

AN ABSTRACT OF THE THESIS OF

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Abstract Body

Purpose

In modern American society, educational television (ETV) plays an increasingly substantial role in the daily out-of-classroom education of the American youth and the decision to utilize youth based ETV is often in the hands of parents. However, many parents are unaware of the potential risks associated with early childhood exposure to television. The purpose of this study is to conduct a literature review of studies regarding these risks and propose an alternative rating policy.

Methods

The general approach of this project will follow the method of a policy challenge and reform framework. First, a survey study of the most current and relevant research literature regarding the effect of youth based educational television and the policies involved in its promotion was conducted. The second step of this project was to formulate a policy framework on the topic and utilize this as a means of challenging the status quo and promoting policy reform.

Major Findings and Substantive Conclusions

Early childhood exposure to television was found to pose a considerable potential risk to cognitive development and this study found that a proposal to amend the FCC rating system to reflect these concerns is warranted.

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An Investigative Study of Government Promotion of
Youth Based Television Programming in the United States

By

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I understand that my project will become part of the permanent collection of Oregon State University, University Honors College. My signature below authorizes release of my project to any reader upon request.

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Acknowledgment of Author

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Introduction

Television has been an integral part of American life for 60 years. For many, it is the source of our entertainment, our news, and even our education. With the increasing prominence of television and televised programming since its early years there also has been a wave of criticism toward these programs ranging from personal objections to scientific claims of physical detriments. Often criticism is given towards programs that promote violence, criminal behavior, and other socially unacceptable behaviors with the claim that people who view such programming are more likely to emulate these actions ^[1]. Other claims have been made towards the physical effects of chronic television viewing, that we have become a “coach potato” generation and may suffer from the effects of sedentary lifestyles and other physical detriments ^[2]. However despite the criticism, there are many proponents of televised programming who note the advances in communication and education that television has brought to American society. In general there is much controversy surrounding this issue with both sides having valid arguments.

However, a topic that is not often discussed regarding television is the effect that Youth-Based Educational Television has on the educational and cognitive wellbeing of the very youngest of Americans. Television programs designed specifically for children under the age of seven have been a popular focus of both public programming and private television networks. Children of all ages view programs such as *Sesame Street* and *Mr. Rodger’s Neighborhood* which have gained critical acclaim as educational supplements; however, few have taken the time to question the effect that such programming has on children under the age of two ^[3]. Though it might seem obvious that televised programs

featuring education material is “good for kids,” some substantial evidence exists to propose that the cognitive detriments involved in early childhood exposure to television outweigh any possible benefit for children in this age group ^[4]. In recent years this has become an issue of great concern with many parents facing the decision of whether or not to place their children in front of the television screen. However, the current Federal Communications Commission (FCC) rating and promoting policy does not address these concerns specifically, with a policy that does not differentiate between children ages 0-2 from ages 0-6 years ^[5].

In this study, an analysis of the research regarding the true effect of youth based educational television will be conducted and an alternative policy towards revisions to the current rating and promoting policy will be proposed. In the first portion of this study, extensive analysis will be made of the background behind youth based educational television. The evolution of televised programming and the policies that developed around it will give crucial insight towards the understanding the nature of the programming in question and allow for a more complete and thorough evaluation of the current FCC rating policy and possible changes that could be enacted. In the second portion of this study, we examine various research studies both supporting and refuting the claimed positive benefits of youth based educational television and research regarding adverse effects resulting from early childhood exposure to television. We will examine studies showing that youth based educational programming does yield beneficial effects as well as studies by researchers such as Healy, Kubey, Thomson, and Christakis whose results indicated that negative cognitive developments may be related to early exposure to

television ^[2]. A brief analysis of the theories behind government promotion policy will also be made. Throughout this study, a literature review of these primary research articles will be conducted and an alternative FCC rating policy will be proposed based upon this analysis.

Approach

The following study consists of two primary components: an intensive literature review intended to inform readers of the most current research in the field of Youth-Based Educational Television and an original policy reform proposal in the form of an alternative policy plan. In this study all research was conducted as literature review of research conducted by other organizations. In this approach, no primary research was conducted by any of the researchers working on this study apart from the formulation of the alternative policy. The alternative policy that was formulated after careful consideration of the existing literature is original work of the researchers.

This study was conducted as an intensive review of literature both for and against the use of youth-based educational television as well as a review of the literature regarding current promotion policy by the Federal Communications Commission. This was done with the intention of formulating an alternative policy that would address the major concerns of both sides of this issue as well as propose a working solution that could feasibly be implemented. It was of paramount importance that throughout this research that the study remain as unbiased as possible and steps were taken to reduce the impact of personal bias on the part of the researchers.

The first measure that was taken was to devote large sections of the study analysis to arguments from both proponents and critics of youth based educational programming.

The second step was to discuss in detail the portions of the alternative policy that would be

favorable or disadvantageous to either side. This was done in an effort to demonstrate that the alternative policy seeks to be a non-partisan compromise on this controversial issue.

That being stated, the primary inspiration of this policy reform proposal is the scientific evidence regarding the effect of ETV on children and the rationale behind the decisions of this policy are based primarily on valid research literature.

The primary goal of this study's researchers is to provide a solution that best addresses the cognitive wellbeing of children and the right of the parents to make informed decisions regarding their child's exposure level to televised programming.

Background

The Evolution of Televised Programming

Since its early development in 20th century the television has revolutionized the way of life for Americans across the nation. In the early years of the evolution of televised programming, one of the main functions of television was to broadcast news updates and the number of entertainment programs was limited ^[6]. In modern society; however, the entertainment industry has become a superpower in the field, with several notable news and educational programs interspersed in this wave ^[7]. In order to fully understand the rationale for this paper's proposed policy change, it is imperative to understand the history behind both the development of television programs as well as their promotion. The growth of technology and role of television throughout the years is undeniable; however, the question of how society has responded to these changes is of interest in our discussion regarding the promotion policies enacted to regulate this revolutionary technology.

The Promotion Policy of Televised Programming

The earliest television programs were primarily news broadcasts and did not specifically require much promotion apart from the promotion for early television sets ^[8]. However as later models of television sets became more affordable and common to the average American household, the number of programs as well as variation of their content grew greatly. With increased options for viewers, the need for promotion of specific programs by producers became a natural need in order to ensure ratings. With the rapid increase in the importance of this type of promotion came the need to enact regulating policies toward promotion methods.

The Development and Research of Early Government Produced Televised Programming

In the United States, commercial television sets became widely available only after the Second World War and this technology arose from several previous technological advances ^[8]. From the telephonoscope developed in 1878 which was the first electrically powered transmission device for television images to John Logie Baird's televisor model which was the first fully electronic color television tube, the development of the first fully functional television set was the culmination of decades of technological advances from a number of prominent minds ^[9]. The television set was not uniquely created and distributed in the United States and a number of the earliest televised programs were developed by foreign governments and companies; however, for the purpose of this study, the first televised programs within the U.S. serve as best source of insight and should be examined in detail. The first regularly broadcast television program was through the experimental station W3XK Federal Radio Commission which was regulated by the Federal Communications Commission ^[10].

These early programs served more of an experimental role and were not specifically audience oriented programs. The earliest broadcast programs were released by the BBC in the late 1920s and early 1930s whereas the first national broadcast in the U.S. was President Truman's 1951 speech on the Japanese Peace Treaty Conference ^[11]. Following this time period, an increase in the amount of viewership occurring after the Second World War was observed and some historians attributed this increase to the "Baby Boomer"

generation which corresponded to a period of great growth in the number of television sets per home ^[6].

The history of televised programming, while useful in our analysis of current media ratings and promotion, serves primarily as an introduction leading into a discussion of the history of television broadcasting regulations. In this area, the key organization to examine is the Federal Communication Commission. The Federal Communication Commission, which is a government agency established by the Communications Act of 1934, is responsible for regulating radio, television, wire, satellite, and cable communications ^[5]. The FCC is comprised of a series of bureaus and offices headed by a committee of five commissioners appointed by the president and approved by the senate ^[5]. The FCC is integral to addressing the issue of rating systems and permissible promotion practices and has been the major contributor to media regulation for nearly a century. Thus any reform of the current rating system for youth based programming and the promotions utilized by programmers would have to be submitted to and accepted by the FCC.

Having briefly taken into consideration some of the background information media, it is now possible to conduct an overview of the various theories regarding the effect of television on society and issues with the current promotion and rating policies. Important to keep in mind is the difference between public and private promotion as well as the similarities they share. Regulatory laws generally apply to both types of promotion; however, public institutions may have additional standards that they must adhere to in their programming and how they can advertise their broadcasts ^[5].

The Development of Educational Television

Understanding the history of educational television provides further insight on the topic of youth based educational television and its effect on its target audiences. Prior to the reclassification of most educational television programs to “public television” most ETV programs were broadcast commercially, usually in association with a university or other learning institution ^[7]. One of the principle concerns with early ETV programs was the lack of funding necessary to maintain ETV channels and faced difficulty in justifying its reservation of spectrum space ^[7]. The continuation of ETV into the latter half of the 20th century is often attributed to the Public Broadcasting Act of 1967 which amended the Communications Act of 1934 to incorporate ETV programs as public broadcasting ^[7]. The Public Broadcasting Act of 1967 also served to add various requirements and standards to broadcast ETV programs to educate in both cultural and academic fields.

Early Successes in Youth Based Educational Television

Among one of the earliest and certainly one of the most successful youth based educational television programs was *Sesame Street*, which premiered in 1969. *Sesame Street* is arguably one of the most prominent programs in the history of American television and is the most widely broadcasted ETV program in the world ^[12].

Sesame Street has earned numerous awards including over fifty Emmy Awards since its creation over four decades ago ^[13]. The program was created by the Corporation for Public Broadcasting as an experimental program to test out the newly emplaced Public

Broadcasting System and has served as an icon for future programs of this genre ^[7]. The principles behind *Sesame Street* revolved around providing program material for audiences age 2-5 years old that would prepare young children to enter the school system ^[12]. In his book, *The Guide to United States Popular Culture*, Pat Brown describes *Sesame Street* as innovative for two reasons ^[13]. The first is its utilization of “fast-pace editing, animation, slapstick humor, puppets, and attention-getting music and visuals” to hold the attention of youth audiences ^[13]. The second is its successful combination of educational and entertaining material. While *Sesame Street* is undoubtedly one of the most successful programs in its genre as well as in general, it and programs similar to it have received criticism. In particular, the program’s ability to fix the attention of very young children to a single televised source for extended periods of time has been of concern to child cognition scientists ^[3,14].

The philosophy behind youth based ETV programming has been deeply influenced by the example that *Sesame Street* has set. Many of the basic principles, such as presenting educational material in an entertaining manner and utilizing attention getting techniques designed for youth audiences, are seen throughout modern youth based ETV programs. However, various adaptations have been made due to introduction of new educational material, ranging from social skills to bilingual content. The spectrum of youth based ETV has grown since 1969 and new techniques of delivering educational content have been developed but the underlying foundational principles of this programming have been maintained ^[12].

Theory

Introduction to Theories in Favor of Youth Based

Education Programming

The development of youth based educational programming has been remarkably fast paced throughout the past few decades, with programming reaching a wider audience base and adopting various focuses in educational content ^[7]. Organizations responsible for broadcasting public educational programming have received increased financial support, both from government and from private sponsors, in efforts to foster the growth of this revolutionary programming ^[8]. As with any highly celebrated program, there are many proponents of youth based educational television who state numerous advantages and benefits for American society. These range from its pure educational value for target audiences to its role as a safe haven from violent animated programming that have been highly criticized for their role in reinforcing the ideals of violence in young audiences ^[11]. Yet with more children viewing televised programming at younger ages, concern regarding the net benefit of youth based educational programming has been rising. Some critics claim that youth based educational programming does not convey any true benefits as an educational, social, and developmental resource that outweigh the risks involved ^[15]. Proponents of the programming have disagreed with these claims, proposing several theories supporting each of these aspects of youth ETV's worth.

Theories Supporting the Value of Youth Based Educational Programming

The most widely acclaimed value of youth based educational programming has been its utilization as a learning supplement and educational resource ^[16]. Programs such as

Sesame Street are dedicated to introducing both educational and social learning material for children at a young age and have been widely praised as an all around better alternative to non-educational youth targeted programming ^[7]. Current youth ETV programs are thus advertised as such; however, some critics claim that this is an inaccurate depiction of the programming based on the collected evidence and research results relating to the programming ^[15]. In this regard, while ETV programs may clearly be airing educational material, the question of whether or not any of the broadcasted material is retained by youth audiences is more controversial. Researcher John Thomson found evidence to support the claim of proponents of youth based ETV for children in grades 4-6, concluding that ETV programming does convey knowledge and material that can be retained by students in this age group ^[17]. However, there are little if any studies that can strongly indicate that the same benefits can be applied to children under the age of three. Additionally Thompson found that teachers responded favorably toward the programming, possibly due to it being method of conveying knowledge without extensive reading on the students' part ^[17]. Nevertheless, these findings grant credibility to ETV programmers despite its inconclusive nature.

Theories Supporting the Value of Youth Based ETV as a Social Development

Resource

Having discussed the theories and research in support of youth based educational programming, it is imperative to also examine the theories refuting this programming as well. The topic of the effect of television exposure, let alone exposure to youth, has been a topic of intense controversy. Over the past three decades, a wave of criticism of

televised programming has surfaced with many critics focusing on different aspects of the programming in their arguments. Among these include the effect that ETV has on the educational development, the social development, and the cognitive development of young children^[18]. The theories of interest to this research project almost exclusively involve research on the effect of youth based educational television on the cognitive and mental development of young children; however, it is important to discuss the other sources of criticism as it provides clarity to the topic as a whole and allows for later considerations of risk over benefit analysis which can not be done without considering the programming as a whole.

In particular, the topics of youth exposure to violence from televised programming and subsequent health complications from such exposure are a high concern. In September 1999, the Senate Committee of the Judiciary published a summary of their findings reporting that “by the age of 19 an American child will have seen 16,000 simulated murders and 200,000 acts of violence” and that “television alone is responsible for 10% of youth violence”^[1]. The University of Michigan Health System, which presents a literature review of the effects of television on youth health, have reported that “17% of overweight, 15% of raised serum cholesterol, 17% of smoking, and 15% of poor fitness can be attributed to watching television for more than 2 hours a day during childhood and adolescence” after controlling for confounding variables^[3]. Combined now with data suggesting that television exposure could be a cause of cognitive disorders, it seems that a promotion policy that allows marketers to continue to explicitly target vulnerable youth audiences without any mention of the risks involved is outdated^[3].

Before proceeding to a discussion the data obtained in regards to the effect of youth based ETV on cognitive development, an understanding of how data should be read is crucial. The current data and estimates of average media exposure can appear inconsistent across a variety of sources due to subtle differences in measuring paradigms utilized by researchers. For that reason it is useful to gain an understanding of these various definitions and how they affect the data presented. Measurements of youth based educational videos, often referred to as “baby videos,” viewed by infants do not measure total television viewed by these children and will appear to be less than measurements of total screen media viewed by the same population. The term screen media refers to any type of media viewed from a screen including computers, movies, and video games in addition to televised programs^[19]. For this reason, studies measuring total screen time will appear to have larger estimates than studies measuring specifically televised programming viewed. The last type of measurement paradigm examined in this study is the measurement of entertainment media, which includes audio media as well as video media. These studies will have the largest estimates due to these additional inclusions as well as the tendency of researchers to factor in ‘media multitasking’^[4].

In addition to variations in measurement paradigms, often data and estimates vary depending on how they are presented. Some studies will calculate averages based entirely on their subject pool, others will make estimates of an entire population based on sample data intended to be representative of the whole^[2]. Additionally, some estimates of average viewership are made for a fraction of the total population, which serves mostly to increase

the apparent size of the estimate as an average could be derived for the total population just as easily ^[2]. Understanding these techniques which are frequently employed will allow for a more complete and less biased view of the issue at hand. A nonpartisan approach to policy reform is integral to making a truly worthwhile change and the principle objective of the literature review conducted by this study is to determine not only whether or not reform should be made but also the exact extent to which it is necessary. It can not be over emphasized that this topic is still a controversial one and as compelling as the evidence may seem, it must be acknowledged that exposure to televised programming and screen media has not been definitely proven to have a causal relationship to cognitive development disorders.

The design and development of youth based educational programming plays a large part in determining its value as an educational resource. When criticism of the educational aspects of this programming arises, it is usually met with a considerable amount of resistance, as there exists evidence to suggest that there is an educational value in these programs ^[7]. Our earlier consideration of such conducted studies has shown that it is possible to learn new material from television programs. However, critics often note that while it is possible for audiences, both children and adults, to retain new information and material from these programs, this is not the preferred means of learning ^[15]. In her book *Endangered Minds*, Dr. Healy discusses the effect that the youth based educational television programs have had on learning and correlates this to the “death of reading” ^[2]. Many educational television programs, while able to confer skills in memorization of information, word pronunciation, and basic mathematics to young audiences, are unable to

adequately represent higher order literacy skills such as writing, critical reading, and literary analysis. Dr. Healy notes marked decreases in verbal SAT scores with each new generation of students, while slight increases in performance for basic mathematics have been observed ^[2]. Additionally the reading proficiency of high school graduates has decreased substantially throughout the past few several decades, with some studies indicating that as many as 50% of community college students (from the sample) enroll with a below 9th grade reading proficiency ^[2]. Dr. Healy proposes the notion that while many young people, approximately 90%, are able to read simple material, there exists a crisis in respect to higher order reading skills and reading comprehension ^[2]. Part of the issue is that reading is often resented by modern day students as “boring” and “not worth the time.” When students attempt to learn material without reading, they may achieve their goal; however, choosing to neglect frequent reading renders students unpracticed in doing so. While evidence supports the claims that ETV does confer useful knowledge and skills, it is also probable that it is one of the perpetrators in the shift away from reading, though it is in no way the only one.

The topic of youth based ETV’s value as a social development resource has been a hotly contested subject for many years, with substantial evidence on either side of the issue. Critics of this aspect of youth based ETV often claim that while the programs aired are educational and are focused on teaching moral lessons, it can not serve as a substitute for real human interaction ^[2]. Furthermore, others have claimed that the use of educational television to promote social and moral values, particularly by government broadcasting organizations, presents an ethical dilemma as well. “*Postcards from Buster,*” an episode

from the popular children's program, *Arthur*, drew criticism from certain critics who felt that the program had overstepped its authority by presenting a potentially biased depiction of a controversial issue ^[20].

Over the past two decades, scientific research has led to an increase in circumstantial evidence regarding the effect that exposure to televised programming has on youth cognitive development. Studies of this nature typically involves measuring encephalographic waveform activity through EEG or national longitudinal surveys and most evidence seems to suggest that television exposure, of any kind, has a detrimental effect on cognitive development ^[21]. This research was primarily focused on the effect of television exposure in general and are not specifically focused on child development. These findings have led some scientists to suspect early exposure to televised programming to be a potential promoter of the disease autism and attention deficiency disorder, however this claim has not been definitely verified. The primary issue regarding the acceptance of these findings has in the past, as it is now, been the inconclusive nature of the studies conducted. To a certain extent, this is unavoidable due to the inability to isolate subjects for testing. Most studies conducted involve national longitudinal surveys with thousands of participants, all influenced by factors aside from television exposure, over the course of years and it is not practical to isolate every subject from interfering factors for years at a time ^[22]. In this regard the true effect of youth exposure to televised programming can not be proven, only suggested by large amounts of circumstantial evidence.

Many theories as to the cause of cognitive disorders have been presented, from poor nutrition to chemical exposure, and the notion that television exposure could be another cause of these disorders must compete with these other possibilities as well ^[23]. It is quite possible, indeed, that a combination of several factors contribute to youth cognitive disorders which further confuses the issue. Nonetheless, the standpoint of many researchers and health organizations, such as the American Pediatrics Society, is to discourage early exposure to television of any kind because the circumstantial evidence, while not conclusive, strongly suggests that this exposure has a role in decreasing developmental wellbeing of young children [23].

In her book *Endangered Minds: Why Children Don't Think and What We Can Do About It*, Dr. Jane Healy discusses the basis behind this theory in terms of normal youth cognitive development and the effect that television exposure has on this development ^[2]. In the developing brain of an infant, the process of narrowing down of useful neuropathways is an important step. The human brain has trillions more neurons than it will have as an adult and during the first few years of a child's life, the shaping of the brain is a critical period ^[2]. Dr. Healy explains the development of the early brain in her book as:

“You might envision the newborn brain as a large mass of clay that has been formed in a rough template of a final product. On it, the environment acts as a sculptor. The types of stimulation that enter the brain determine to a great extent which material remains and which is shaved off and swept away from the studio floor. During sensitive

periods, certain areas in the mass are temporarily warmed and soften, thus becoming more amenable to the environmental sculptor's life.

This process occurs quite automatically for the most part. Since the child can't possibly process all the available stimuli, he or she selects what is most interesting or personally relevant, thus building connections in the related brain systems." Pg74 ^[2]

The type of stimulus that parents provide their children has a great deal of significance on the early development of their brains and the diversity of stimuli that any one child experiences helps to give individuality to the child ^[24]. However, if the right stimuli for key areas of cognitive development are not available, growth of these areas can not take place. Concerns with the introduction of the youth based televised programming as a substitute for other activities that a child may undergo include the exclusion of stimuli for certain key areas of the brain, in particular those associated with higher order skills, the suppression of neural activity, and superficial cognitive development due to the fast paced nature of most youth based programs.

In her chapter "*Sesame Street* and the Death of Reading," Healy explains that programs such as *Sesame Street*, while emphasizing letter and word recognition, disregard language comprehension ^[2]. Parents who place their children in front of youth based ETV programs as a substitute for parent to child interactive learning sacrifice essential stimuli required by growing minds. As a result, many children may learn to read out loud at an early age but lack the ability to understand the literature that they pronounce, a higher order

cognitive skill. The second concern regarding the suppression of neural activity is equally important as there is evidence to suggest that exposure to televised programming may cause this result. The third concern regarding the speed and volume at which stimuli is presented youth based ETV is also pertinent. Healy notes that “youngsters who are hurried from one activity to another may get lots of sensory input but be shortchanged on the time-consuming process of forming association networks to understand and organize experience meaningfully”^[2]. Most youth based education programs utilize fast paced editing to keep the attention of youth audiences meaning that it is often more accurate to describe such programs as bombarding children with stimuli rather than providing opportunities for growing minds to experience and learn sufficiently.

Theory Behind Government Promotion of Televised Programming

The topic of government promotion of televised programming, specifically in this case youth based ETV, is a controversial one. Government promotion refers to the promotion and rating of publicly broadcasted programs. While there are many areas of research for this topic from economics to airing times, this report will focus primarily on the area of the social and ethical standards involved. Before any evaluation of the status quo policy’s ability to adhere to these standards can be made, it is pertinent to review the provisions from which such standards arise. In 1967 the Public Broadcasting Act set forth a set of guidelines pertaining to government broadcasting and promotion of broadcasted programs^[7]. This act is known principally for the foundation of organizations such as the Corporation for Public Broadcasting, the Public Broadcasting Service, and the National Public Radio^[7]. The criteria for these institutions include unbiased and non-partisan

broadcasting and the requirement of improving education standards in the United States. However, whether or not these institutions have fully upheld these criteria throughout the years has been a subject of criticism. In past accusations of ethical violations, the nonpartisanship of these institutions has been challenged as instances of corporate scandal, airing of controversial material, and questionable political donations surfaced. An example of such can be seen from the 1998 investigation of PBS financial records by the U.S. Congress under committee member Bill Paxon, where official IRS forms were uncovered showing that at least eight PBS leaders had greatly exceeded their legal pay ^[25]. This type of criticism; however, specifically targets the organizations involved in the broadcasting of the ETV programs in question and it is important to distinguish this criticism from the criticism that is pertinent to this study.

The primary ethical concern examined by this paper involves the promotion and rating of youth based educational television and the accuracy of aired statements. Claims regarding other ethical violations unrelated to the above concern, while they may shed light on the topic as a whole, need not be addressed by reforms proposed by this study. Additionally, in many cases, other claims to ethical violations are based on a partisan viewpoint, such as criticism of airing publicly funded programming supporting homosexuality, and reforms to such would be controversial in themselves. The analysis utilized by this study is required to be factually based and nonpartisan, with only the desire to better protect the physical wellbeing of youth audiences driving the debate. It is very important that the promotion and rating policy to follow the ethical standards established by the Public Broadcasting Act of 1967. Any reform policy must be shown to better

adhere to these criteria in order to be an acceptable revision of the status quo policy. With this in mind, part of the alternative policy proposed by this study has been formulated in regards to government promotion of youth based ETV programming. Yet a similar but slightly varied approach to reforming the promotion of privately broadcasted programming has been taken as well.

Theory Behind Promotion of Privately Broadcasted Programming

Concern regarding privately broadcast programming is more focused on whether or not broadcast programming impairs physical wellbeing rather than social issues. Social development is not as much of an issue with private broadcasters as they are not funded in part by taxes from the general populace; however, if the programming poses a serious risk of developmental degradation for children under the age of two, then it could be considered unethical to promote programs such as “*Baby Einsteins*” without communicating these risks. In an article published by Time magazine, both the programs *Baby Einsteins* and *Brainy Baby* are mentioned as having been shown to actually delay language skills and developmental growth in toddlers, citing research conducted at the University of Washington^[19]. In order for a full analysis of any reform policy to take place, it is essential that a thorough understanding of the research verifying these claims be obtained. Therefore the following is a brief discussion of the suspected effect that television exposure may have on youth audiences.

Theories Supporting the Concerns Regarding Youth Based Educational Programming.

Perhaps some of the most influential research regarding the topic of the effect of youth exposure to televised programming has been drawn from a 2007 survey study conducted by a team of researchers at the University of Washington and published in *The Journal of Pediatrics* which concluded that for every hour of baby-video viewing per day, children ages 8 to 16 months knew six to eight words fewer than those who watched no videos ^[19]. This cross sectional research also reported that 17% of the babies involved in the study viewed baby videos for over an hour daily, with an average of 9 minutes of daily viewing of videos designed for babies. Estimates for daily exposure to screen media of any kind, including television, by infant audiences are higher. The Kaiser Family Foundation has assessed the average daily exposure of infants to screen media as 49 minutes per day ^[4]. Additional details collected from a complementary nationwide survey indicated the significance of these discoveries. According to the survey data, (1) 43% of children under the age of two viewed television programs on a daily basis, (2) 26% of these children have a television set in their bedrooms, and (3) 68% of children under the age of two spend slightly more than 2 hours per day using screen media ^[19].

Before the 2007 study, another study from the University of Washington was conducted in 2004 as a national longitudinal survey of a representative sample of over twelve hundred children at the age of one and over thirteen hundred children at the age of three. Here the researchers sought to examine the correlation between daily television exposure of children at the ages of one and three and any subsequent development of attention deficiency problems by the time they are seven. This study found that ten percent of

children had developed attentional problems by the age of 7 ^[22]. This research, which was published in 2004, has since been utilized by many other journals, institutions, and organizations in additional assessments of the effect of early childhood exposure to television and screen media. Today most health organizations, such as the American Academy of Pediatrics, officially recommend that “media (television, video, and DVD) viewing and computer use should not be permitted for children younger than two years” ^[26]. The American Academy of Pediatrics goes on to recommend that for children under the age of two but still in early care, “total media time should be limited to not more than thirty minutes once a week.”

Additional studies indicate similar results. According to the Kaiser Family Foundation two-thirds of infants and toddlers watch a screen an average of 2 hours a day ^[4]. Apart from its potential risk to early cognitive development, criticism of early television exposure includes concerns of childhood obesity and reinforcing television viewing habits. While early youth programs may be mild in terms of content, a majority of children may grow to develop a dependency on televised programming with statistics showing that children under the age of 6 viewing an average of two hours of screen media per day and children ages eight to eighteen “spend nearly 4 hours a day in front of a TV screen and almost 2 additional hours on the computer” ^[27]. Often, as children become older, the amount of education programming viewed in contrast to standard programming becomes much less, exposing children to more mature material. Thus concern over the role of youth based programming, educational or otherwise, as a gateway to more intensive television later in life has arisen. These concerns, while not directly related to the topic of

cognitive development of young children, give clarity to the issues that are integral to the topic of youth exposure to television programs and any discussion of reforming promotion policy to not endorse infant and toddler viewership should be cognizant of these additional elements.

In order to fully understand the nature of the effect of early childhood exposure to television on cognitive development and growth it is necessary to have background knowledge of the direct effect that such exposure has on brain activity. The rationale behind including such research in a discussion of the potential role that television exposure may have on the observed rate of cases of attention deficiency disorders is due to its measurability of actual effects. The University of Washington study utilized a national longitudinal survey as its measuring instrument, which allowed for the correlation to be made between daily television exposure at the age of one and three and attention deficiency disorders observed in subjects at the age of seven. This type of study does not; however, provide information regarding how early television exposure may be linked to such disorders; either by having the capability to cause attention disorders or by indicating that the observed disorders resulted specifically from early television exposure. Thus it is necessary to review research regarding the electroencephalographic wave activity of the human brain as individuals are exposed to televised programming. Such research, while still unable to prove causation of observed attention deficiencies, allows for researchers to gauge the extent to which television exposure is capable of causation ^[27].

Various studies using electroencephalograph technology found that “while watching

television, the brain appears to slow to a halt, registering low alpha wave readings on the EEG”^[28]. Further data provided by the *Scientific American* magazine verifies these findings and comments that not only does television exposure reduce alpha wave activity during viewing, this decreased state of mental cognition continues for a substantial period of time afterwards^[21]. All of the prior experiments were conducted on the fully developed minds of adult viewers, which are significantly less delicate than the minds of children ages two and below. Thus, one can only conclude how disastrous this effect is toward the still developing minds of children, even if what they’re watching is labeled “educational.” According to Dr. Healy, the impact that early television exposure has on young children may possibly have contributed significantly to the current rise in ADHD in the United States and that all available evidence indicates that children of young ages, especially two and under, are at some notable risk^[29].

Yet assuming that television exposure can or does restrict cognitive growth in infants and toddlers, it is also necessary to understand exactly why television programming can cause this effect. This is namely due to two principles; one of the “orienting response” of the brain to audio and visual stimuli and the other the “critical period” of early cognitive growth. The orienting response is the brain’s response to stimuli that invokes a beholder’s attention and retains it while the critical period, when used in context of child cognition, refers to the period in which the infant brain undergoes important development that requires certain social and cognitive interactions with the surrounding environment. In this review, we examine Kubey & Csikszentmihalyi’s analysis of the orienting response and note his observation of the physical effect of repeated and prolonged exposure to

televised programming ^[21]. Kubey & Csikszentmihalyi report in their *Scientific American* article that “orienting reactions include dilation of the blood vessels to the brain, slowing of the heart, and constriction of blood vessels to major muscle groups” resulting in decreased alpha wave production for a short time ^[21]. The concept of the “critical period” of infant cognitive development, described by Healy, is central to concerns of the effect of repeated orienting reactions as the alpha wave production that is inhibited by television exposure also happen to be a necessary component to healthy transitions through critical periods. Since televised programming does result in decreased alpha wave activity, the question of the efficacy and appropriateness of youth based ETV now becomes a discussion of whether or not the educational benefits outweigh the losses incurred by repeated depressions to alpha wave production during the critical period of early cognitive development ^[21].

This critical period in a child’s life is extremely important to proper brain development. The brain of an infant possesses trillions more neurons and synapses than it needs; however, over the course of time the infant’s brain will establish permanent connections ^[30]. Thus this period of development could be seen as sculpting the child’s mind. This effect is clearly shown by research conducted at Baylor College of Medicine, which found that children who do not play much or are rarely touched develop brains 20% to 30% smaller than normal for their age ^[14]. The child’s mind undergoes a metamorphosis of a sort in the sense that it changes substantially, both physically and in neural connections, during the first few years of life and obstructions to proper development have been observed to cause significant complications later in life. In 1997 it was estimated that if parents and policy makers do not take this into account, far reaching consequences would

begin to manifest around the year 2010 ^[14]. At the very least, the rise in attentional and cognitive disorders have shown that this prediction has come to be a reality and may very well continue to get worse unless action is taken to address potential causes of detrimental development.

The viewpoint by which the alternative policy proposed by this paper, after taking into consideration the evidence for both proponents for and against youth based ETV, is that there exists enough risk in early childhood exposure to televised programming that the general public should not be misled to believe that such programs are “appropriate for audiences of all ages” which would suggest that there are no risks involved in infant and toddler exposure to televised programming ^[27]. This rating, though enacted primarily to signify the appropriateness of the content rather than its physiological effect, still makes this claim and its effect is not mitigated by its intention alone. When proposing amendments to promotion policy, one should consider the balance between potential losses and benefits. If the status quo policy involves undesirable elements, whether unintentionally or otherwise, policy makers should consider the question of whether or not an alternative method could be enacted that would decrease these elements while not significantly decreasing the policy’s practicality or function.

In this case, an amended rating policy could be adopted that would convey the appropriateness of both content and exposure by simply raising the youngest approved age from zero/infancy to two years of age. It is not a reasonable concern that parents may misinterpret this rating to believe that programs’ content has changed and so there is little

reduction to the original function of the status quo rating system. Additionally it is important to note that an amended policy can be enacted without specifically requiring that statements of the risks involved be aired by broadcasting stations. In designing an ethical promotion and rating policy, it is enough that the rating merely avoids misrepresentation of appropriateness. If future research studies provide more evidence as to the role of television exposure as a cause of attention disorders, enough so as to be considered definite and overwhelming, perhaps a more stringent policy would be necessary. However, based on a consideration of the available research, this is not the case as of now. With these principles in mind, the following section has been devoted to the formulation of such an alternative promotion and rating policy.

In this study, it will be argued that the same proposed alternative regulations for publicly broadcasted programming be placed on private broadcasters as well as part of an alternative policy solution. This is because the same evidence suggesting that this programming could be harmful for young children apply regardless of the broadcaster. The changes proposed to privately broadcast programs may be less drastic than those applied to public broadcasting, but must adhere to the basic fundamental revisions detailed in the alternative policy proposed by this study. The fundamental difference will be whether programmers will need to inform audiences of the risks involved with youth exposure to televised programming or will simply be required to advertise their programming as acceptable for audiences above the age group at risk. The former change is more drastic and would be expected first from public broadcasters due to the principle that public broadcasting services have a higher degree of obligation to impartially inform

viewers than private broadcasters due to being funded in part by taxes from the general populace and having the title of government endorsed broadcasting. That being said, provisions of policy revision for both have been outlined in this study and can be utilized in any fashion deemed appropriate by those enacting the reform should reform occur.

Having taken into consideration the strong arguments of both sides of this controversial issue, it is important to consider policy changes that would reconcile the valid primary concerns brought to our attention. An imperative goal of any policy should be maintaining an unbiased view of the evidence and should not disregard valid arguments. This is the cornerstone principle by which the following alternative policy solution has been made and is presented in more detail in the next section of this paper.

Alternative Solution

In light of the theories for and against youth exposure to televised programming, educational or otherwise, and the research available to support claims from both sides, an alternative promotion policy has been formulated by this study that would amend the current promotion policy in two regards. The first is a change in the wording used in the rating of television programs currently rated “appropriate for all ages” to appropriate for ages two and above. The current rating system utilized for television programs designed for children under the age of seven, classified as TV-Y, describes youth programs as acceptable for audiences 0 to 6 years of age. The proposed reforms would have this be changed to ages 2 to 6 years of age for TV-Y rated programs and would not require changes for programs rated TV-Y7 or above ^[5]. The rationale behind having the rating change to “appropriate for ages two and above” rather than “appropriate for ages three and above” is important to clarify before moving on. The benefit of having the minimum age being three is that it best complements the conclusions of the University of Washington study; however, this would have to assume that the results of this study were conclusive. Many organizations that have issued warnings against prolonged youth exposure to screen media, such as the American Pediatrics Society, specify the at-risk age group as “under two years of age” ^[3]. Additionally, using two years as the minimum age is less restrictive for the programs themselves and is more likely to be accepted as a non-partisan option. For these reasons it can be seen that the use of two years rather than three years of age is more appropriate given our current understanding of the potential benefits and detriments of youth based ETV.

The second area of reform involves the introduction of additional restrictions on promotion on the part of programmers to restrict the ability of the program to be marketed to the concerned age group. These restrictions would not; however, require that the program advertise against its content or air advisory statements warning of the risks posed to youth audiences.

Additionally, program promotion may not specifically and explicitly target audiences under the age of two when promoting itself as educational and/or beneficial to this age group. The controversial nature of this subject has been taken into consideration in the formulation of this particular reform proposal. A more partisan approach to this reform would be the inclusion of a requirement that programs air an advisory notice warning of the potential risks exposure to televised programming poses to youth audiences prior to the start of these programs. Such a statement might read as “It is inadvisable for children under the age of two to view televised programming.” The primary issue with this solution is that it acts as though the evidence supporting the claim that attention deficiency disorders are caused by early childhood exposure to television is entirely conclusive; however, this is not necessarily the case. While there exists a wealth of circumstantial evidence, enough to warrant concern, there are too many factors that influence early cognitive development to be able to prove that prolonged early childhood exposure to televised programming causes detrimental effects.

One extreme example of this type of advertisement restriction is seen in tobacco sales, where the manufacturer is required to print health warnings on packages and

advertisements in regards to its role as a carcinogen due to the almost overwhelming amount of circumstantial evidence to that effect. Yet even the statements regarding the dangers of tobacco as a leading cause in lung cancer have been marginalized by proponents of the tobacco industry because it is not possible to prove entirely that tobacco is the sole cause in the rise in lung cancer due to other influencing factors such as air pollution. It can; however, be shown that exposure to tobacco does cause lung cancer on an individual basis. Similarly, the available research regarding the effect of television viewing on the electroencephalographic waveform activity of the human brain does show that television exposure causes a real decrease in brain activity during viewing and for a period of time afterward ^[31]. Applying this data collected from studies on fully developed brains of adult subjects, it can be inferred that similar effects would be seen in the brain of an infant or child. In Dr. Healy's book "*Endangered Minds*" there is discussion of the "critical phase" in child cognitive development where brain activity is crucial to healthy growth and development ^[2]. Since delayed brain activity during this period of a child's development is known to cause future cognitive complications and it is known that exposure to televised programming causes a marked decrease in brain activity, it is safe to conclude that prolonged youth exposure to television can cause future cognitive disorders in some viewers. It is not safe; however, to assume that this exposure is the sole cause of the rise in ADHD and other attention disorders in the United States and for that reason the case of youth exposure to television is similar in many regards to the case of tobacco as a carcinogen, although not nearly to the same extent of evidence.

While the case could be argued that a stronger approach should be taken in regards to

reforming the promotion policy of youth based ETV in light of the scientific findings over the past few decades; a more conservative compromise conveys multiple benefits. One such benefit is that it provides a compromise that is not overtly extreme but is a vast improvement from the status quo policy. The alternative policy proposed by this paper does not specifically require the program to advertise against its content. The reformed rating label, which reads “The following is appropriate for audiences ages two and over,” does not at any point mention the research and evidence indicating detrimental effects or the claim that the programming may cause harm to youth audiences. In this case, the program is simply required to not air statements contrary to this research and is under no obligation to air warning statements, which is required in tobacco advertisement. As the topic of the effect of youth exposure to television is still controversial, it would be unfair to require the programming to advertise against itself. That being said, the current promotion policy can be seen as misleading by advertising its televised programming as appropriate for all ages and as educational for youth audiences when there is enough evidence to suggest that this is likely not the case.

The primary goal of this research endeavor is to achieve a more ethical promotion policy. Whether or not we as researchers feel that the evidence is strong enough to support one position over the other regarding a controversial issue, it is our duty to ensure that the parents of young children are able to make informed decisions regarding childhood exposure to ETV. The rationale behind the proposed amended rating which reads: “The following is appropriate for audiences ages two and over,” is based on its nonpartisan approach and efficiency as a solution. This rating reflects the scientific findings and

official advisory statements of researchers and health organizations such as the American Pediatrics Society which warns against early childhood exposure to television prior to the age of two^[3]. It is possible that the status quo rating does not intentionally promote youth exposure to televised programming due to the fact that the current rating does not specifically mention children under the age of two; however, the real effect is that it does reassure parents that this programming is safe for all viewers, regardless of age. The primary effect of this reform is to prevent government promotion policy from advertising youth based ETV programming to youth audiences in the concerned age group.

The proposed alternative solution acknowledges the advocates of youth ETV and the research that support it. The primary concern of many advocates of youth based ETV in regards to additional regulations is that the programming itself will be limited in the sense of what it can air and the amount of broadcasting time that is allowed to the programming. Many of those who have criticized youth ETV have called for reductions to be made for these programs and restrictions on positive advertising for youth based ETV. For this reason it is important to detail the exact nature of this proposed policy reform and the aspects of youth based ETV programming, promotion, and rating that would not be altered. The concerns of ETV advocates have been taken into consideration in the proposed policy reforms in the sense that programmers will not be required to reduce air time, will not see any decrease in government funding due to the enactment of this policy reform, and will still be able to market their product as educational for audiences ages 2 and above. The primary limitation is that there will be restrictions on advertising these programs specifically for audiences under the age of two. Under the proposed modifications, advertisement for youth based ETV by either private or public promotion may not

explicitly target children under the age of 2, infants, or toddlers. The programs may be advertised to “kids” so long as it can be reasonably inferred that infants and children under the age of two are not specifically targeted by such advertisements. Furthermore, the proposed alternative policy enacts no additional restrictions on the voluntary viewership of audiences under the age of two and parents who still wish to allow their young children to view televised programming are free to do so. The primary change is that advertisements shall no longer promote viewership from children under the age of two, primarily infants, but will be under no obligation to advertise against viewership from this group either. Programs that contain advertisement to children in the concerned age group in its name, such as the program “*Baby Einsteins*,” will not be required to change its name but will have to air a statement clarifying that the program is intended for children ages 2 and above. The other additional provision of this policy reform is that the rating for television programs under the TV-Y category would be altered to be “acceptable for ages 2-6” rather than 0-6 and all aired messages depicting a particular program as “acceptable for all ages” would read “acceptable for ages two and above.”

This alternative policy also recognizes the critics of youth based ETV programs and the research that back this criticism. The primary concern from these critics at the developmental wellbeing level is that early childhood exposure to televised programs confers serious risks to this audience group and that current promotion policy misleads parents by targeting this audience without acknowledging the risks involved. The proposed modifications to promotion policy would satisfy the concern of unethical promotion but would not require programmers to broadcast warning statements or directly

restrict viewership. While some critics may believe that this is not drastic enough of an alternative to the status quo policy, it addresses the primary concern as to promotion policy ethics. There does not exist enough circumstantial evidence at this time to completely warrant more severe restrictions. While it is possible that early childhood exposure to television does hinder developmental growth, it is imperative that promotion policy remains nonpartisan. Furthermore, the effect of more drastic restrictions is unknown and less predictable than the proposed reforms. While it is possible that restrictions to youth based ETV programming could lead to a decrease in television viewership from audiences under the age of two, it is also possible that these restrictions could simply result in a shift of viewership from educational youth programming to non-educational programming. The current research on the beneficial effect of youth based ETV affirms that, at the very least, ETV programs are preferable to non-educational youth programming and that such a shift would be undesirable ^[2]. To prevent this outcome, additional restrictions would have to be enacted on non-educational programs, which poses additional unknown outcomes. This simply gives a much less predictable alternative policy. The proposed policy, while it does not satisfy every concern critics have regarding youth based ETV, does serve as a fair compromise on the matter.

The alternative policy will apply for both publicly broadcasted advertisement by government promotion as well as private promotion for ETV programs. The policy will be slightly different for both cases, with some necessary variations present. In both cases, programs must be rated “appropriate for all audiences, ages two and up” and may not explicitly target children under the age of two. The slight variations result from

differences inherent to both types of promotion and the pre-existing regulations and restrictions applied to both.

Discussion

The need for a modified government promotion and rating policy is evident given the gravity of the current scientific findings available and research conducted. The concerning rise in attention deficiency disorders and declining reading proficiencies makes it necessary for us to examine the potential factors adversely affecting cognitive development of today's youth.

The issue; however, is a controversial one, with advocates for youth based educational television firmly standing by the possibility that such programming does indeed confer educational content that is retained by youth audiences. Critics of this programming hold that youth based TV is a potential cause of detrimental cognitive development in young children. In an unbiased consideration, it can be seen that both sides are supported by valid research and circumstantial evidence. Studies have shown that young children are able to retain material learned from youth based ETV programs; however, it has also been shown that this retention is much less than the retention seen in reading. Additionally, there is little research that backs claims of retention of educational material from ETV by infants and other very young children. It is highly likely that in actuality, youth based ETV programming is a mixed blessing of sorts. It is very possible that this programming does allow children to learn and retain some educational material. ETV, at a higher level, has been acclaimed for its ability to allow for young adults and older audiences to learn basic sciences and even college level curriculum ^[32]. The programming is also a better alternative to non-educational youth programming which often is more likely to contain crude humor, violence, and other undesirable elements. Yet these positive elements are

potentially overshadowed by the negative aspects. If early exposure to televised programming truly does promote detrimental cognitive development, the educational material provided may not be enough to make up for the losses involved. The educational nature of youth based ETV is not the issue of concern, instead it is simply the fact that it is a source of television exposure that may be harmful to the developmental growth of youth audiences.

In regards to the argument that youth based ETV is not solely responsible for the rise of attention deficiency disorders and the decline in youth reading proficiency, this basic point should be conceded. There is credence to the claim that if ETV programming for youth audiences was not available, children would end up viewing non-educational television instead. Surely it is true that the television has taken up the role of virtual babysitter for many American households and many parents feel that youth based ETV allows for this practice to convey benefits to their child. Yet this is the decision of the parent to make, whether they choose to resort to using television to “manage” their children or not.

Similarly, it is the decision of the parent to utilize youth based ETV as an educational supplement. However, this decision ought to be one that is informed and when programs are advertised as acceptable for all age groups when there is considerable evidence to the contrary, parents are likely to be misled and make decisions taking the ratings’ word for it. This is in stark contrast to programs rated for older audiences, namely programs TV-Y7 and above. Mainstream non-educational television does not advertise itself as educational and allows parents to make the decision of whether or not their children should view the programming with the understanding that it is not proven to improve child cognitive

development.

Educational television programming targeting the youth, on the other hand, advertises itself as being able to improve the educational and cognitive development of young children. Take for example, the program “Baby *Einsteins*,” the name alone sends the message to parents that if they place their “babies” in front of this program, they will become smarter. In many cases, evidence exists to negate this claim and there is no solid evidence to support it. The issue here is that the parent is being misled to believe that the program is acceptable and even beneficial to the growth and development of infants and toddlers whereas non-educational cartoons containing crude humor or violence, while worse than ETV, does not mislead the parent in this fashion. The need to rectify this is pertinent to maintaining an ethical promotion and rating policy; however, the means of accomplishing this goal need not be drastic. The slight change in the wording of the rating is enough to allow parents to question the advisability of placing children below the recommended age range in front of televised programming but is not so much as to adversely advertise the programming for children over the age of two exclusively.

The information supporting and refuting the value of youth based ETV is readily available to parents who make an effort to research the matter in advance. Many parents may not research this in-depth on their own and will rely on the programming’s promotion and rating to relay this information to them. If the rating states “appropriate for all ages,” the average parent will likely interpret this literally as they do not have a reason to question the matter. The precautions taken in the proposed alternative solution allows for parents who

still want to have their children view televised programming at a younger age to do so and does not impede the program's ability to deliver educational material to children ages two and up. The only losses observed would be those of parents who after researching the matter, decide not to have their children view television until they are over the age of two.

This alternative solution is quite reasonable and respects the view-points of both sides of this controversial matter.

Conclusion

The topic of youth based educational programming has proven to be one of great controversy. From its proponents who point towards the literature supporting its use as an educational supplement to critics whose complaints range from personal objections to concerns regarding the developmental health of children audiences; there are many strong views on the topic. In order to have a truly up to date policy on FCC rating and promoting, it is important to take all of the current research into consideration.

However the spark that prompted this proposed policy is the concern that early childhood exposure to television may be harmful. Even the American Academy Pediatrics has officially warned against having children under the age of 2 watch television ^[3]. This concern, while supported by some recent evidence, is not completely comprehensive and does not on it's own prove any detriment exists. For this reason, a compromise should be obtained that allows parents to be able to make informed decisions but does not limit anyone's ability to view ETV programming.

With the proposed alternative policy of this paper, these issues are addressed in a manner that is both non-partisan and fair. In summary, the alternative plan introduces two major provisions. First off, it changes the language of the rating policy so that the TV-Y rating is altered from representing "ages 0-6" to be "ages 2-6." The second change proposed by the alternative policy affects FCC promotion regulations and would add the requirement that youth based educational televised programming cannot specifically advertise to children under the age of 2. This does not prevent advertisement towards "kids" in

general, nor does it have any requirements of adverse advertisement from the programmers. While these changes are slight, they allow for the principal concern, the right to the parent to be able to make informed decisions regarding their children's exposure to television, to be addressed without unduly hindering the program's success.

A change in policy is prudent and with the outlined policy amendment suggested by this paper it is likely that the result will be a compromise that is acceptable for all concerned parties.

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