

Master in Law and Economics of the Arab Region

Thesis submitted by

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Make the right real: Edutainment for Expanding the Capabilities of People with Invisible Disabilities

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I declare that I have authored this thesis independently, that I have not used other than the declared sources/resources, and that I have explicitly marked all material which has been quoted either literally or by content from the used sources. I acknowledge the supervision and guidance I have received from Prof. Dr. Mazen Hassan and Prof. Dr. Roe Sarel. This thesis is not used as part of any other examination and has not yet been published. The submitted written version corresponds to the version submitted via email and on an electronic storage medium.

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Ahmed Maged*

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Abstract

In 2018, Egypt enacted a new disability law to implement its obligations under the CRPD. This law and its executive regulation included for the first time many invisible disabilities that have been neglected before. According to this law, people with invisible disabilities (“PWID”) are entitled to demand the rights and services set out therein. Yet, the realization of these rights is arguably precluded by informal institutions; therefore, this paper uses the capability approach to highlight the potential role of edutainment in addressing the restrictions that preclude PWID from demanding their entitlements. A case study of a popular Egyptian Edutainment is presented. The findings suggest that Edutainment could be used as an effective tool in changing the social institutions, thereby could convert the rights on paper into the capability set of the PWID.

Introduction

In 2018, a progressive law on the Rights of Persons with Disabilities was enacted in Egypt to change the status quo of the disability rights agenda. Indeed, the law seems to

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offer a better environment to the 13.5% disabled population (CAPMAS, 2017). Also, the said law has extended explicitly the protection of the law to many invisible disabilities that have been neglected before.

Having said that, the provisions of the new law seem to be divorced from reality whilst institutional barriers including informational and attitudinal constraints arguably preclude persons with invisible disabilities from actually enjoying their rights. Therefore, the general question of this paper is how to turn these rights on paper into actions?

Motivated by the strong evidence of the impact of Edutainment¹ as a cost-effective intervention on pro-social outcomes, I draw on the capability approach² to argue that Edutainment could be effective in changing the social context in a way that empowers people with invisible disabilities to demand their entitlements.

The hypotheses of this paper were tested by exploiting the popularity of an Egyptian Edutainment Series about Attention Deficiency Hyper-Activity Disorder (“ADHD”) that was aired in Ramadan 2021. A follow-up survey was conducted 10-11 months post the airing of the Series to evaluate the impact of this specific content on the social context. The survey included 468 participants and was designed to identify the effect of the Series on knowledge, attitudes, and norms related to the rights of people with ADHD.

The results of the survey show that this Series had strong but mixed effects on the social context. While it has tremendously spread information about ADHD in the Egyptian society, it has resulted in less tendency to endorse and less belief in the rights of people

¹ Edutainment is a typical example of media intervention. It is simply a policy tool used to spread educational messages. It is defined in the literature as an approach that combines presenting information with an entertaining narrative with an intention to cause social change (Riley, E., 2018).

² Robeyns and Byskov (2021) refer to the capability approach as “*a theoretical framework that entails two normative claims: first, the claim that the freedom to achieve well-being is of primary moral importance and, second, that well-being should be understood in terms of people’s capabilities and functionings. Capabilities are the doings and beings that people can achieve if they so choose [...]; functionings are capabilities that have been realized. Whether someone can convert a set of means - resources and public goods - into a functioning (i.e., whether she has a particular capability) crucially depends on certain personal, sociopolitical, and environmental conditions, which, in the capability literature, are called ‘conversion factors.’*”

with ADHD. Overall, the findings of the case study suggest that Edutainment could have strong effects on the social conditions, yet, what determines whether the outcomes of the Edutainment are desirable or not would depend on how the concerned content is designed.

Therefore, the evidence highlights the role of Edutainment as an effective policy tool that could be used to improve the capabilities of PWID; and also underlines the fact that media interventions may have unintended effects, thereby calling for the necessity to be cautious when designing the Edutainment program.

This paper contributes to the limited evidence in Egypt regarding the impact of Edutainment on socioeconomic outcomes. Also, this paper is the first to assess the impact of media on knowledge, attitudes, and norms related to the rights of people with invisible disabilities. Last but not least, studying the role of Edutainment through the lens of the capability approach makes the contribution unique.

I organized the paper into five sections. First, I present the background of the study. Second, relevant edutainment literature is reviewed. This is followed by the theoretical part in which the effectiveness of Edutainment is discussed from the perspective of the capability approach. The fourth section of the study is dedicated to the presentation of the methodology used to answer the research question. Section 5 concludes.

1. Background

In May 2008, the Convention on the Rights of Persons with Disabilities (the “CRPD”) entered into force, whereby States Parties have claimed that they aim to fully protect the rights, freedoms, and dignity of “*all persons with disabilities without discrimination of any kind on the basis of disability*” (Article 4, CRPD). In the same year, the CRPD was ratified by the president of Egypt to become an integral part of the Egyptian legal regime.

Ten years later, Egypt enacted the law on the Rights of Persons with Disabilities (“PWDL”) in 2018 to implement its obligations under the CRPD as well as the constitution of 2014 (EGY-CON of 2014, Article 81). As a matter of fact, the law seems to offer a better environment to the 13.5% disabled population (CAPMAS, 2017). First, PWDL sets out more concrete rights and benefits with respect to education,

employment, health care, tax treatment, public transportation, etc. (See Section 25, 23, 5,7, 30, 24, and 21 of PWDL).³

Second, the PWDL substantially replaces the medical model, that dominated the provisions of the old law, with the social model of disabilities that attributes disability to the interplay between impairment and social conditions. Such adoption could be observed from the reference to the person with a disability in the PWDL as *“any person who has a full or partial long-term deficiency or impairment, whether physical, intellectual, mental, or sensory, which in interaction with various barriers hinders the full and effective participation in society on an equal basis with others (...)*”. (Section 2, PWDL).

Thirdly, and most importantly, the provisions of the PWDL are inclusive enough to extensively include many invisible disabilities that have been neglected in the provisions of the previous law.⁴ In this respect, the government of Egypt made further elaboration by listing for the first-time many invisible disabilities in the Executive Regulation (No. 2733 of 2018) of the PWDL including Intellectual Disability, Autism Spectrum Disorder, Communication Disorder, Attention Deficiency Hyper-Activity Disorder, Specific Learning Disorder, and Psychiatric Disorders.⁵

Yet, as a condition precedent to enjoy the benefits, the person who suffers from any of the foregoing disabilities has to hold a disability identification card according to the new system created by the law (Section 3, PWDL). Briefly, the Disability ID Card, which is obtained through a bureaucratic application process, is used as a tool to substantiate the eligibility of the person to enjoy the various benefits granted to the person with a disability (Section 5, PWDL, 11 and 12 of its executive regulation).

Regardless of the formal administration aspects (i.e., the determination tools and procedures of the ID system Mont, D. et al. 2019), the current paper focuses specifically

³ An English translation of the PWDL could be available at the following link: <http://ncw.gov.eg/Images/PdfRelease/Law%20No%2010%20of%202018%20For%20Rights%20o-10202117225116797.pdf> (Accessed: 01 May 2022)

⁴ A study in 2002 found that people with mental disability forms 74% of the entire Egyptian disabled population (JICA, 2002).

⁵ Psychiatric Disorders described in the PWDL include depression, bipolar, schizophrenia, and dementia.

on the informational and attitudinal barriers that arguably preclude the Persons with Invisible Disabilities in Egypt from applying for the ID card.

First and foremost, it's generally noted that incomplete information about the rights precludes many people in developing countries from enjoying public services (World Bank, 2004). More specifically, a study in Egypt found a common lack of awareness of the rights of children with intellectual disabilities (Gobrial, E. 2012).

With respect to the attitudinal barriers, stigma⁶ is widely referred to in the literature as a fundamental issue limiting the realization of disability rights (Ditchman et al. 2013). In Egypt, evidence shows that people with disability share negative feelings about disability, so they prefer to hide it, and thus do not seek treatment nor get the needed services (Zidan, T., 2012, Abdelhameed, H., 2010, Hadidi, and Al Khateeb, 2015).

While the studies show also that the prevailing stigma is associated with psychical disabilities (USAID 2017), intellectual disabilities (Abdelhameed, H., 2010), and of course, mental disorders (Al-Krenawi, A., 2005, Coker, E.M., 2005, and Zolezzi, M. et al. 2018), past research has found a hierarchy in the degree of stigma varying with types of disability, where people with invisible disabilities are consistently found to be the most stigmatized compared to other disability groups (e.g. Barr and Bracchitta, 2015, Miller, E. et al., 2009; Westbrook, M.T. et al., 1993). More importantly, the rights of people with intellectual disabilities are found to be less supported by the public compared to the rights of people with physical disabilities (Werner, S., 2015).

Unequivocally, it is difficult to imagine that PWID will be willing to hold an ID card within a social context stigmatizing them. Yet, they will internalize the stigma as a social norm, and then share the negative feelings of guilt, shame, low self-expectations...etc. (Corrigan & Watson, 2002).

That said, the question is how to address the institutional barriers to have an enabling environment that could make the formal rights of PWID real. Werner (2015) argued that *"interventions and approaches, geared toward people with disabilities, should be*

⁶ Mak and Cheung (2008) define stigma as *"a set of prejudicial attitudes, stereotypes, discriminatory behaviors and biased social structures endorsed by sizable groups about discredited subgroups"*.

accompanied by suitable interventions and campaigns aimed at changing lay persons' attitudes and beliefs regarding individuals with ID's rights". Also, CRPD has obliged States Parties to adopt effective and appropriate measures to raise awareness regarding persons with disabilities (Article 8).

Being a promising tool to spread information, I study whether Edutainment could be useful as a policy intervention in raising awareness and influencing desirable attitudes and norms toward the rights of PWID. As such, Edutainment is generally reviewed in the following section before delving into the theoretical framework.

2. Literature Review of Edutainment

Generally speaking, growing empirical studies in Economics and other social sciences provide strong evidence of the significant effects of exposure to TV and Radio on knowledge, attitudes, norms, and behaviors in several fields including health, education, family choices, gender norms, agriculture, and migration (see DellaVigna & La Ferrara 2015 for a comprehensive review).

For instance, the installation of TV services in Indian villages was found to significantly change traditional family values regarding tolerance of domestic violence, fertility, and female education (Jensen & Oster, 2009). Also in Brazil, access to TV and the expansion of the Rede Globo television network (leading provider of soap operas) were reported to have an impact on adolescent drug use, teen pregnancy, (Cardoso & Verner 2007) and divorce rates (Chong & La Ferrara 2009).

These examples are discussed in the literature in light of the revolutionary technological progress that expands the exposure of a wide population to media at relatively lower marginal costs (La Ferrara, E., 2016). Bearing that in mind, media is being generally proposed in the literature as a policy intervention to achieve desirable outcomes.

Edutainment is a typical example of media that is used for such a purpose. It is designed to convey particular educational messages to the audience whilst they are immersed in the entertaining story (Banerjee, A., et al. 2019). It also has the ability to distribute the messages to a wide audience who would not pay attention to the useful information if it is communicated in a traditional way (Ibid).

Historically, Edutainment is reported to be created by the Spanish soap operas “telenovelas” (Singhal et al. 2004, Trujillo & Paluck 2012). One prominent example is the Peruvian series *Simplemente* which was found to have a huge effect on self-efficacy (Singhal, A., 1995). Edutainment has been assessed widely thereafter in other societies and was found to be effective in influencing viewers to adopt better agricultural practices in Vietnam (Heong et al. 2008); make more informed financial decisions in South Africa (Berg & Zia 2017), and follow co-operative behaviors and social norms in Rwanda (Paluck & Green 2009).

In addition, it was reported to have strong effects on students' educational attainment in Uganda (Riley, E., 2018), behavior and knowledge about HIV in urban Nigeria (Banerjee, A., et al. 2019), family planning in St. Lucia (Vaughan et al. 2000), and Tanzania (Vaughan et al. 2000). With respect to formal rights, a movie in India significantly enhanced viewers' perceptions and knowledge of rights and entitlements offered by a national employment guarantee scheme (Ravallion, et al. 2013).

In Egypt, the limited empirical evidence makes it difficult to find a study related to the de jure rights. However, what could be found in other fields is relatively mixed results. On the one hand, a study found that Edutainment significantly influenced viewers in Egypt to use the Oral Rehydration Therapy, and so led to desirable health outcomes for children (Abdulla, R.A., 2003); on the other hand, a recent Randomized Control Trial found that the TV program (the treatment) had limited effect on improving viewers' general perceptions of female entrepreneurs, while even influencing negative beliefs toward discrimination against women (Barsoum, G. et al. 2022).

Based on these findings, the following section contributes to the literature by developing through the lens of the capability approach a theory regarding the effectiveness of Edutainment on the actual enjoyment of the rights of the PWID.

3. Edutainment and the Capability Approach

Theoretical Framework

A. K. Sen developed the Capability Approach (the “CA”) in welfare economics (Sen, 1980; 1985; 1999, 2005), to question the traditional economic theory and utilitarianism

for assessing the standard of living only in terms of utility/income, thereby excluding non-utility information which morally and intrinsically matters (Robeyns, 2005).

Alternatively, Sen argues in the CA that policy-making should focus on what people are able to do and be, and also on removing barriers that preclude the individual from living the life that he/she has the reason to value (Robeyns, 2005). In other words, he proposes evaluating policies and measuring personal well-being by rather identifying human capabilities (Sen, 1980; Nussbaum, 2006).

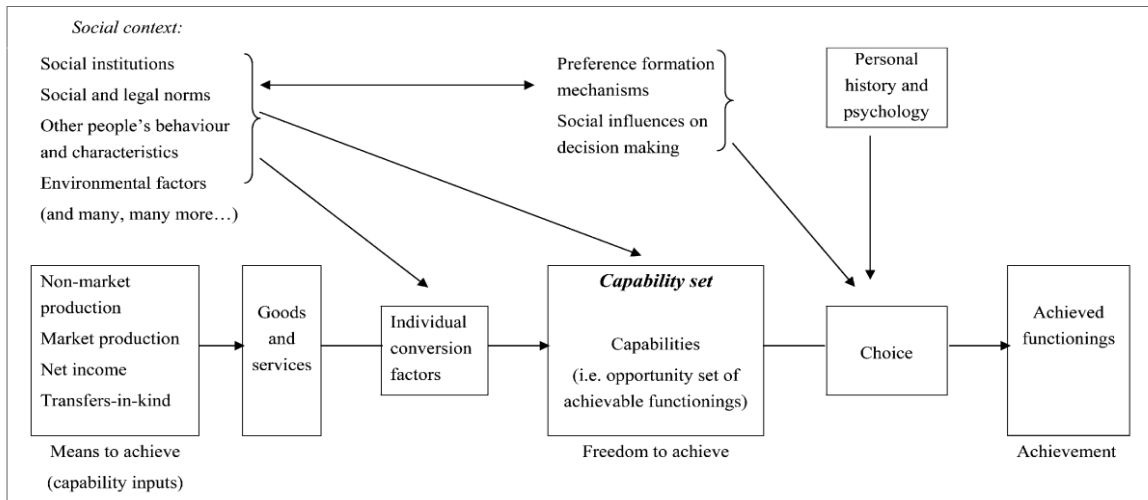
These capabilities have been referred to as the real or substantive freedoms (opportunities) that construct the “capability set” of each individual (Sen, 1999). They are not the mere rights and freedoms written in constitutions, yet they are the de facto rights that are actually enjoyed and freedoms that are free of any potential barriers (Robeyns 2016).

To put it another way, the basket of commodities of the individual (e.g., assets, income, formal rights, public goods, and services) are not capabilities per se, yet they have to be converted into the capability set by factors including personal characteristics (e.g. age, gender, race, nature of an impairment), social conversion factors (e.g. social institutions), and environmental factors (e.g. climate, geographical location) (Mitra, S. 2006, Robeyns, 2005).

As shown in figure 1, the social conversion factors (social context) are ‘inputs’ that play a central role in the creation or expansion of capabilities. Strictly speaking, they determine whether the resources (e.g. rights on paper) will be converted into the capability set of the individual (e.g. real rights), thus they shape the individual’s opportunity sets. Also, the same social constraints will influence the individual choices ex-post the conversion when the individual has the ‘agency’ or freedom to choose from the available real opportunities.

While social institutions affect the capability set directly as shown in figure 1, thus one of the CA underpinnings is to focus on the whole institutional context and thus extend the capability approach to the analysis of institutions (Robeyns, 2005). At least, institutions (as the means/social determinants of the capabilities) can be directly

Figure 1 Stylized static representation of the capability approach (Robeyns, 2005).



changed unlike other components in the equation such as “the capabilities itself” or “the personal characteristics”.

In this regard, Sen argues that: *“Individuals live and operate in a world of institutions. Our opportunities and prospects depend crucially on what institutions exist and how they function. Not only do institutions contribute to our freedoms, their roles can be sensibly evaluated in the light of their contributions to our freedom [...]”* (Sen, 2000: 142).⁷

Building on the above insights, the following sub-section aims to explain more specifically why Edutainment could be effective in enabling the PWID to demand their entitlements.

Edutainment, informal institutions, and the rights of PWID:

The ability of the PWID to transform their available resources and commodities (e.g., formal rights and services) into capabilities (e.g., real rights and services) that can be actually enjoyed would be ultimately determined by the social context. If informal institutions (e.g., informational and attitudinal constraints) inhibit the ability to

⁷ The influential role of the social institutions in the capability equation led Evans (2009) to call for integrating the institutional turn and the capability approach into a synthesis.

demand and enjoy the entitlements, then the PWID would be deprived of many possible capabilities.

In such a case of market failure, Edutainment could arguably intervene to address the social constraints faced by persons with invisible disabilities, and also stimulate the creation of new resources (e.g., better rights), thus expanding the capabilities of PWID while also enabling them to choose from the available ones.

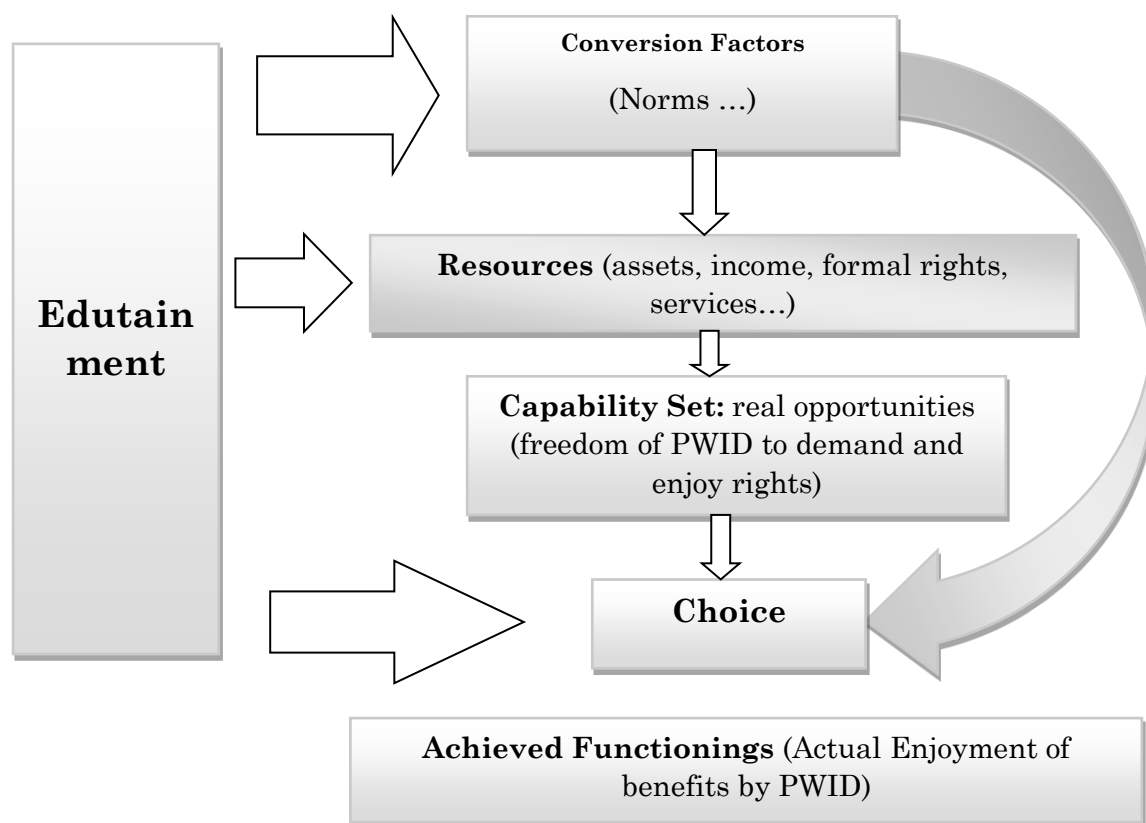
In this regard, La Ferrara (2016) argues that insights from social learning theory entail that the individual can learn from the experience of others, and thus Edutainment can save the individual huge costs by *“learning from other's errors or accomplishments, and give individuals models that they can learn from at no personal cost”*.

Also, as shown in figure 2, Edutainment could influence the capability set of the individual by creating new resources. For instance, a movie released in Egypt in 1975 “urīdu Hallan”, claimed to influence women’s initiatives to reform the personal status law, thus providing resources (formal rights) for women that did not exist before. (Sonneveld, N., 2009).

Thirdly, and most importantly, Edutainment could arguably help in the realization of the available resources. As shown by the rigorous evidence reviewed in the previous section, Edutainment is capable of providing new information whilst changing public attitudes, beliefs, behaviors, and eventually the social norms. These effects are crucial as they would ultimately shape the social conversion factors.

To illustrate more, a special analysis in the following paragraphs will be focused on the social norms. Strictly speaking, Norms are the standards of behavior that are based on the beliefs of many individuals about how each individual in a given society ought to behave (Burke & Young 2011). On the one hand, norms as informal institutions do have the ability to incentivize actors through rewarding or sanctioning (North, 1991). On the other hand, norms ultimately construct and reinforce attitudes and behaviors.

Figure 2: Interplay between the capability set and Edutainment



*Arrows represent the possible influence of Edutainment on each component.

Participating in norms is described as a coordination problem (Burke & Young 2011), where Individuals' preference to conform is determined by the expectation of whether others will also conform (Mackie 1996). To gain the benefits (the pleasure) of social approval and avoid the possible costs (social sanctions) resulting from coordination failure, the individual prefers to express attitude and behave according to his/her expectations about the attitudes and behavior of others in the society (Coleman, J.S., 1994). In such a strategic situation, if negative social norms are prevailing in a given society, then it would be anticipated that these norms would persist.

In an ideal society, individuals with PWID might not need laws to protect their rights if the prevailing expectations are that PWID should be treated on an equal basis with others, yet as this is not the case, law complemented by other policy interventions have to intervene to reduce the high transaction costs.

Generally, Sen argues that media as an institution can improve capabilities by providing information, giving voice to the neglected and the disadvantaged, values formation, and above all through contributing to free speech and public reasoning (Sen 2009: 335–337).

More specifically, transmitting information publicly (i.e., to a wide audience) through media is suggested to be effective in enhancing coordination on the norms and in breaking the described vicious circle. Arias, E., (2019) argues that *“public information is used to know that others received the information, and that everyone who received the information knows that everybody else that received the information knows this, and so on, creating common knowledge”*

Therefore, Edutainment designed to target a wide audience could facilitate the coordination of the norms regarding the rights of people with invisible disabilities, it could lower the transaction costs by providing new information, and convincing the public that the prevailing norms might not be what they thought; through mechanisms including role-modeling, empathy, identification with the character, etc. (see a review of the possible mechanisms in La Ferrara 2016).

For instance, when a character with an invisible disability in the Edutainment story demands its rights within a similar context to that of the viewer, that could influence the change of viewers’ expectations by normalizing the unusual behavior, redefining the desirability of such action, and thus replacing the inefficient social norm.

In the following section, a case study from Egypt is discussed to test the effectiveness of Edutainment in influencing the conversion of the available formal rights and services into real ones.

4. A case study from Egypt:

4.1. Background

Ramadan, the holy month in the Islamic calendar celebrated by Muslims worldwide, is best known as the month of fasting. Yet, as Television viewership in Egypt rises

significantly every Ramadan;⁸ This holy month has become the annual high season for airing Egyptian TV dramas commonly known as “Musalsalat”. Most of the Egyptian Musalsalat are produced annually by big TV producers with an intention to be aired on satellite channels and streaming networks during the holy month.⁹ They are normally made up of 28 to 31 episodes on average; where a new episode is aired each day throughout the month of Ramadan.

In Ramadan of 2021, *Khali Balek Men Zizi* an Egyptian comedy-drama tv series about an adult and child suffering from ADHD¹⁰ was aired (see the footnote for the storyline).¹¹ This show was viewed by millions of Egyptians and has been considered one of the most successful works in the Ramadan season of 2021.¹² It has been the first Egyptian drama ever to portray ADHD which, to the best of my knowledge, had never been depicted on Egyptian TV or cinema before.

Khali Balek Men Zizi has been chosen as a case study of Edutainment in this paper for three main reasons. First, is the fact that the author intends this drama to be an “Edutainment” work. Mona El Shimi (the Series’ author) stated that: *“I (Mona) am a case of late diagnosis of ADHD, predominantly the inattentive/impulsive type...A*

⁸ Recent survey conducted by YouGov recorded a 78% rise in TV viewership during Ramadan in the Middle East and North Africa (MENA). (see <https://www.arabnews.com/node/1300716/media>) (Accessed 16 May 2022).

⁹ The entire media industry in Egypt can produce up to 80 Musalsalat for that month alone (see <https://edition.cnn.com/2020/04/17/middleeast/egypt-soap-operas-coronavirus-intl/index.html> and <http://www.mideastmedia.org/industry/2016/ramadan/>) (Accessed 16 May 2022).

¹⁰ ADHD, as a neurodevelopmental disorder, is defined in the DSM-5 as “impairing levels of inattention, disorganization, and/or hyperactivity-impulsivity. Inattention and disorganization entail inability to stay on task, seeming not to listen, and losing materials, at levels that are inconsistent with age or developmental level. Hyperactivity-impulsivity entails overactivity, fidgeting, inability to stay seated, intruding into other people’s activities, and inability to wait...ADHD often persists into adulthood, with resultant impairments of social, academic and occupational functioning.” (American Psychiatric Association 2013).

¹¹ *Khali Balek Men Zizi* story-line: “Zizi (Amina Khalil) is a young woman whose marriage to Hisham (Aly Sadigh) is falling apart after several unsuccessful attempts at IVF. Zizi’s heated temper and impulsive behaviour escalate the tension between the married couple resulting in them fighting a bitter divorce settlement in court. Zizi’s lawyer Mourad (Mohammed Mamdouh) advises Zizi to undertake therapy sessions with a consultant psychiatrist Dr Sami (Sabri Fawaz) to calm her fiery temper during the court hearings. Through the therapy sessions, Zizi is diagnosed with Attention Deficit and Hyperactivity Disorder (ADHD). As a therapeutic intervention, Dr Sami recommends that Zizi mentors a young girl Attiyat/ Tito (Reem Abdel Ghader) with ADHD. A journey of self-discovery follows not only for Zizi, but for most of those around her. Several contemporary sub-plots explore bullying, dysfunctional families, and marital conflict”. Drawing Attention to and Restoring Order in ADHD Posted on July 2, 2021 by Chris Pak see <https://blogs.bmj.com/medical-humanities/2021/07/02/drawing-attention-to-and-restoring-order-in-adhd/> (accessed 16 May 2022).

¹² <https://www.vetogate.com/4330491> (Accessed 16 May 2022).

*common theme seemed to emerge from affected individuals, especially adults, and that was been mislabelled all their lives as “lazy”, “incompetent”, or “different”. I think the series addressed a collective wound that needed to be spoken up about and healed”.*¹³

Second, this Ramadan drama has turned the spotlight on ADHD for the first time in Egypt. Egyptians in general, until recently, have been arguably less aware of the existence of ADHD despite the major potential economic consequences of this disorder.¹⁴ It was argued that the low rate of diagnosis of ADHD in MENA and Africa could be attributed to many factors including among others the lack of knowledge about ADHD existence (Hinshaw & Scheffler 2014). It is worth noting that in similar settings where people were less aware of a certain topic, La Ferrara (2016) anticipated that the impact of Edutainment would be the most significant.

Third, potential viewers at the beginning of Ramadan tend to explore available options before deciding to watch a specific drama, so it normally takes them two to three episodes (days) to make that decision. The Series under study had revealed that it discusses ADHD only in Episode No. 11 of the Series (ADHD did not even appear in the description of the drama prior to Episode 11). Also, the discussion about ADHD did not become intense until Episode 20.

Thus, the potential viewer did not know beforehand that this drama is about ADHD, yet has chosen to watch this drama for a reason other than being interested in knowing about ADHD. Possibly, a viewer might have decided to watch this specific drama because she likes the actress or the quality of the production, etc. Anyhow, the viewers did not self-select into watching the Series and thus any subsequent effect would not be

¹³ Ibid.

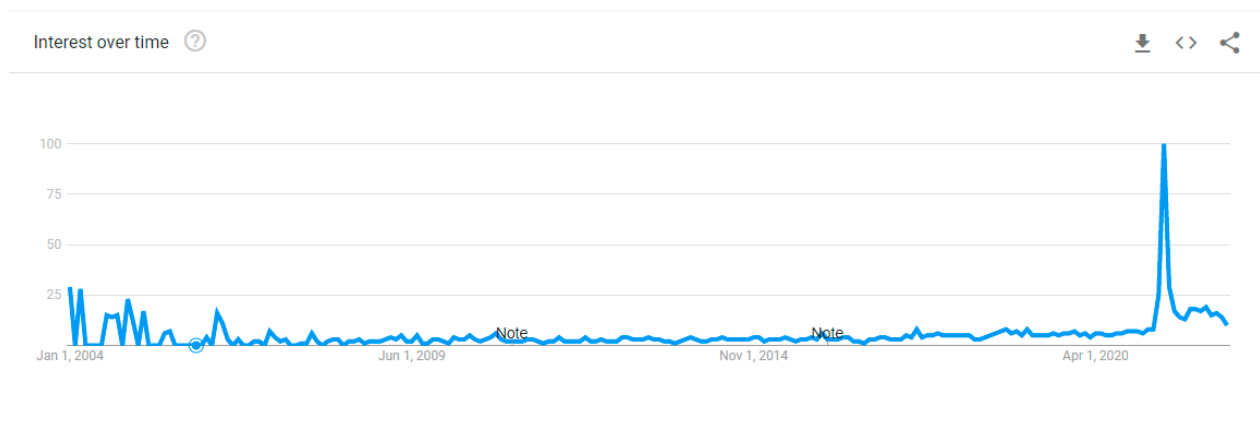
¹⁴ In literature, students with ADHD were found to be more likely to repeat a grade (Fried et al., 2016). On the other hand, adults with ADHD attain lower levels of education and generally experience substantial declines in full-time employment, productivity, and household income (Biederman & Faraone, 2006). Other studies also concluded that individuals with ADHD, if not treated, increase the rates of crime (Fletcher & Wolfe 2009) substance abuse (Lee SS, 2011), and suicide risk (Hinshaw et al. 2012). Moreover, ADHD without medication was found to be associated with an increased rate of serious transport accidents among male adult ADHD patients. (Chang et al. 2014). The annual total indirect cost of child ADHD in the US is estimated to be over \$100 billion, on the other hand, adult ADHD long-term costs approach \$200 billion annually without including the criminal outcomes (Hinshaw and Scheffler, 2014).

confounded by the selection issue. However, it is worth noting that the foregoing only applies to those who had watched the Series in Ramadan 2021 and not thereafter.

Initial observations

After airing episode 11 of the Series, Google searches about ADHD had soared up. ADHD had been a trend in social media as *Khali Balek Men Zizi* had triggered information-seeking behavior, as shown in figure 3 generated from <https://trends.google.com/trends> (Accessed 16 May 2022); where Google searches containing "ADHD" term have increased dramatically since airing episodes No. 11 of this drama in Ramadan (April 2021).

Figure 3 Google Trends, "ADHD" interest over time



To clarify the impact of this Ramadan Series, a comparison is worth making with an ADHD awareness campaign run from 24th to 30th October 2015 by the Egyptian Ministry of Health.¹⁵ This campaign included workshops, the distribution of 10,000 flyers, and an awareness video in the Arabic language that was made available on YouTube.¹⁶ However, such an official campaign does not show any impact at all as clear from figure 2 if compared to the Ramadan Series.

¹⁵ <https://aacamh.org/egypts-adhd-awareness-campaign-2015/> (Accessed 16 May 2022).

¹⁶ <https://www.youtube.com/watch?v=Ooxa44UpEMc> (Accessed 16 May 2022).

Against this background, the following section exploits the above facts to evaluate the impact of *Khali Balek Men Zizi* as a specific Edutainment content on the social context that ultimately encourages or inhibits the capability of the person with ADHD to demand and enjoy its rights. In other words, this study aims to test empirically whether an Edutainment Series, aimed at providing information and changing norms related to the People with ADHD, be effective in changing the social context, thereby empowering People with ADHD in Egypt to convert rights on paper into real rights?

To answer this specific research question, the following hypotheses will be tested while assuming that spreading information and changes in attitudes and beliefs are proxies for an ongoing change in the social context, in particular a change in norms.

Hypothesis1: The Ramadan Edutainment has raised awareness about the existence of ADHD in Egypt.

Hypothesis2: The Ramadan Edutainment has influenced the public to believe that the rights of people with ADHD do exist.

Hypothesis3: The Ramadan Edutainment has influenced the attitudes of the public with respect to the rights of people with ADHD.

4.2. Method

4.2.1. Participants:

Using Qualtrics web-based software, a survey was conducted throughout March 2022; 10 to 11 months post the airing of the last episode of *Khali Balek Men Zizi*. The survey was distributed to invite (17+) young and early middle-aged adults from the general public across Egypt. The invitation to the questionnaire reached people out of 21 Egyptian Governates. 895 participants agreed to participate in the survey. Estimating the overall response rate was not possible as the survey had been partly distributed online as clarified below throughout several social media channels. 244 subjects were excluded for having incomplete responses along with 94 participants who fail to pass

the attention checker, 75 participants who had no clue what ADHD is,¹⁷ and 14 ineligible participants (e.g., foreigners), thus, overall, 468 questionnaires were filled.

By combining the 21 Egyptian Governates included in the study into 5 regions, 42.5% of the participants are from Cairo and Giza, 38.6% from the Delta region, 7.9% from the Alexandria region, and 6.2%, 4.7% from the Canal region and Upper Egypt respectively. The sample includes 40.1% males and 59.8% females. The median of the participants' age is 24 (SD = 4.65; range 17–44). Of these participants, 13.6% live with low income, 49.1% live with middle income, and 37.1% live with high income. Also, 25.8% of the participants had a high-school education or below, 60.9% completed a bachelor's degree, and 11.9%, 1.28% holds a Master's degree and PhD respectively. 34.8% of the sample reported that they watched many episodes of *Khali Balek Men Zizi*, 23.2% reported that they watched only some episodes, and 41.8% did not watch any episode at all. The following table presents the main characteristics of the sample under study:

Table1: Sociodemographic characteristics of the participants (n= 468)

		Frequency (%)
Age	17-22 years	161 (34.40%)
	23–28 years	214 (45.73%)
	29-44 years	93 (19.87%)
Gender	Male	188 (40.17%)
	Female	280 (59.83%)
Education level	General Secondary or lower	121 (25.85%)
	Bachelor	285 (60.90%)
	Master	56 (11.97%)
	PhD	6 (1.28%)
Income	Low income	64 (13.68%)
	Middle income	230 (49.15%)
	High income	174 (37.18%)
Region	Cairo & Giza	199 (42.52%)
	Delta region	181 (38.68%)
	Alexandria region	37 (7.91%)
	Canal region	29 (6.20%)
	Upper Egypt	22 (4.70%)
Urban-Rural	Urban	365 (77.99%)
	Rural	103 (22.01%)

4.2.2. Procedure

The questionnaire was distributed by two methods. One of them, was by sending the questionnaire randomly through an online link targeting adult Egyptians through

¹⁷ These participants had to be excluded as no definition of ADHD had been given to the participants during the survey, thus it is difficult to rely on their answers regarding the beliefs and attitudes.

social media channels including Facebook, WhatsApp groups, and LinkedIn. Anyone who agreed to participate was asked to forward the questionnaire to his/her network if possible. This method collected 69.8% of the participants.

The other 30.1% were collected by inviting eligible adults (face-to-face) in Cairo University campus and Al-Zamalek neighborhood. Potential participants were given QR-code, if agreed, to fill out the questionnaire whenever they have time. Cairo University campus and AL-Zamalek neighborhood were chosen as people from diverse backgrounds arguably could be found there. All who were asked to participate, either via QR code or online link, were incentivized by the chance to win a free legal service to be offered to 10 participants through a prize draw. However, those individuals who had agreed to participate via a QR code were also given a chocolate bar as a token of thanks. This variation is justified by the limitation of time and the necessity to increase the likelihood of participation if a bar of chocolate is given. Also, it should be noted that the variation was taken into account thereafter in the analysis.

Informed consent was obtained from all the participants and recorded before filling out the questionnaire. Yet, to reduce selection bias as much as possible participants were generally informed that it is a study of opinions, that requires a few minutes to fill, about a social topic without any reference to ADHD. Above all, participants were also assured that anonymity and confidentiality are respected.

4.2.3. The questionnaire:

The questionnaire had been drafted in Arabic in three parts that have taken on average 6 minutes to complete. The first part included 7 demographic questions to gather data regarding age, sex, marital status, education, etc. In the second part, 10 items of a scale to measure attitudes regarding the rights of people with ADHD were presented along with one attention checker question. The last part of the questionnaire included questions designed to know whether the participants watched the Ramadan Series, and to investigate the knowledge about the existence of ADHD. At the same, another attention checker question was added in addition to 4 other questions to control for omitted variables (e.g. previous experience), along with one last question to know whether participants believe that there is a law in Egypt that provides rights to protect

and support people with ADHD. Throughout the survey, the Randomization feature in Qualtrics had been enabled, if required, to eliminate order bias.

4.2.4. Instruments:

4.2.4.1. Awareness of ADHD.

To test the impact of the Series on raising participants' awareness of the existence of ADHD, I asked participants how did they "*hear about ADHD?*". The participant had had to mark either "*From watching the series (Khali Balak Mn Zizi)*", "*Because of the trend and media talk in 2021 and 2022*", "*I heard about this disorder and I know it very well for years and don't remember*", or "*I've never heard about it before*".

4.2.4.2. Belief in the actual existence of the rights of people with ADHD.

The following question had been drafted to gauge whether the participants believe that the rights of people with ADHD do exist: "*Do you think that the Law of People with Disabilities in Egypt provides rights to protect and support people with Attention Deficit Hyperactivity Disorder (ADHD)?*". Each participant had to choose between (yes) or (no).

4.2.4.3. Attitudes regarding the rights of people with ADHD:

The scale: Att-ADD-R

The Attitudes regarding the Rights of People with ADHD Scale ("*Att-ADD-R*") was developed (see annex No. 2) to test hypothesis No. 3. The scale was built based on the relevant literature on measuring the attitudes towards the people with disability and their rights (Yuker 1970, Yuker & Block 1986, Findler, L. et al. 2007) including the Disability Rights Attitude Scale DRAS (Hernandez et al. 1998), the Community Living Attitudes Scale (Henry et al. 1996).

Further, all the scale items were generated after fully reviewing the rights already existing in the PWDL of 2018.¹⁸ For example, item 4: "*It is better for a person with...(ADHD) to get a discount on public transportation tickets*" has been based on

¹⁸ See Sections 4,5,7, 10, 11, 12, 15, 16, 18, 20, 21, 23, 24, 30, and 36 of the PWDL.

section 30 of the PWDL. Due to the limitation of time, the face validity of the items was not examined by disability experts.

Initially, the scale included 10 items that appear in random order. Each of which includes 5 Likert scale options ranging from 1 (strongly disagree) to 5 (strongly agree). Four of the seven items were negatively worded to control for response sets, yet were reversely recoded thereafter to conduct the analysis. Three items were excluded after conducting the exploratory factor analysis to end up with a 7-items scale; the 3-excluded items were items No. 3, 8, and 10 (See Appendix 2). The internal reliability of the final seven-item scale was acceptable; ($\alpha = .714$).

The total score of each participant was computed by adding the participant's rating on each of the 7-items. Ultimately, the greater total score indicates a more positive attitude regarding the rights of people with ADHD.

Potential predictors of the attitudes regarding the rights of people with ADHD:

The control variables examined in this study were the method of distributing the survey (Qr-code vis-à-vis Link), gender (Male/Female: 0 or 1), age, marital status (0 or 1), whether having children (0 or 1), education level, the governorate where the participant lived most of his/her life, whether living in a rural or urban area (0 or 1), income level, whether being diagnosed with ADHD/mental disorder, whether having a relative/friend with ADHD, and last but not least the participant's knowledge/experience in the disability/psychology field. All of these controls were generated after a comprehensive exploration of the relevant literature (See potential predictors in e.g., Alnahdi, G.H., et al. 2020, Satcher & Hendren 1991, Hernandez 1998 et al, Bossaert G., et al, 2011; Yazbeck, M., et al. 2004, Huskin et al., 2018).

4.3. Results

4.3.1. Awareness of ADHD existence:

The sample had originally included 543 participants before dropping the 75 participants who reported that they have never heard about ADHD before. That said, by adding them again to merely assess the awareness, I found that of the 543 participants, 121 reported that they had heard about ADHD for the first time from watching *Khali Balak*

Mn Zizi, 122 from the trend accompanied the airing of the Series, and 225 reported that they have already heard about this disorder before airing the Series. Therefore, while 41.43% of the participants have already known about ADHD before, 58.57% have heard about the existence of ADHD for the first time in their entire life because of the Series.

Another interesting finding was that 50% of the 8 participants who reported that they were diagnosed with ADHD reported also that they heard about the existence of ADHD because of the trend that followed the Ramadan Series. In other words, *Khali Balak Mn Zizi* was the reason behind the diagnosis of 50% of people with ADHD in the sample. Overall, these findings support Hypothesis1 which predicted that “*The Ramadan Edutainment has raised awareness about the existence of ADHD in Egypt*”.

4.3.2. Belief in the actual existence of the rights of people with ADHD:

Of course, after excluding again the 75 participants who reported that they have never heard about ADHD before, I found that even after 3.5 years from issuing the Executive Regulation of the PWDL which listed explicitly ADHD as a mental disorder that entitles people with ADHD to claim the rights stated in the PWDL, 78.40% of the participants still do not think that the law of people with disabilities in Egypt provides rights to protect and support people with ADHD. Also, only three of the 8 participants who reported being diagnosed with ADHD believed that the law includes such rights.

On the other hand, the finding with respect to the impact of the Series has been quite interesting, as 82.82% of people who watched many episodes have not believed that people with ADHD enjoy formal rights under the law compared to 75% and 76.5% of people who watched some episodes and of people who did not watch the Series at all respectively. Generally, people who watched many episodes were less likely to be aware of the existence of the rights of people with ADHD compared to the other two groups, yet such difference is insignificant. Therefore, it is difficult to be confident about Hypothesis2 which predicted that *Khali Balak Mn Zizi* has influenced the beliefs of the public about the existence of the rights of people with ADHD.

4.3.3. Attitudes regarding the rights of people with ADHD:

4.3.3.1. Bivariate analysis

The unpaired samples t-test and the ANOVA test were used to analyze the association between the potential predictors and the score of the Att-ADD-R Scale as shown in Appendix No. 1.

The results showed a significantly higher Att-ADD-R score (more positive attitude) in the 17-22 Age group compared to the 23–28, and 29-44 age groups (27.61 vs. 26.07 vs. 26.08, $p < 0.001$). Second, participants who live in the rural area had significantly higher scores compared to those who live in the urban area (27.79 vs. 26.27, $p < 0.001$). Also, people who completed General Secondary education or below had a significantly more positive attitude than participants holding a Master's degree (27.40 vs. 25.94, $p < 0.05$), similarly, participants who live with a low income had higher Att-ADD-R score compared to those who live with middle and high income (27.54 vs. 26.09 vs. 26.94, $p < 0.05$).

More interestingly, people diagnosed with ADHD had a significantly lower Att-ADD-R score than participants who were not diagnosed with any mental disorder before. (23.75 vs. 26.79, $p < 0.05$). Last but not least, people who lived in the biggest three governorates (Cairo, Giza, and Alexandria) had a significantly lower attitudes score compared to participants who lived outside these governorates.

On the other hand, the other variables include the method of distributing the survey (Qr-code vis-à-vis Link), gender, marital status, whether having children, whether having a relative/friend with ADHD, and the participant's knowledge/experience in the disability/psychology field showed no significant association with $p > 0.1$, thus they were excluded as potential predictors of attitudes regarding the rights of people with ADHD in the following multiple regression analysis.

4.3.3.2. Multivariable analysis

I then ran multiple regressions as shown in Table 2 testing the effect of the Ramadan Series on the attitudes regarding the rights of people with ADHD. In this analysis, all the potential predictors detected in the bivariate analysis were all included; namely age,

region, living in an urban or rural area, education and income levels, and whether being diagnosed with ADHD/other disorder.

Table 2: Linear regression analyses predicting attitude regarding PWID rights

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
From the Series compared to had known	.77* (.44)	.99* (.45)	.99+ (.52)			
From the Series compared to trend 2021	1.41** (.51)	1.29* (.51)	1.64** (.59)			
Many episodes compared to did not watch				1.18** (.42)	.95* (.41)	.89* (.41)
Many episodes compared to watching some episodes				1.37** (.49)	1.12* (.48)	
Age 17-22 years compared to 23-28 years		-1.21* (.54)	-1.96** (.65)		-1.02+ (.54)	-1.97** (.65)
Age 17-22 years compared to 29-44 years		-1.53* (.68)	-1.76* (.81)		-1.21+ (.66)	-1.66* (.79)
Alexandria compared to canal		2.10* (.97)	2.99** (1.06)		2.10* (.98)	2.73* (1.07)
Alexandria compared to Delta		1.16 (.73)	1.84* (.85)		1.21 (.73)	1.75* (.86)
Urban or Rural		.53 (.52)	.67 (.60)		.61 (.51)	.82 (.60)
Gen Sec compared to Bachelor		-.04 (.53)	.44 (.64)		-.09 (.54)	.52 (.64)
Gen Sec compared to Master		-.27 (.78)	.09 (.90)		-.31 (.78)	.27 (.90)
Low income compared to middle income		-1.35* (.55)	-1.26* (.62)		-1.3* (.55)	-1.21+ (.62)
Low income compared to high income		-.53 (.57)	-.47 (.64)		-.50 (.57)	-.40 (.64)
Never diagnosed compared to was diagnosed with ADHD		-3.04* (1.40)	-3.15+ (1.60)		-3.03* (1.40)	-3.07+ (1.61)
Observations	468	468	359	468	468	359
R ²	.01	.10	.14	.02	.105	0.13
Adj R	.01	.07	.10	.01	.07	.09

Note. Regression 1&4: simple regressions. Regression 2&3: includes the source of knowledge as the independent variable under study. Regression 5&6: includes the fact of watching the Series as the independent variable. + $p < .10$, * $p < .05$, ** $p < .01$

The source of knowledge as the independent variable:

First, I estimated the impact of the Series on the Att-ADD-R Scale while using the source from which the participant was informed about ADHD as the independent variable. The results showed that being informed about ADHD from *Khali Balak Mn Zizi* significantly prompted more negative attitudes regarding the rights of people with ADHD compared to knowing about ADHD from the trend that accompanied the Series ($\beta = .99$ SE = .45, at $*p < .05$), and compared to having knowledge about ADHD even before the airing of the Series ($\beta = 1.29$ SE = .51, at $*p < .05$).

In the same regression, it was found that participants in the youngest Age group 17-22 are likely to have a significantly more positive attitude regarding the rights of People with ADHD compared to Age groups 23-28, 29-44. However, no significant difference is found between the latter two groups. In terms of income, people with lower income were more likely to have a positive attitude compared to people with middle and high income, yet such difference is only significant between lower- and middle-income participants.

With regard to the region, living in the Alexandria region predicted negative attitudes regarding rights compared to the other 4 regions. That said, such difference was only significant when compared to the Canal region which included the participants with the highest Att-ADD-R score.

More interestingly, participants who were diagnosed with ADHD were likely to have lower attitudes score regarding the rights compared to other participants who do not have mental disorders. In addition, neither the level of education nor being from the urban or rural area were significantly related to the attitudes regarding the rights after running the multiple regression.

The foregoing analysis of the sample (n=468) includes participants who watched only some episodes. That said, it has been a concern that these participants might have confused the results whilst no data is available regarding why these participants who watched some episodes did not continue watching the Ramadan Series. For instance, they could have just disliked the Series, i.e., an issue which might have influenced their attitudes.

Thus, I re-run the regression (n=359) after omitting the viewers who watched some episodes. The results then have demonstrated that the strong negative impact of the Series still holds, while even showing higher R-squared. On the one hand, a more significant difference appears between the attitudes of the participants who were informed about ADHD from the Series compared to those who knew about ADHD from 2021 trend at $**p < .01$, on the other hand, a less significant difference than before is shown between being informed about ADHD from the Series compared to already having knowledge about ADHD before the Series was aired at $+p < .10$.

In terms of control variables, except for the noticeable change in the significant level between participants from Alexandria and delta regions, the results of all other control variables with respect to the degree of significance still hold.

The fact of watching the Series as the independent variable:

In this regression, I tested the effect of the Series on the Att-ADD-R Scale by comparing the estimated coefficients with respect to the fact of watching the Series. The results showed that participants who watched many episodes of the Series were significantly less likely to have positive attitudes compared to those who watched only some episodes ($\beta = 1.29$ SE = .51, at $*p < .05$), and those who did not watch any episode at all ($\beta = .99$ SE = .45, at $*p < .05$).

With respect to the control variables, similar predictions were found. However, while being in the youngest group still predict a more positive attitude, the difference between those belonging to the youngest age group 17-22 vis-à-vis the other two groups showed in this regression model a less significant difference at $+p < .10$.

Again, I re-run the second regression (n=359) yet after omitting those who watched some episodes, the results demonstrated again that those who watched many episodes are more likely to have less positive attitudes than those who did not watch the Series at all ($*p < .05$), these results come also with higher R-squared. With regard to the control variables, except the for noticeable change in the significant level between participants from Alexandria and delta regions, all other confounding variables still show significant differences as before, yet with different levels of significance.

Overall, the above findings support hypothesis No. 3 which predicts that the Edutainment *Khali Balak Mn Zizi* has influenced the attitudes of viewers regarding the rights of people with ADHD, yet, the findings also reveal that such influence has been in the negative direction.

4.4. Discussion

4.4.1. Insights

In line with the strong evidence demonstrating the impact of Edutainment on socioeconomic outcomes, to the best of my knowledge, this study is the first to show specifically that Ramadan Edutainment can have significant effects on the social context related to the rights of people with invisible disabilities.

Doing a survey among participants from 5 different regions in Egypt revealed that *Khali Balek Men Zizi* has had significant effects on the knowledge, belief, and attitudes related to the rights of people with ADHD. According to the findings, 50% of the participants with ADHD reported that they have been diagnosed with ADHD by a psychiatrist because of the information they had gained after the Ramadan Series was aired. In other words, being aware of the impairment has triggered some of the audience to get a diagnosis, and thus they now might demand their formal rights.

As hypothesized and also in line with the above finding, the Ramadan Edutainment informed 58.5% of the participants about the existence of ADHD. This is an important finding also as the inclusion of people with ADHD and recognition of their formal rights would presume the awareness of the existence of the beneficiaries of these rights in the first place. This finding shed light as well on the quite poor informational environment before airing the Series while demonstrating the strong effect of the show on the audience's knowledge.

With respect to the belief and attitudes regarding the rights of people with ADHD, mixed results were detected. Participants who reported that they watched many episodes of the Series, significantly expressed more negative attitudes regarding the rights of people with ADHD, and reported lower belief that the law provides any rights for people with ADHD. Nevertheless, these findings support my general hypothesis that

the Edutainment could still influence the social context that determines the capability of people with invisible disabilities to demand and enjoy their formal rights.

While such results confirm the strong effect that Edutainment could cause, the distorting effects on the social conversion factors suggest the necessity for being cautious when designing Edutainment content. In addition, *Khali Balek Men Zizi's* effects on attitudes should be examined in line with the extensive literature on the dominant-negative influence of media depictions on mental illness (Sieff, 2003, Pirkis et. al 2006), and also with the findings that individuals with ADHD are considerably stigmatized (Lebowitz, 2013).

That said, it is of great importance also to note that Edutainment, in general, could change the expectations of people with invisible disabilities, as they might arguably expect after watching the Edutainment that more people around them would be aware of their needs and thus, their rights. For instance, after airing the Ramadan drama, people with ADHD could now share the impression that it is no longer a shame to seek mental health diagnosis if a sufficient number of people now share the same belief after watching the character in the Series seeking mental support.

Thus, Edutainment could change the expectations of the people with invisible disabilities about the norms that socially sanction them for being or doing differently from what the norm dictates, thereby normalizing behaviors such as seeking mental services or demanding entitlements.

4.4.2. Continuing effects

The impact of Edutainment is assumed to be not important if the results do not persist over time. Limited evidence of Edutainment is reported to have a long-term effect (La Ferrara 2016). Edutainment effects reported in La Ferrara 2016 vanish between one and six months. That said, the results of this study show that effects remain even after 10-11 months from the airing of the Series.

4.4.3. Limitations:

First, the present study was limited by the lack of official data needed to directly assess the impact of *Khali Balek Men Zizi* by comparing the actual demand for the rights before

and after the Series. Second, while the study assessed the knowledge about the existence of ADHD before and after the Series, nevertheless it did not measure the quality of knowledge. Thus, it would also be important in similar studies in Egypt to assess the quality of knowledge gained by the audience.

Additionally, the internal validity of the measurement developed to assess the attitudes was not examined due to the limitation of time. Thus, it is difficult to be confident that participants' attitudes are assessed correctly as part of them could have misunderstood the questions. Furthermore, the self-reported subjective results found in this study are still limited by the external validity threats including the small sample size and to what extent it's representative. For instance, the ratio between income classes in Table 1 of course does not represent the respective ratio in the population.

Last but not least, it's of great importance to highlight that even after controlling for many potential confounding variables, the results come with low R-squared; which makes it difficult to be confident about the reasons behind the variation as it still could be attributed to other several confounding factors including discussions, emotions, daily interactions, similar messages that viewers might have received from other sources...etc.

5. Conclusion

While formal rights written in legal instruments could be perceived as resources from the capability perspective, nevertheless, these rights do not necessarily form part of the individual capability set. Expanding human capabilities under the capability approach is a commitment of any good society (Robeyns, 2005, 2016). Thus, investigating the possible factors that could help in converting such rights into the capability set of individuals with a disability would be valuable to the disability scholarship.

This paper has argued that Edutainment has the power to expand the capabilities by influencing the social conversion factors that would ultimately determine the capability set of the individual, i.e. determine whether the individuals with invisible disabilities will demand their rights.

The effectiveness of Edutainment is tested by studying the impact of a specific Edutainment content on the social context. The findings indicate that the Series has

had a strong effect on the informational barriers by informing the public about the existence of ADHD, however, it had caused the viewers to be less supportive of the rights of the people with ADHD. On the one hand, the finding with respect to this content has shown distorting effects, thereby suggesting more caution when designing media content, on the other hand, the positive implication of these findings is that Edutainment still can be utilized to change knowledge, attitudes, beliefs, behaviors, and, thus the norms related to the rights of people with invisible disabilities.

To sum up, it's pointless to set out formal rights on paper without (a) considering the social context, and (b) having the effective mechanism to convert the rights on paper into real rights that could be actually enjoyed. In light of the technological revolution, Edutainment could complement the law and other policies to make these rights real.

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Appendix 1

Table: Bivariate analysis of factors associated with Att-ADD-R Scale:

	Distribution Method					Income			Gender		Marital Status		Have a Child	
	QR code		Link			Low Income	Middle Income	High Income	Male	Female	Never married	Married /Married before	No	Yes
n=						64	230	174						
β (SD)	26.17 (4.17)		26.79 (3.93)			27.54 (3.80)	26.09 (3.96)	26.94 (4.07)	26.94 (3.91)	26.38 (4.06)	26.63 (3.99)	26.47 (4.09)	26.09 (3.92)	27.56 (4.43)
P-value	0.1266					0.0135			0.1420		0.7329		0.1387	
	Region					Age			Urban or Rural		Psychology Exp		Disability Exp	
	Alexandria	Cairo & Giza	Canal	Delta	Upper Egypt	17-22	23–28	29-44	Urban	Rural	No	Yes	No	Yes
n=	37	199	29	181	22				365	103			427	41
β (SD)	25.10 (3.62)	26.21 (4.11)	27.31 (3.84)	27.1 (3.95)	27.04 (3.63)	27.61 (3.64)	26.07 (4.14)	26.08 (4.00)	26.27 (4.06)	27.79 (3.60)	26.57 (4.08)	26.75 (3.70)	26.61 (3.94)	26.56 (4.71)
P-value	0.0173					0.0004			0.0006		0.7148		0.9362	
	Education Level				Diagnosed				Relation					
	General Sec.	Bachelor	Master	PhD	No diagnosis	Prefer not to say	Diagnosed with ADHD	Diagnosed with other disorder	family member you live with	Friend /Family member but don't live with them	Do not know anyone personally	know someone but neither a friend nor a family member.		
n=					399	23	8	38						
β (SD)	27.40 (3.60)	26.36 (4.16)	25.94 (3.95)	28.16 (2.92)	26.79 (3.96)	25.95 (3.62)	23.75 (5.65)	25.60 (4.05)	25.91 (5.06)	26.35 (4.12)	26.70 (3.80)	26.63 (4.52)		
P-value	0.0412				0.0466				0.7666					

Appendix 2

We invite you to participate in a scientific study prepared by a researcher at the University of Hamburg and Cairo University.

ندعوكم للمشاركة في دراسة علمية معدة من قبل باحث بجامعة هامبورج وجامعة القاهرة.

The identity of the participant in this study is unknown beforehand and will remain so, and all data collected will be treated confidentially.

هوية المشارك في هذه الدراسة غير معلومة لدينا مسبقًا وستظل كذلك، علمًا بأن جميع البيانات التي ستجمع ستعامل بسرية.

Participation will not take more than a few minutes of your time, and in return, you will have the chance to win free legal advice, which will be offered to 10 participants in this study.

ستتطلب منكم المشاركة الجواب على بعض الأسئلة التي لن تستغرق من وقتكم أكثر من عدة دقائق، وفي المقابل سيكون أمامكم فرصة للحصول على استشارة قانونية مجانية ستقدم لعشرة أشخاص من المشاركين في هذه الدراسة.

Do you agree to participate in this study?

هل توافق على المشاركة في الدراسة؟

- Agree
 Do not Agree

- أوافق
 لا أوافق

The survey

Disclaimer: This survey link is for one-time use, and it is impossible to return to a question that has already been answered.

الاستبيان

تنويه: رابط هذا الاستبيان صالح للاستخدام مرة واحدة فقط، ومن المستحيل العودة لسؤال سبق إجابته.

If you are ready now, please get started and answer the following questions,

إذا كنت مستعد الآن، برجاء البدء والإجابة على الأسئلة التالية،

Please pay attention when answering all questions; to help us reach sound scientific results.

نرجو الانتباه عند إجابة جميع الأسئلة؛ لتساعدنا في الوصول لنتائج علمية سليمة.

Part One

الجزء الأول

What is your Gender?

- Male
 Female

ما هو نوعك الاجتماعي؟

- ذكر
 أنثى

How old are you in years?

كم عمرك بالسنوات؟

What is your marital status?

- Married
 Widower

ما هي حالتك الاجتماعية؟

- متزوج
 أرمل

- Divorced
 Have never been married before
 If _____, then?

Do you have children enrolled at school?

- Yes
 No

- مطلق
 لم تتزوج من قبل
 إذا كانت الإجابة _____، إذا؟
 هل لديك أطفال مقيدين في مدرسة حالياً؟

- نعم
 لا

In which governorate have you spent most of your life?

في أي محافظة قضيت معظم حياتك؟

Do you live in an urban or rural area?

- Urban
 Rural

هل تعيش بالريف أم المدينة؟

- الريف
 المدينة

What is the highest academic qualification have you obtained?

- Only literate
 Obtained a primary school certificate
 Have a high school diploma or its equivalent
 Bachelor
 Master
 PhD

ما هو أعلى مؤهل دراسي حصلت عليه؟

- متعلم القراءة والكتابة فقط
 حاصل على الشهادة الابتدائية
 حاصل على شهادة الثانوية العامة أو ما يعادلها
 حاصل على البكالوريوس أو الليسانس
 الماجستير
 الدكتوراه

In general, how would you classify the economic situation of your family?

- We struggle to buy what we need, and there's no money left to save.
 We can buy most of the things we need, but there is very little money left to save.
 We can buy the things we need, and we can save some money.

بشكل عام، كيف تُقيم الوضع الاقتصادي لأسرتك؟

- نحن نعاني من أجل شراء ما نحتاجه، ولا يتبقى أي مال للادخار
 نستطيع شراء أغلب الأشياء التي نحتاجها، ولكن لا يتبقى إلا القليل من المال الذي يمكن أن ندخره.
 نستطيع شراء الأشياء التي نحتاجها، ونستطيع إيداع بعض المال

Part Two

Now we will present the survey questions:

Please note that there is no "correct" or "wrong" answer to these questions, but the goal is only to know the real opinion of the participants:

Please indicate the extent to which you agree or disagree with each of the following:

الجزء الثاني

والآن سنعرض أسئلة الاستبيان
 يرجى الانتباه إلا أنه لا توجد إجابة "صحيحة" وأخرى "خاطئة"
 على هذه الأسئلة، وإنما الهدف فقط هو معرفة رأي المشاركين الحقيقيين.

يرجى إضاح مدى موافقتك أو عدم موافقتك على كل عبارة مما يلي:

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

(أعترض بشدة، أعترض، لا أوافق ولا أعترض، أوافق، أوافق بشدة)

Measuring the attitudes toward the rights of people with ADHD

قياس توجه الأفراد نحو حقوق الأشخاص المصابين بنقص الانتباه وفرط الحركة

- 1) People with Attention Deficit Hyperactivity Disorder (ADHD) do not deserve support and protection from the People with Disabilities Act as the latter law should be limited to the psychical disability only. (1) لا يستحق الأشخاص المصابون باضطراب فرط الحركة ونقص الانتباه (ADHD) الدعم والحماية بواسطة قانون حقوق الأشخاص ذوي الإعاقة؛ فهذا القانون يجب أن يقتصر على الإعاقة الجسدية فقط.
- 2) The state should allocate part of the education budget to equip public schools and universities to guarantee the education of People with Attention Deficit Hyperactivity Disorder (ADHD). (2) يجب على الدولة تخصيص جزء من ميزانية التعليم لتجهيز المدارس الحكومية والجامعات بما يضمن تعليم المصابون باضطراب فرط الحركة ونقص الانتباه (ADHD).
- 3) It is better that schools and universities should have the full discretion to refuse to accept Students with Attention Deficit Hyperactivity Disorder (ADHD). (3) من الأفضل أن يكون للمدارس والجامعات مطلق الحرية في رفض قبول الطلاب المصابون باضطراب فرط الحركة ونقص الانتباه (ADHD).
- 4) It is better for a person with Attention Deficit Hyperactivity Disorder (ADHD) to get a discount on public transportation tickets. (4) من الأفضل أن يحصل الشخص المصاب باضطراب فرط الحركة ونقص الانتباه (ADHD) على تخفيض في سعر تذاكر المواصلات العامة.
- 5) It is better to grant people with Attention Deficit Hyperactivity Disorder (ADHD) a tax privilege compared to people without ADHD. (5) من الأفضل أن يتمتع الأشخاص المصابون باضطراب فرط الحركة ونقص الانتباه (ADHD) بامتياز فيما يتعلق بدفع الضرائب على الدخل مقارنة بالأشخاص غير المصابين.
- 6) Persons with Attention Deficit Hyperactivity Disorder (ADHD) should be included in the 5% portion dedicated to employing People with disabilities. (6) ينبغي إدراج الأشخاص المصابون باضطراب فرط الحركة ونقص الانتباه (ADHD) في نسبة الخمسة في المئة (5%) المخصصة في القانون لتوظيف الأشخاص ذوي الإعاقة.
- 7) The state is responsible for supporting people with Attention Deficit Hyperactivity Disorder (ADHD) to find appropriate job opportunities. (7) على الدولة مسؤولية في أن تساعد وتؤهل الأشخاص المصابين باضطراب فرط الحركة ونقص الانتباه (ADHD) لإيجاد فرص العمل المناسبة.
- 8) People with Attention Deficit Hyperactivity Disorder (ADHD) should not hold public offices. (8) يجب ألا يشغل الأشخاص المصابون باضطراب فرط الحركة ونقص الانتباه (ADHD) الوظائف الحكومية.
- 9) Persons with Attention Deficit Hyperactivity Disorder (ADHD) must be considered in terms of the (9) يجب مراعاة الأشخاص المصابون باضطراب فرط الحركة ونقص الانتباه (ADHD) من حيث حجم وعدد ساعات العمل المطلوبة منهم.

amount and number of hours they are required to work.

- 10) A private employer should have the right to refuse to hire people with ADHD even if they are the most qualified to do the work.
- 11) We assure you once again that there is no "correct" and "wrong" answer, but the goal is only to know your opinion, and we ask you to choose "I agree" in front of this item.

10) ينبغي أن يكون لصاحب العمل الخاص الحق في رفض توظيف المصابين باضطراب فرط الحركة ونقص الانتباه (ADHD) حتى ولو كانوا الأكثر تأهيلاً للقيام بالعمل.

11) نؤكد لك مرة أخرى إلا أنه لا توجد إجابة "صحيحة" وأخرى "خاطئة" وإنما الهدف فقط هو معرفة رأيك، ونرجو منك اختيار "أوافق" أمام هذا البند.

Part Three

Have you watched *Khali Balak Mn Zizi* tv series?

- I watched a few episodes
- I haven't watched this series
- I watched a large part of the series

How did you hear about ADHD?

- From watching the series *Khali Balak Mn Zizi*
- Because of the trend and media talk in 2021 and 2022
- I heard about this disorder and I know it very well for years and don't remember
- I've never heard about it before

If "Because of the trend and media talk in 2021 and 2022" then

what is the media source?

- Talk Shows (Talk Show)
- Press news
- Videos on Tik Tok
- Posts on Facebook
- Other way

If "Other way", then

What is the other way? Please clarify?

Have you ever been diagnosed with ADHD or another Psychiatric disorder before?

الجزء الثالث

هل شاهدت مسلسل خلي بالك من زيزي؟

- شاهدت القليل من الحلقات
- لم أشاهد هذا المسلسل
- شاهدت جزء كبير من المسلسل

كيف سمعت عن اضطراب فرط الحركة ونقص الانتباه (ADHD)؟

- من مشاهدة مسلسل خلي بالك من زيزي
- بسبب الترنند وحديث وسائل الاعلام في عام 2021 وعام 2022
- سمعت عن هذا الاضطراب وأعرفه جيداً منذ سنوات ولا أتذكر
- لم اسمع عنه من قبل

إذا كانت الإجابة "بسبب الترنند وحديث وسائل الاعلام في عام 2021 وعام 2022"، إدا؟

- وما هي وسيلة الإعلام؟
- برامج حوارية (توك شو)
- أخبار الصحافة
- فيديوهات على التيك توك
- منشورات على الفيسبوك
- طريق آخر

إذا كانت الإجابة "طريق آخر"، إدا؟

ما هو الطريق الأخرى؟ برجاء التوضيح؟

هل سبق أن تم تشخيصك باضطراب فرط الحركة وتشتت الانتباه أو بإعاقة نفسية أخرى من قبل؟

- I was diagnosed with ADHD.
- I was diagnosed with another psychiatric/mental disorder.
- I haven't been diagnosed with any of the above.
- Prefer not to say.

- تم تشخيصي من طبيب باضطراب فرط الحركة وتشتت الانتباه (ADHD)
- تم تشخيصي من طبيب باضطراب نفسي/عقلي آخر
- لم يتم تشخيصي من طبيب بأي شيء من المذكور
- أفضل عدم الإجابة

Do any of these have ADHD?

- A family member you live with.
- A friend or family member but you don't live with them.
- I know someone but he is neither a friend nor a family member.
- I do not know anyone personally.

- هل أحد من هؤلاء ممن تعرفهم تم تشخيصه بالفعل من طبيب باضطراب فرط الحركة ونقص الانتباه (ADHD)؟
- أحد أفراد أسرتي الذين أعيش معهم (تم تشخيصه من طبيب)
- صديق أو أحد أفراد أسرتي ولكي لا أعيش معه (تم تشخيصه من طبيب)
- شخصًا أعرفه جيدًا ولكنه ليس صديقي ولا أحد أفراد أسرتي (تم تشخيصه من طبيب)
- لا أعرف أي أحد بشكل شخصي

You are at the last part of the survey; Please choose "strongly disagree" to this question

- Neither agree nor object
- Agree
- Strongly agree
- Strongly disagree
- disagree

- أنت في الجزء الأخير من الاستبيان؛ ونرجو منك اختيار "أعترض بشدة" على هذا السؤال
- أعترض بشدة
- أعترض
- لا أوافق ولا أعترض
- أوافق
- أوافق بشدة

Do you have any previous professional or academic experience in the field of psychology or psychiatry?

- Yes
- No

- هل لديك أي خبرة مهنية أو دراسية سابقة في مجال علم النفس أو الطب النفسي؟
- لا
- نعم

Please write what is your experience in the field of psychology or psychiatry in three words?

برجاء كتابة ما هي خبرتك في مجال علم النفس أو الطب النفسي في حدود ثلاث كلمات؟

Do you have any previous professional or scientific experience in the field of disability?

- No
- Yes

- هل لديك أي خبرة مهنية أو علمية سابقة في مجال الإعاقة؟
- لا
- نعم

Please write what is your experience in the field of disability in three words?

برجاء كتابة ما هي خبرتك في مجال الإعاقة في حدود ثلاث كلمات؟

Do you think that the Law of People with Disabilities in Egypt provides rights to protect and support people with Attention Deficit Hyperactivity Disorder (ADHD)?

- No
 Yes

هل تعتقد أن قانون الأشخاص ذوي الإعاقة في مصر ينص على حقوق لحماية ودعم المصابين باضطراب فرط الحركة ونقص الانتباه (ADHD)؟

- لا
 نعم

Thank you for your participation in this study; Please click below to finish or enter your email if you want to enter the prize draw or if you want to receive a free copy of the study when it is written

شكراً على مشاركتك في هذه الدراسة؛ برجاء الضغط ادناه للإنتهاء أو إدخال بريدك الإلكتروني إذا أردت الدخول في السحب على الجائزة أو إذا أردت استلام نسخة مجانية من الدراسة عند انتهائها.