these two.

1.3. Developed Countries vs Developing Countries

In developed countries, access to digital technologies is widespread, and communication infrastructures are advanced. This allows individuals to utilize a huge range of digital devices and platforms to access mass media, including smartphones, computers, and high-speed internet. In contrast, in developing countries, access to digital technologies may be limited by factors such as a lack of communication infrastructures and economic resources. Consequently, many individuals may have limited access to digital devices and reliable internet connections. The abundance of digital resources and the presence of a wide range of content providers in developed countries foster diversity in media content. Individuals have access to a multitude of different information, entertainment contents, and educational resources from both national and international sources. While, in developing countries, the availability of media content may be limited by government censorship, lack of diversification in information sources, and predominance of state-owned media. This may reduce the variety and plurality of perspectives presented to consumers of poor societies. In developed countries, mass media outlets often wield significant power and influence due to their large audiences and extensive resources. These outlets play a crucial role in shaping public opinion, influencing cultural trends, and setting political agendas, thereby exerting a considerable influence on society, as we have already previously discussed in *section 1*. In some developing countries, instead, alternative information sources such as grassroots organizations and word-of-mouth communication play significant roles in shaping public discourse and societal norms. These alternative sources of

information may compete with or complement the influence of mainstream mass media, which, as we just said, is not capable of reaching and/or being accessible to the entire population of most of the developing countries.

To have a better understanding of what we've just talked about, let's look at figure 1 showing the percentage of global population accessing the internet from 2005 to 2023. As you can see from the picture, in the last 18 years the entire world has known a considerable increase of the internet access rate overall, from 16.8% (2005) to 67% (2023), but we notice a big gap persisting between Developed countries and Least Developed Countries or Developing Countries. This phenomenon has been termed **Digital Divide**, and we're going dig deeper into it in the following section.

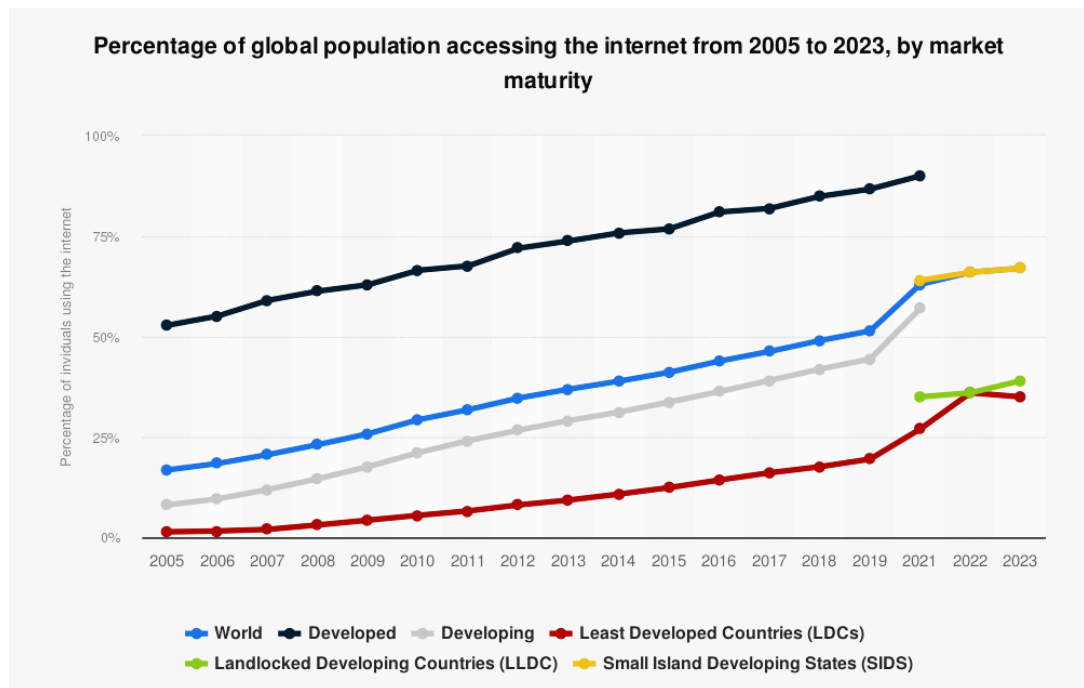


Figure 1. (Source: www.statista.com)

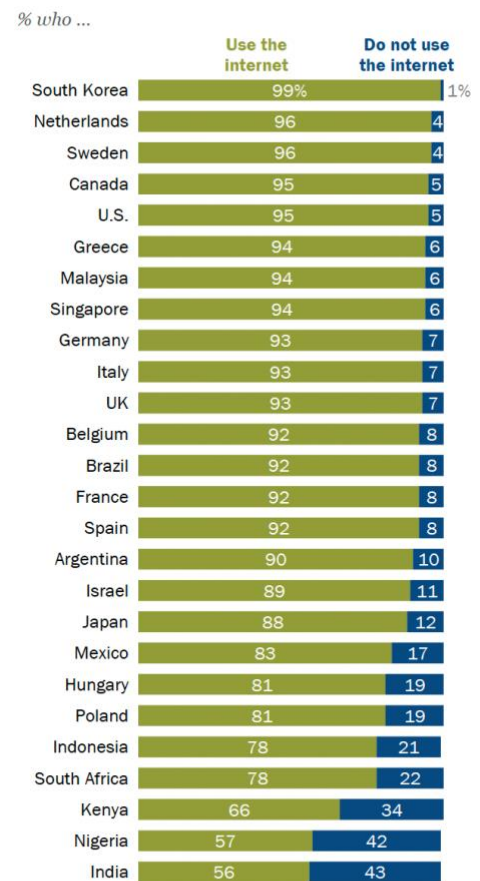
1.3.1. Digital Divide

The phenomenon we can simply recognize in Figure 1 is widely known with the name of *digital divide*. It is a term that refers to the gap between demographics and regions that have access to modern information and communication technology (ICT), and those that don't, or have restricted access. ICT is a huge umbrella term, because the tech and even ideas related to ICT evolve fast and frequently, there's not a universal definition of ICT, but it generally refers to all devices, network components and systems that facilitate interaction with the digital world. This can include *smartphones, personal computers, television and internet connectivity*.

In the recent years, there has been a steady increase in internet use among emerging and developing economies, but there are still large regions of the world where significant numbers of citizens do not have access to internet services, and do not own a smartphone. As you can see in Figure 2, many large economies have at least 75% of their population using the internet, including 92% in Brazil and 78% in Indonesia. Overall, internet rates are lower in poorer countries, concentrated mostly in sub-Saharan Africa and parts of Asia, including 57% in Nigeria and 56% in India. Nations in the Asian-Pacific area present a variety of different rates of internet access. This is because of the large differences of national incomes and wealth. This region comprehends both the most wired nations in the survey (such as South Korea and Singapore) and the least wired (like India and Pakistan).

The least wired nations in the sample of this survey are in sub-Saharan Africa. Only a quarter of the adult population across the nine African nations surveyed has internet access. It's not a case that these countries are also the least economically developed.

Internet use is exceedingly common worldwide, but not everyone is online



Note: Those who did not answer are not shown, except in U.S. where they are included in the "do not use" category. Internet users are people who report using the internet or owning a smartphone. Data from a web survey in Australia is not included.
Source: Spring 2022 and 2023 Global Attitudes surveys. U.S. survey was conducted May 19-Sept. 5, 2023, and asked, "Do you use internet or email, at least occasionally?" and "Do you access the internet on a cellphone, tablet or other mobile handheld device, at least occasionally?"

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Figure 2 (Source: www.pewresearch.org)

As we can notice in Figure 3, there is a strong correlation (0.87) between country wealth (measured as GDP adjusted on PPP) and smartphone ownership (and therefore internet access).

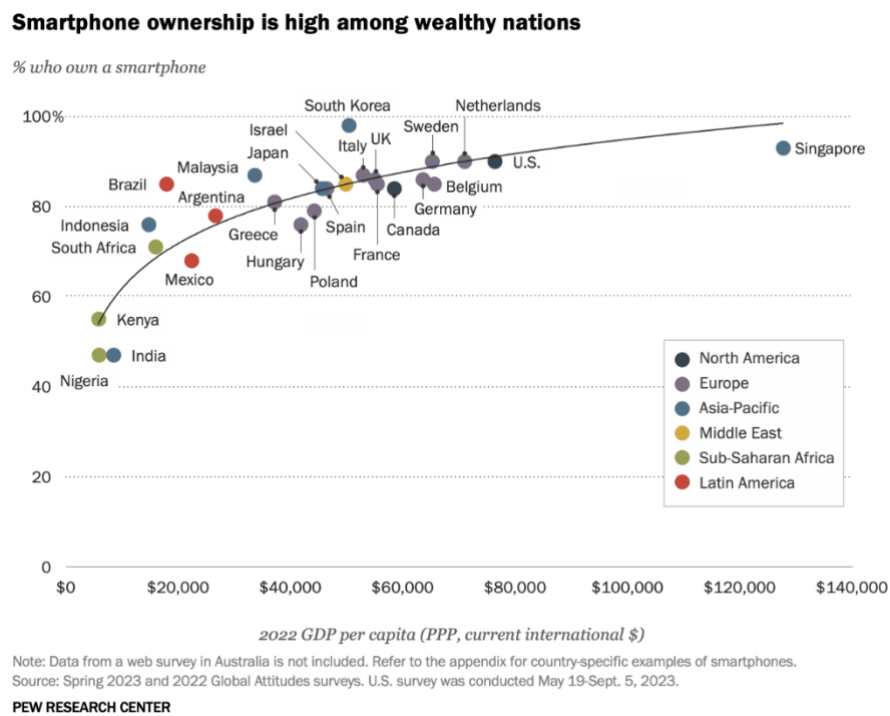


Figure 3 (Source: www.pewresearch.org)

As we previously discussed in the precedent sections, smartphone ownership (and therefore internet connectivity) and media infrastructures are pivotal factors in determining how media can reach people and then influence societies. A poor country with low internet access rate is expected to have a less educated and curious population, not exposed to the different perspective and point of view which are widely distributed in media contents across the web. Therefore, individuals are easier to manipulate and influence via the institutional traditional media channels (newspaper, radio broadcast, television, ...), usually state-owned.

In order to prepare ourselves for the analysis of the two papers presented in *Chapter 3*, I am going to introduce *the second chapter of this thesis*, presenting a literature review that is going to explain us better the process of how mass communication influenced societies in previously published studies. Thanks to this brief analysis taking place in the next chapter, we will enrich our toolbox to have a better comprehension on *how* mass media can affect people's behaviors in societies with different backgrounds, values, economic and sociopolitical environment.

CHAPTER 2 - IMPACT OF MASS MEDIA ON SOCIETY: A LITERATURE REVIEW

In this chapter we're going to briefly take into examination some research papers already published that analyzed the impact of mass media on three different aspects of society (education, fertility and criminality) . In every paper, the researchers use different methods to demonstrate their thesis, so, to give you a better understanding of what we're going to deal within this chapter, let's start explaining the *three different main methodologies* of research that are used in some of the papers we are going to study below.

2.1. Methodologies

The research aims to explore the relationship between mass communication and the development process and social changes within different countries across the globe. The types of research differ mostly on three dimensions: the nature of the question asked, the method used to answer it, and the degree of precision the method brings to answering the questions. One thing in which these methods do not necessarily differ, however, is the content or the focus of the research. In other words, if you are interested in the impact that animated cartoons for kids have in influencing their behaviors, for instance, on the time they dedicate to studying (using school grades as a proxy) your research can be non-experimental, wherein you survey watching habits and behaviors; or can be experimental, creating for example two groups of children, one exposed to animated cartoons vision, and the other not, and study the difference in school grades between the two groups.

The first systematic studies on the impact of mass media were inspired by the seemingly effective mass persuasion campaigns organized by Joseph Goebbels in Nazi Germany in the 1930s. Perhaps surprisingly, these early studies, which were based on U.S. data, did not find any important media effects (Lazarsfeld, Berelson, and Gaudet; 1944). Concluding that media has only a minimal effect on people's behavior, they found that media strengthens people's predispositions, so that people become more confident in the views that already hold. However, these studies faced a fundamental empirical challenge of endogeneity of media exposure. The choice of newspaper that people read, of radio stations that they listen to, or of TV channels that they view reflects people's preexisting beliefs. Modern researchers based their empirical studies of media effects on finding sources of exogenous variation in media exposure, to ensure that endogeneity problems are not biasing the results. Modern and sometimes more complex empirical strategies are employed to identify the causal impact of media exposure.

The most widely used are field experiments, difference-in-differences method, and instrumental variables approach. Let's now analyze the main characteristics of each of these methods.

2.1.1. Field Experiments

Field experiments refer to experiments conducted in real life situations; hence it is more suited for studying social changes, social processes and social influence. The control of external factors is not possible as it is a natural setting and there is no way to control any factor so as one does in the laboratory experiment. It is considered the most reliable method of identifying causal effects in scientific research. Social scientists have taken inspiration from traditional medical or physical science lab experiments. *In a typical drug trial, for instance, participants are randomly assigned into two groups. The control group gets the placebo (a pill that has no effect). The treatment group will receive the new pill. The scientist can then compare the outcomes for each group.* A field experiment works similarly, just in the setting of real life. It can be difficult to understand why a person chooses to buy one product over another or how effective a policy is when dozens of variables affect the choices we make each day. "That type of thinking, for centuries, caused economists to believe you can't do field experimentation in economics because the market is really messy" said Prof. John List, a University of Chicago economist. The key to cleaning up the mess is **randomization** – or assigning participants randomly to either the control or the treatment group. "The beauty of randomization is that each group has the same amount of bad stuff, or noise or dirt" List said. "That gets differenced out if you gave large enough samples".

To bring an example of a randomized field experiment, I choose the one by Green and Vasudevan (2016), who attempted to estimate the impact of a massive radio campaign in India aiming to convince voters not to vote for politicians of whom it was known that they were in vote-buying business. In this experiment, sixty radio stations were randomly split into two groups of equal size and, in one of the two group, radio stations were paid to broadcast a series of 60-second ads (each repeated 48 times over the course of several days). The ad consisted of a dramatized vignette with two voters, where one of them received a gift from a politician in exchange of his vote, and another one who argued that this was a corruption practice, and that the first voter should not support the politician. These ads allowed for testing differences in voting outcomes in areas where citizen could listen to radio station covered by an assignment of the first kind (randomly chosen stations which transmitted these ads during the campaign) and compared to areas where citizens could listen to radio stations covered by an assignment of the second kind (randomly chosen stations with no ads during the campaign).

As we already said, field experiments are useful to behavioral and social scientists to study complex social influences, processes and changes in life-like settings, due to its flexibility and applicability to a wide variety of problems. On the other hand, we must consider some limitations of this methodology. Firstly, the chances of extraneous variables confounding the research findings are higher in field experiments, due to the uncontrolled environmental factors that can influence the results. Secondly, it is not ethical to conduct field experiments in real-world circumstances without the consent and cooperation of concerned subjects and the institutional authorities (where the research is to be conducted). In these circumstances, researchers are forced to use various quasi-experimental variation or natural experiments to study the subject of interest, such as the *difference-in-differences method*.

2.1.2. Difference-in-Differences method

The difference-in-differences method is a quasi-experimental approach that compares the changes in outcomes over time between a population enrolled in a program (the intervention group) and a population that is not (the control group). DID is used in non-experimental settings in which we can't presume observational equality between the control and the intervention populations. DID relies on a less stringent assumption about exchangeability ("parallel trends" assumption), such that in absence of treatment, the unobserved differences between intervention and control groups are the same overtime. DID is a useful tool to use when randomization is not possible.

In our case, people exposed to mass media may have some demographic or political characteristics, which are systematically different from those unexposed to mass media (as we previously discussed in *Chapter 1*). A widely known application of the DID approach is the study of Della Vigna and Kaplan (2007), who estimated the impact of Fox News on voters' behavior in 2000 elections in the United States. A central empirical challenge in the paper was that pre-existing preferences for Republican party could drive both the demand for Fox News and voting for Republicans, making it difficult to understand whether exposure to Fox News truly shifted political behavior or whether it simply reflected preexisting political views. To solve this problem, the authors showed that the initial roll-out of Fox News was primarily determined by the constraints of local cable companies in each place and was not associated with the pre-existing trends in political preferences. Rupert Murdoch introduced the 24-hour Fox News Channel in October 1996. The channel expanded rapidly to reach 20 percent of U.S. cities and an audience of 17% of the population by June 2000 (Scarborough Research Data). This allowed the authors to estimate the effect of Fox News by comparing the differences in

the votes for Republicans between places that received Fox News in 2000 and those that did not receive it, between 1996 (when Fox News did not yet exist) and 2000.

DID approach is intuitive and can be easily understood, using a non-equivalent control group to establish the temporal order between the independent variable and the outcome of interest, it makes it easy to identify the causal direction of variables. On the other hand, the equivalence between treatment and control group prevents researchers from making valid causal inference on the treatment and the outcome variable, making it difficult to understand what characteristic of the experiments leads to change. Overtime, researchers have developed an alternative methodology we're going to see right now, named *instrumental variables approach*.

2.1.3. Instrumental Variables (IV) Approach

Instrumental variable method is most widely known as a solution to endogenous regressors; explanatory variables correlated with the regression error term. This method provides a way to obtain consistent parameter estimates, solving the **endogeneity issues**. Smoking during pregnancy is correlated with low birth weight. But this association is confounded by all sort of unobserved (and hard to measure) maternal characteristics that complicate the relationship between smoking and low birth weight. IVs method can be used when standard regression estimates of the relation of interest are biased because of reverse causality, selection bias, measurement error, or the presence of unmeasured confounding effects. The central idea is to use a third, "instrument" (variable) to extract the variation in the variable of interest that is unrelated to these problems, and to use this variation to estimate its causal effect on an outcome measure. (Introductory Econometrics, Jeffrey Wooldridge, 2019). A valid instrument must satisfy two conditions: **relevance and exogeneity**, which means it must be correlated with the endogenous variable, but uncorrelated with the error term of our regression. For the smoking during pregnancy example, Evans and Ringel (1999) used cigarette taxes as an instrumental variable to study the effect of smoking on birth weight. Cigarette taxes alter smoking behavior of pregnant women (the instrumental variable Z affects the treatment X). Cigarette taxes can only affect birth weight through the change in smoking behavior of pregnant women (Z has no direct influence on the outcome Y). Cigarette taxes are not affected by the characteristics of the pregnant women (Z is not caused by the confounder).

In our case, the main idea, is to find one or more factors, which influence media exposure, but do not directly affect the behavior of interest through any other channel. If such factors can be

identified, it is possible to estimate the causal impact of media exposure on the behavior of interest by exploiting the part of the variation in media exposure that is driven by this factor.

Now that we have clear in mind how researchers and economists are using these three different methodologies to conduct their research on the influence of mass media on society, we're ready to start the Literature Review in the next section, where we're going to see more practically how medias are shaping our world, with insights from different cultures and societies.

2.2. Social Impact of Mass Media: the Literature Review

As we've already discussed in the previous chapter, the penetration of mass media in our daily lives has a profound and significant impact on several societal aspects: education, entertainment, fertility, political attitudes, religious beliefs, criminality, etc. In the three following subsections we're studying the main consequences of the exposure to mass media related to three main societal aspects: education, fertility and criminality, briefly analyzing some relevant studies published by important economists that highlight the role of television, radio, newspapers and modern digital media in changing and shaping people's mindset and behaviors within different societies across the globe.

2.2.1. Mass media and Education

Educational entertainment (EE, or *edutainment*) is the “process of purposely designing and implementing a media message to both entertain and educate, in order to increase audience members' knowledge about an issue, create favorable attitudes, shift social norms, and change the overt behavior of individuals and communities” (Singhal and Rogers, 2004, p.5). To have a better understanding on how *edutainment* can achieve its ambitious goals, it's necessary to have a quick look at the psychological theories that inspired the first educational entertainment productions.

We will take into consideration two main principles: *social learning theory* and the notion of *self-efficacy*. According to the first theory, individuals can learn from direct experiences as well as from the experience of others. Media programs can exploit the reduced cost of learning from other's errors or accomplishments, giving individuals models that they can learn from at no personal cost. Self-efficacy, instead, refers to the “beliefs in one's capabilities to organize and execute the courses of action required to produce give attainments” (Bandura, 1997, p.3). These beliefs are the engine of individuals' motivation to set goals and strive to achieve them. By

showcasing models of subjects who present similar characteristics to the target audience and who achieve their objectives successfully, the media can induce individuals to perceive certain goals as attainable and push them to act in order to achieve those goals.

Miguel Sabido (1981) was the first to apply these principles to *edutainment productions*. What characterized these productions was the adoption of “differential modeling”, where three different types of characters (models) are used to trigger social learning. *Positive models*, whose lifestyle reflects moral or ethical behavior and who get recognized for their positive choices. *Negative models*, who engage in harmful actions, exemplifying behaviors that the audience is advised to avoid, and finally *transitional models*, who, throughout the story, alter their lifestyle, shifting from harmful behaviors to positive ones.

In a recent study, Berg and Zia (2013) collaborated with the National Debt Mediation Association (NDMA) in South Africa to create media content that could be integrated into the primary storyline of the widely popular soap opera *Scandal!* When the experiment was conducted, *Scandal!* had been on air for eight years, transmitting for episodes per week. Over the course of two months, the researchers introduced a secondary storyline revolving around a woman entangles in excessive borrowing through hire-purchase contracts, then gambling in a bid to recoup losses, ultimately spiraling into a debt trap. By the end of the story, the woman decided to ask for help from NDMA and started to learn how to manage her finances responsibly. To determine the practical impacts of this intervention through observation, the primary obstacle laid in the voluntary choice of viewers to watch this soap opera, or episodes of it. The authors addressed this problem by designing a symmetric encouragement system. A 1000 individuals’ sample was allocated either to treatment or control groups, the first one was assigned to watch *Scandal!*, while the second one was assigned to another soap opera showing simultaneously to the first one. Individuals were given financial incentives to induce them to watch the soap opera assigned. During the experiment the treatment group was asked questions about financial knowledge, plus a follow up questionnaire three months after the end of the treatment. This experiment significantly improved content-specific financial literacy (knowledge of hire purchase contracts). Additionally, the intervention led to a 20% decrease in utilization of hire-purchase agreements and a 17% decline in gambling tendencies, particularly among individuals with limited financial literacy and educational backgrounds.

This was just one of the numerous papers regarding educational entertainment and how media can be effectively employed to positively influence educational development within different

societies. Let's now move on and switch our focus to another social outcome of big relevance: *fertility*.

2.2.2. Mass media and Fertility

In this subsection we're going to briefly analyze the paper by Kearney and Levine (2015) "Media influences on social outcomes: The impact of MTV's *16 and Pregnant* on teen childbearing". The reality TV show follows the lives of pregnant teenagers during the final months of their pregnancy and early months of motherhood to report the difficult reality of becoming a teen mother. In 2012, 29.4 out of every 1000 girls between the age of 15 and 19 gave birth in the United States. This rate is considerably higher than that in any other developed country, where typical rates of teen childbearing are more often in the range of 5 to 10 births per 1000 girls in the same age group (Kearney and Levine, 2012a).

Teen motherhood is generally considered to be an important social problem; there is substantial policy interest in figuring out how to reduce its prevalence. The possible influence of MTV's *16 and Pregnant* on the recent significant decline could be considered, given its timing coinciding with the downturn of teen childbearing in the last few years. The authors investigate whether the show influenced teens' interest in contraceptive use or abortion, and whether it ultimately altered teen childbearing outcomes. Kearney and Levine utilized information from Google Trends and Twitter to track shifts in search queries and posts triggered by the program transmitted by MTV. They also employed Nielsen ratings to understand regional differences in audience numbers, and Vital Statistics birth data to gauge alterations in adolescent birth rates. Their findings indicate that the show *16 and Pregnant* prompted an increase in searches and tweets related to birth control and abortion. Moreover, it resulted in a significant 5.7% decrease in teen births over the 18 months following its debut.

Another noteworthy paper addressing the topic of *fertility* is the one published by La Ferrara, Chong and Dureya (2012), studying the correlation between soap opera transmitted by the television outlet Rede Globo and women's fertility. The authors analyzed more than a hundred soap operas delivered in prime time, revealing that of the female characters depicted in the programs under the age of 50, 72% of them didn't have any child, 20% had one lonely child, 28% was having extramarital affairs and the 11% of them was divorced. Since the moment that, in Brazil, in the area covered by the signal of Rede Globo fertility rate significantly dropped from 6.3 in 1960 to 2.9 in 1991, the authors have then hypothesized that the decline in births in Brazil could be influenced by the imitation of reference models seen on television, rephrasing the two main psychological principles of *social learning theory* and *self-efficacy* we've seen

before in *subsection 2.2.1*. La Ferrara, Chong and Dureya (2012) have implemented a Difference-in-Differences approach, to highlight substantial chronological alterations between areas covered by Rede Globo signals and areas who were not covered between 1960 and 1991. The findings of this research were absolutely aligned with the relationship hypothesized by the authors: in the areas where Rede Globo soap operas were transmitted, fertility rate met a huge drop. This decline was more evident in the lower class of the society, where individuals are poorer and less educated, so they were more likely to give credit, believe and imitate behaviors seen on television.

2.2.3. Mass media and Criminality

In this final subsection of *Chapter 2*, we're going to analyze the correlation between mass media and criminal activities. As we repeatedly and profoundly talked about till now, media wield significant influence in shaping public opinion on critical societal issues, including criminality as a negative social phenomenon. We're going to briefly overview a recently published paper by Aleem, Khan, Rafique and Jamroze (2021) named "Public attitudes towards fear of crime and victimization in the age of mass media". Through the exploration of the interplay between media and criminal activities, the authors wanted to highlight the various stereotypes and misconceptions about crime that often arise from the media's reality construction, driven by sensationalism and profit motives. The authors' analysis highlights the crucial role of the media in informing the public, promoting justice and sparking discussion about the causes and the consequences of criminal behavior.

Early on, individuals and social groups with control over the media recognized this vulnerability and exploited it, frequently trading media access for financial gain or social influence. These media-drive efforts to shape the opinions of individuals and large societal groups are unethical, as people are unable to regulate the impact on them and are typically defenseless against such manipulation. Media content such as films, video games, and news reports often portrays violence in a manner that can impact aggressive behavior and violent tendencies among audiences, especially among youngsters. Individuals may become more sensitive to violent topics, and extended exposure to such material can increase anxiety, fear and psychological trauma. Violence depicted by media can twist real-world perceptions, particularly concerning perceived risks. Ongoing exposure to violent depictions can foster an escalating fear of crime and actual violence in the real world. The study carried out in this paper employed a quantitative research method and was conducted in the Punjab province, Pakistan. The focus was on all university students currently attending the University of Punjab and the University of Sargodha.

To achieve meaningful results, data was collected from 550 participants using a classic sampling approach, with students coming from different areas and departments of the two universities (marketing, law, political science, journalism, ...).

This study highlighted that people's fear of crime was also influenced by characteristics such as their race, gender, and income, all of which were statistically significant factors. Research indicated that individuals with higher incomes tended to watch less media about crime, while all four factors revealed statistically significant direct effects of media consumption with male students and female students consuming significantly higher percentages of crime-based media than the overall population. According to the findings of the research, participants' fear of crime rose with age. It was also shown that women who were students at the university had a larger fear of crime.

So far, we considered the impact of mass media on three major societal aspects: education, fertility and criminality. There are two other fundamental aspects that I am willing to dig into: *politics* and *common knowledge*. I chose to analyze deeply these last two points in the final chapter of this thesis, studying in detail two different papers: "Does the Media Matter? A field experiment measuring the effect of Newspaper on Voting Behavior and Political Opinions" by Alan Gerber, Dean Karlan and Daniel Bergan (2009) and "How Does Media Influence Social Norms? Experimental Evidence on the Role of Common Knowledge" by Eric Arias (2018).

CHAPTER 3 – MEDIA, POLITICS AND COMMON KNOWLEDGE

As we previously stated, in this chapter, we're going to analyze in detail the two different papers listed above. The first one is a field experiment conducted in the U.S. published by the American Economic Journal in 2009, while the second one is conducted in Mexico and published on the European Political Science Association in 2018.

I chose these two papers for different reasons that I am going to list in the next few rows. Firstly, because the field experiments are in two neighboring countries that, despite their proximity, have very different cultures, values, beliefs and socio-economic environments. Secondly, the two research papers differ in their scientific nature. The paper by Gerber, Karlan, and Bergan exemplifies a traditional scientific economic paper. It adheres to a classic structure that includes an abstract outlining the context of the experiment, a section detailing the experimental design and the methodology employed for data collection, and finally, an analysis of the outcomes and conclusions through tables and regressions.

The paper by Arias, instead, follows a structured scientific format typical of empirical research in social sciences. It's also opened by an abstract giving an insight of the context of the experiment, and then, through a brief literature review, the author is bringing the focus of the reader on the two main hypothesis of his studies, introducing then the research design and the empirical strategy to finally close the paper with conclusions and comments.

Now we're going to respectively analyze each paper in detail in the next two sections.

3.1. “Does the Media Matter? A Field Experiment Measuring the Effect of Newspapers on Voting Behavior and Political Opinions”

The study published by Alan S. Gerber, Dean Karlan, and Daniel Bergan aims to measure the effect of exposure to newspapers on voting behavior and political opinions. The authors' goal is to understand whether increased access to newspaper can influence political knowledge, attitudes and behaviors. This study is particularly relevant in the context of democratic societies where the media is believed to play a crucial role in informing the public and shaping political discourse. The study is conducted through a natural field experiment, which directly measures the effect of political news content on behaviors and political opinions.

The authors employed a randomized controlled trial (RCT) to empirically test the causal effects of newspaper consumption on political knowledge, opinions, and behaviors. The RCT design is a gold standard in experimental research because it minimizes biases and allows for clear causal inferences. Participants were randomly assigned to one of three groups: treatment group 1, which received a free subscription to *The Washington Post*, treatment group 2, which received a free subscription to *The Washington Times*, and a control group, which did not receive any newspaper subscription. Randomization ensures that any differences in outcomes between the groups can be attributed to the newspaper exposure rather than pre-existing differences among participants. This is crucial for establishing causality. The Washington, DC area is served by these two major newspapers, the conservative *The Washington Times* and the more liberal *The Washington Post*. The presence of a liberal and conservative paper serving the same region create an outstanding opportunity to study the effect of media slant in a naturalistic setting withing a single population.

Approximately one month before the Virginia gubernatorial election in November 2025, the authors administered a short survey to a random selection of households in Prince William County, a northeastern Virginia county. This survey gathered data on their demographic characteristics, political knowledge, media consumption habits, political attitudes and prior

voting behavior. The baseline data provided a reference point for assessing changes from the newspaper subscription. From the 3347 households reporting that they never received neither the Post nor the Times, they randomly assigned households to the three groups I listed above. Participants received a postcard in the mail that said “Congratulations! You have won a free ten-week subscription to the Washington Times (Post)!” The intervention involved delivering free newspaper to those in the treatment groups over the period declared in the postcard they received. A week after the election, the authors conducted a follow-up survey in which they asked individuals whether they voted in the November 2005 election; which candidate they selected (or preferred, if they said they did not vote); their attitudes toward the president, the political parties, and national political issues; their attitudes toward news events of the previous weeks; and their knowledge about recent news events. Let’s start now to analyze some of the major outcomes of this experiment.

The political position of newspapers, in terms of liberal or conservative orientation, didn’t have a significant impact on readers’ opinions in the context of the study. Researchers expected that the political slant of the newspapers would influence readers’ opinions differently, but the results showed that the qualitative effect was similar for both the treatment groups. In particular, the study found that receiving both newspapers led to greater support for the Democratic candidate, which contradicts the expectation that the political inclination of newspapers would push readers towards the candidate who most aligned with the newspaper’s position. The authors believed that a plausible explanation could be the fact that both papers covered war casualties and political controversies, and the individuals receiving the treatments gave more importance to what the coverage had in common than to any differences between the newspapers. A second explanation for why the Times and the Post had similar effects may be that the Democratic candidate for governor (Tim Kaine) was a conservative leaning Democrat, and thus even though the Times endorsement went to the Republican, the articles and opinions put forward were not heavily against the Democratic candidate. We must also consider that the study has some limitations, including the relatively small sample size, which may have affected the precision of the estimates of treatment effects.

Another notable outcome showing up from the administrative data is related to the voter turnout. The free distribution of newspaper didn’t lead to an increase in voter turnout in the immediate 2005 gubernatorial election in Virginia. However, there is some evidence from the study that suggests an increase in voter turnout in the subsequent 2006 national elections among those who received the newspaper for free. The authors found that turnout among the treatment

groups was about 3 percentage points higher than the control group in the 2006 elections, which is consistent with previous research showing positive turnout effects from newspaper reading (Gentzkow 2006) and suggests newspaper exposure might have an important long-term effect on the level of political interest. It is important to note that this result was not present for the immediate gubernatorial election in 2005 and was of only borderline statistical significance for national election in 2006, so the existence of an effect and its potential mechanism should be treated with caution.

The authors found that receiving a free subscription to *The Washington Post* or *The Washington Times* didn't improve subjects' ability to answer factual questions about politics or influence their opinions on specific political issues or general policies. While greater political information among subjects in the treatment groups would have helped to explain the movement in candidate preference, changes in opinion often occur without the individual being able to recall the facts that caused the opinion to shift. Drawing on work from psychology (Norman H. Anderson and Stephen Hubert, 1963; and W.A. Watts and W.J. McGuire, 1964), political scientists have constructed models of online processing of political information, where citizens update their judgements in response to the flow of information but don't retain memory of particular facts that caused them to revise their views (Milton Lodge, Kathleen M. McGraw, and Patrick Stroh, 1989; Lodge and Stroh, 1993).

We can say that the paper by Gerber, Karlan, and Bergan provides a thoughtful examination of the impact of newspaper exposure on political behavior and opinions. To complete our analysis on the impact of mass media on social changes, I propose now to analyze a completely different paper, coming from the realm of social sciences, set in a very different location, and utilizing radio broadcast instead of print media to serve the purpose of the research. We are now studying the paper "How Does Media Influence Social Norms? Experimental Evidence on the Role of Common Knowledge" by Eric Arias (2018).

3.2. “How Does Media Influence Social Norms? Experimental Evidence on the Role of Common Knowledge”

Eric Arias’ article, published in “Political Science Research and Methods” in July 2019, investigates the role of the media in influencing social norms, with a particular focus on the mechanism through which this effect manifests. The author suggest that the process underlying media influence can be broadly decomposed into two potential effects: an *individual or direct* effect, and a *social or indirect* effect. In the first one, media share information about new norms and persuades individuals to accept them (Bandura, 1986; Della Vigna & Gentzkow, 2010). In the second one, the information provided also serves as a coordination device. Coordination is needed because one can conceptualize social norms as coordination problems, that is, situations in which each person wants to participate only if others participate as well (Mackie 1996; Chwe 1998). As such, the provision of public information can enhance coordination on that norm through the creation of common knowledge (Mackie 1996; Chwe 2001).

To analyze these mechanisms, Arias conducted a field experiment in Mexico, combined with a natural study, to examine the impact of a radio program on norms and related to violence against women. The experiment took place in San Bartolomé Quialana, a small rural community in the region of Oaxaca, Mexico, during May to June 2013. San Bartolomé Quialana is broadly representative of rural communities where violence against women is a serious problem (UNESCO 2012). The intervention consisted of an audio soap-opera program designed to challenge norms of gender roles and discourage violence against women. The title was “Un nuevo amanecer en Quialana” (A new dawn in Quialana), it was produced with the collaboration with a regional partner non-governmental organization (NGO) and it included four episodes of ~15 minutes each, for a total running time of 57 minutes. The soap-opera was embedded in the local context, featuring common reference points such as “Tlacocula’s market), as helping the audience to directly relate to the situation portrayed can increase its effect (La Ferrara, Chong and Dureya, 2012). The plot revolves around a young couple who fall in love, start a family, and live in Quialana. The male protagonist begins the story as a loving and caring husband but gradually transforms into a violent and aggressive figure. This narrative development is intentional, as research suggests that portraying the male character as initially non-violent helps listeners to relate to him and not dismiss his behavior as an exception.

This soap-opera was mainly distributed in two ways: *Community meeting treatment*, in this condition households were invited to listen to the soap-opera at a community meeting. This was

done in the area within the town hall's loudspeaker's reach, where the program was broadcasted once, allowing household to listen to it all together. Then it was distributed via *Audio CD treatment*. In the area outside the loudspeaker's reach, households were invited to listen to the program individually and privately, using an audio CD. This was done to isolate the individual effect, as individuals were unaware of others listening to the program, precluding common knowledge and coordination. Additionally, there was a *Village Loudspeaker treatment*, where households within the loudspeaker's reach but not invited to the community meeting could listen to the broadcast. This condition was designed to test the effects of public information without the imposition of social interactions like those facilitated by the community meeting. There is also a *baseline group*, consisting of households outside the loudspeaker's reach who did not receive the audio CD. These are the four groups involved in the experiment, who were asked to answer to a survey over the following days after the intervention, which was administered as a one-day event only.

The survey included six key questions designed to measure various aspects of respondents' beliefs, attitudes, and behaviors related to violence against women and gender equality. The first question asks respondents about their *Personal beliefs* regarding the prevalence of violence against women in Quialana. It aims to capture not just the factual occurrence of violence, but the respondent's willingness to acknowledge it as a problem. The question is "Do you think that violence against women is something that happens here in Quialana?" Responses are coded on a scale from 1 to 5, with higher numbers indicating a greater belief that violence against women is a recurring problem in the community. The second question measures the extent to which an individual believes that community as a whole sees violence against women as a serious problem. It asks: "Do you think that the community, the neighbors, and other families see violence against women as a serious problem here in Quialana?". Responses are coded from 1 to 4, with higher numbers indicating a belief that the community sees violence a serious problem that needs to change. The third question assesses individual expectations regarding the future prevalence of violence against women. It asks: "Do you think the next generation of Quialana males ...?". Responses are coded from 1 to 4, with higher numbers indicating more optimistic views about the future reduction of violence against women. The fourth question measures the extent to which respondents would educate their children with gender equality values, particularly focusing on attitudes toward equality in household chores. It asks: "Would you educate your child so that domestic chores, such as doing laundry and cooking, are as much a responsibility of the men as they are of the women?". Responses are binary, with 1 indicating support for educating children in gender equality values and 0 indicating otherwise. The fifth

question asks respondents what they would do if they witnessed a neighbor's wife being beaten by her husband. Responses are collapsed into a binary variable, with 1 indicating a willingness to take action to stop the violence (such as interrupting the couple or calling the police) and 0 indicating no action. The sixth and last question is a behavioral outcome that asks whether respondents would sign a petition to support the creation of a violence against women support group. Responses are binary, with 1 indicating a willingness to sign the petition and 0 indicating otherwise. The survey collected also three key covariates, namely gender, age, and education. A total of 200 households were surveyed; this represents about one in every three household in Quialana. When available, both the male and female heads of the households were surveyed, generating a maximum of 340 observations.

The study findings suggest that social mechanisms are the primary drivers of media influence on attitudes and norms. The community meeting treatment, which facilitated social interactions and common knowledge creation, was more effective in changing attitudes and behaviors than the audio CD treatment, which was a private and individual experience. Public delivery information, such as through a community meeting or a village loudspeaker, can decrease personal and perceived social acceptance of violence against women and increase support for gender equality roles. Finally, the study found that private persuasion, as represented by the audio CD treatment, was ineffective in changing attitudes and behaviors in context of deeply embedded social norms. This implies that individual persuasion may be less effective when social pressures are strong.

The findings of this paper are significant as they provide empirical evidence on the mechanism through which media influence social norms. The study's design is robust and well-suited to isolate the effects of social mechanisms and individual persuasion. The discovery that public information can lead to pessimism about the future change is particularly intriguing. It suggests that while media can be a powerful tool for social change, it can also have unintended consequences. This underscores the importance of carefully designing media interventions to avoid negative side effects. The study's focus on violence against women is timely and relevant, given the global prevalence of this issue. That's an additional reason why I chose to analyze this paper in my thesis, given the fact that many women in the municipality of Padua have been victims of violence and murder, in particular, the academic community of the University of Padua remember the murder of Giulia Cecchettin, brilliant biomedical engineering student enrolled at our university, that lost her life on 11th November 2023.

In conclusion, Arias' study offers valuable insights into the complex dynamics of media influence on social norms, particularly in the context of gender-based violence. The research demonstrates that social interactions and common knowledge are crucial for media to effectively change attitudes and behaviors. The study's implications are far-reaching, as they not only contribute to our understanding of media influence but also have practical applications for policy interventions aimed at addressing social issues.

CONCLUSIONS

In this thesis, I have explored the profound impact of mass media on society and processes of social change. Through the literature review and specific analysis of two papers, I hope to have intrigued readers to explore this topic further. The media have marked profound social changes in various countries, whether developed or developing.

In the first chapter, the thesis outlined the distinguishing characteristics of the mass media, including their capacity for one-way communication, the reaching of large heterogeneous audiences, and the rapidity of information dissemination. It was highlighted how the media have the power to shape public opinion and influence various aspects of daily life, such as fertility, consumer choices, crime and politics. In the second chapter, after a brief review of the main scientific methods for social and economic research, we moved on to a review of the existing literature in support of our thesis, citing texts and experts who have analyzed the effect of mass media influence in different areas of different social contexts. In the third and final chapter, the thesis analyzed two specific case studies, one in Mexico and one in the United States, to illustrate how radio and print media influenced social norms on violence against women and voting behavior and political views, respectively. These studies empirically demonstrated the ability of the media to change social perceptions and behaviors.

In conclusion, the thesis provided a broad understanding of the influence of mass media on social change. It has been clear that the media play a crucial role in opinion formation, education, and individual and collective behavior. However, it is important to recognize that the impact of the media can vary depending on cultural context, access to technologies and regulatory norms. The thesis suggests that while the media can be a positive force for information and education, it is essential to be aware of their potential to unethically manipulate and influence. The research was rigorously conducted and used a variety of methodologies to support its conclusions. However, it is also clear that there are still many open areas of study,

particularly regarding the impact of digital and social media, that deserve further investigation. In a world increasingly connected and influenced by media, critical understanding of their impact is more important than ever.

(Used words: 9929)

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