The Exposure of Adolescents to Science and Knowledge Programs on YouTube and Its Relationship to Their Cultural Awareness

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The Exposure of Adolescents to Science and Knowledge Programs on YouTube and Its Relationship to Their Cultural Awareness

Abstract:

The study aimed to explore adolescents' exposure to science and knowledge programs on YouTube and its relationship to their cultural awareness. The researcher used the descriptive approach to measure the impact of the independent variable "science and knowledge programs on YouTube" on the dependent variable "cultural awareness." The study tools were applied to a sample of 610 n adolescents. The tools included a questionnaire specific to science and knowledge programs and a scale for cultural awareness.

The study concluded that there were no statistically significant differences among the adolescent study sample according to demographic variables in the intensity of exposure to science and knowledge programs on social media platforms. The results also revealed a statistically significant correlation at the level of (0.01) between the intensity of adolescents' use of science and knowledge programs on YouTube and their level of cultural awareness.

Key words: Science and knowledge programs, cultural awareness, youtube.

تعرض المُراهقين لبرامج العلوم والمعارف علي اليوتيوب وعلاقته بالوعي الثقافي لديهم

مُلخص الدراسة:

هدفت الدراسة إلي التعرف علي تعرض المُراهقين لبرامج العلوم والمعارف علي اليوتيوب وعلاقته بالوعي الثقافي لديهم، واستخدمت الباحثة المنهج الوصفي لقياس أثر المتغير المستقل "برامج العلوم والمعارف علي اليوتيوب "علي المتغير التابع "الوعي الثقافي"، وطُبقت أدوات الدراسة علي عينة قوامها (610) مفردة من المراهقين، وتمثلت أداوت الدراسة في (استبيان خاص ببرامج العلوم والمعارف – مقياس للوعي الثقافي)، وتوصلت الدراسة إلي: عدم وجود فروق دالة احصائياً بين المراهقين عينة الدراسة حسب المتغيرات الديمغرافية في كثافة التعرض لبرامج العلوم والمعارف على مواقع التواصل الاجتماعي. كما كشفت النتائج عن وجود علاقة ارتباطية دالة إحصائياً عند مُستوي(0.01) بين كثافة استخدام المُراهقين لبرامج العلوم والمعارف علي اليوتيوب ومُستوي الوعي الثقافي لديهم

الكلمات المفتاحية: برامج العلوم والمعارف– الوعي الثقافي– اليوتيوب.

Introduction

Science and knowledge programs are considered a cultural and cognitive communication medium, characterized by their ability to present information smoothly and quickly, occasionally incorporating humor, which attracts audiences, particularly young people who are drawn to these features. Additionally, these programs rely on credible scientific sources, with the option to reference them at any time. Many young individuals have created their own channels on YouTube across various fields, such as gaming, cooking, educational, cultural, and scientific channels, among others. These channels can influence their attitudes either positively or negatively. Therefore, this study aims to explore the impact of these channels on adolescents, including university and high school students, as they are the demographic most engaged with social media and most exposed to new media tools.

In our current era, social media platforms, particularly YouTube, have become one of the most important sources of knowledge and culture, especially among adolescents. These platforms excel at delivering scientific and cultural content in an innovative and engaging manner, making them influential tools in shaping the cultural and cognitive awareness of young people. With the increasing reliance of adolescents on these platforms as a primary source of information, it has become essential to study the impact of this exposure on the development of their cultural awareness. Cultural awareness is a fundamental component in building a well-rounded personality capable of positive interaction with society. Thus, this study seeks to analyze the relationship between adolescents' exposure to science and knowledge programs on YouTube and their level of cultural awareness, focusing on the extent to which these programs enhance cultural knowledge and foster positive attitudes toward culture and science.

Review of literature

Science and Knowledge Programs

These popular scientific videos on the internet focus on delivering scientific content to a wide audience. They use simplified

terminology, making scientific knowledge accessible to everyone .(Muñoz Morcillo, 2016)

The Importance of Science and Knowledge Programs:

- Disseminating Scientific Knowledge: These programs spread scientific knowledge and familiarize viewers with the realities of the world through logical thinking, steering clear of myths, lies, and scientific superstitions.

- Keeping Pace with Scientific Advancements: They keep up with the scientific era and the latest developments in science and technology to drive progress and development. They equip viewers to address various problems by relying on accurate scientific understanding.

- Correcting Misconceptions and Behaviors: They rectify and adjust many incorrect ideas and behaviors that conflict with scientific principles, as these can negatively impact society's intellectual structure.

- Simplifying Scientific Topics: They make scientific subjects easier to understand and present them to viewers smoothly, enabling them to apply this knowledge in their daily lives.

- Promoting Critical Thinking: They provide principles for enhancing thinking, encouraging the use of the mind, and developing mental frameworks to foster productive and enriched thinking in individuals.

- Applying Scientific Achievements: By applying them in everyday life, they help individuals benefit from scientific achievements and discoveries.

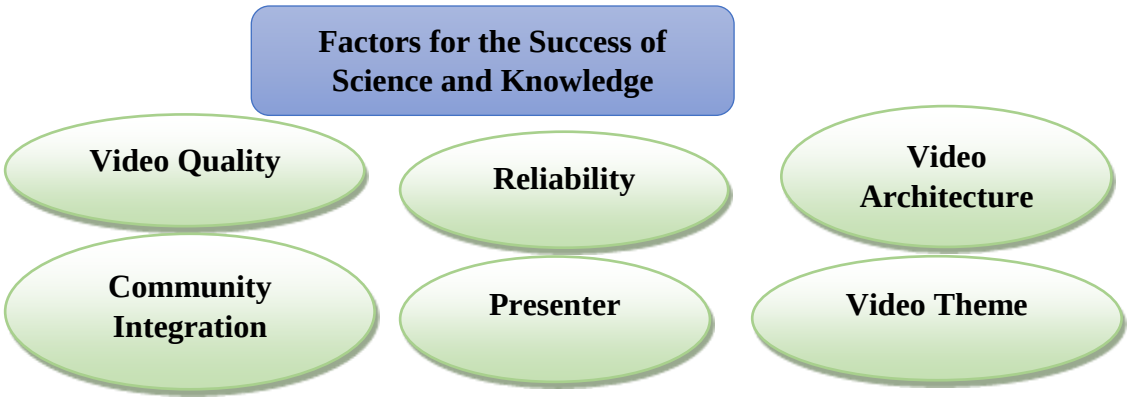
- Enriching Productivity and Useful Ideas: They contribute to enriching productivity and generating beneficial ideas.

- Spreading Scientific Foundations: Scientific channels play a role in transferring scientific knowledge, establishing correct scientific foundations, and fostering a healthy scientific

environment to combat superstitious ideas that have taken hold in some minds. The Science presented convincingly and smoothly nurtures in individuals a scientific motivation and a desire to seek knowledge, which positively reshapes mental frameworks and produces ideas beneficial to both the individual and society (Dawaba, Iman Ezzeddin Mohamed, 2023, pp. 241-338).

- **Factors Contributing to the Success of Scientific Videos :**

Scientific videos have become a powerful and effective tool for disseminating knowledge and simplifying complex concepts. Their success is not limited solely to the accuracy of the information presented but also includes technical quality, presentation style, and the ability to attract and engage the audience. In this context, we will shed light on the essential elements that transform a scientific video from mere traditional content into an engaging and impactful scientific experience, as outlined in the following figure:



Figure(1) prepared by the researcher

Factors for the Success of Science and Knowledge Videos:

1. Structure of the Video :The video introduces the topic at the beginning and reaches a conclusion at the end. It presents facts, including expert opinions, and summarizes their statements .

2. Reliability of the Video: Citing credible sources to ensure accuracy and trustworthiness .
3. Video Quality :High-quality audio and video production to enhance viewer experience .
4. Community Engagement :Responding to comments and conducting polls in the comments section to foster interaction .
5. The Presenter :YouTube channels are closely tied to the personalities of the presenters, making their charisma and communication skills crucial .
6. Video Topic :90 participants indicated that they watch videos topics that interest them, suggesting that entertainment on plays a key role in their video selection .

(Gabriele Kotsis, Florian Sobieczky, et al., 2022, p. 182)

7.Providing Solutions to Everyday Problems :Providing Solutions to Everyday Problems :These videos create knowledge that helps in decision-making to improve the quality of life. Public awareness of major scientific issues has become increasingly important for governments and institutions governing society. Citizens must understand science to adapt to an increasingly scientific and technological environment. However, this is impossible without the contribution of scientists, who must align their research with the challenges faced by their society and make their findings understandable to the public (Michael Bourk, 2018).

Cultural Awareness:

Cultural Awareness refers to the appropriate level a person should attain by expanding their knowledge, enabling them to stay updated on the latest global developments in science, art, and their specialized field of expertise. A cultured individual is characterized by social and cultural awareness, allowing them to view their society from a comprehensive historical perspective and analyze issues coherently and theoretically. Another trait of a cultured person is their tangible social role, which directly stems from their social awareness and the unique abilities and skills acquired through their professional specialization or scientific and intellectual competencies (Hamdy Abdel Zaher, 2020, pp. 184-187).

As explained by (Abir Mohamed, 2024), cultural awareness refers to an individual's reactions to the cultural environment in which they live. It also denotes the quality of ideas and emotions an individual has formed about the external world. It is the critical skill of evaluating cultural content received by individuals and groups from educational and media sources, shaping their beliefs, perceptions, and values, and influencing their behavior, habits, traditions, and lifestyle patterns. On the other hand, (Sayed Ashour and Abdullah Kibar, 2023, p. 226) stated that cultural awareness is the extent to which an individual understands themselves and their surrounding environment, as well as their readiness to take responsibility by adhering to the social and cultural values of their society. It also involves preserving cultural heritage and standing against anything threatening its survival amidst the changes brought about by advancements in communication technology worldwide.

Topics of Cultural Awareness

Cultural awareness consists of three components, which are considered its main topics:

1. Cultural Biases include people's shared beliefs, values, and morals.
2. Social Relationships : These encompass the personal connections that bind people together.
3. Lifestyles and Practices :These represent the overall outcome composed of cultural achievements and social relationships(Ezz Sayed Mohamed, 2016, p. 938)

Characteristics of Cultural Awareness:

Characteristics of Cultural Awareness:

1) **Authenticity**: Authenticity does not mean being disconnected from contemporary society's concerns. Instead, it involves actively engaging in society and taking responsibility consciously and effectively, thereby becoming a target for marginalization and commentary.
2) **Boldness and Courage** :Critiquing the mind, psychological content, and actions requires a price that makes cultural awareness a driving factor. One must possess boldness, courage, and a spirit of daring to break through taboos,

speak out against unaddressed errors, and awaken awareness.

3) **Belief in Dialogue** :Our intellectual heritage has been dominated by a polemical tone, which has supported dark periods of cultural and civilizational backwardness, closing all communication channels. This has given way to the logic of blind fanaticism, enriching the lexicon of insults and slander. Contemporary cultural awareness must change these patterns and establish expanded opportunities for cultural encounters to develop ideas and deepen discourse (Ahlam Awaj et al., 2020, p. 20)

The Importance of Cultural Awareness

In an era characterized by rapid technological advancements and the widespread use of social media, adolescents are increasingly exposed to science and knowledge programs from diverse cultures. This exposure presents both challenges and opportunities. The importance of cultural awareness for adolescents lies in its ability to help them understand and appreciate the cultural diversity they encounter in the educational and scientific programs they follow. Below are the key aspects highlighting the importance of cultural awareness:

- Enhancing Individual and Societal Awareness of Science and Knowledge .
- As individuals engage more actively in learning, exploring, and gaining life experiences, their level of cultural awareness increases, making them constructive members of society.
- A person's life is influenced by their culture and awareness. The more cultured and aware they are, the better and more refined their life becomes. Conversely, a decline in cultural level corresponds to a deterioration in the overall quality of life. For example, in the health aspect, someone with health awareness deals more effectively with diseases, accidents, and their general lifestyle.
- Humanity has recognized the importance of culture in shaping cultural awareness, establishing its existence over the years

through qualitative and quantitative accumulation of cultural and human actions. The messages culminated in the message of the Chosen One (peace be upon him) to rectify that culture and restore its spiritual dimension, returning it to its moral essence and purifying it from impurities. Thus, cultural awareness elevates the individual to a better social level, encompassing awareness of daily life, including habits, traditions, customs, religiosity, judgments, and interactions (Zubaida Mokhtar,

Abdelrahman Mohammadi, 2019, p. 140).

Studies:

The studies that addressed science and knowledge programs and cultural awareness are presented in descending order (from the most recent to the oldest) as follows**:**

First: The first axis - studies that addressed science and knowledge programs :

- Study by Manhalla Mohsen Ibrahim (2023) titled: "Media Elite's Evaluation of the Self-Presentation Skills of YouTubers on YouTube and Its Relationship to Their Attitudes Toward Media Message Quality Standards"The study investigated how YouTube content creators present themselves through the audio and visual content they produce in their videos, and explored the methods and strategies used in the content for self-presentation, as well as its relationship to their attitudes toward media message quality standards. The researcher used the descriptive approach, applying a questionnaire tool to a sample of (100) respondents from the media elite in various universities. A sample of six YouTuber programs on YouTube was analyzed using content analysis tools, both quantitative and qualitative. The study reached a set of results, the most important of which are: The overall score for the self-presentation skills scale of YouTubers, from the perspective of the media elite sample, was (69.83%), reflecting a moderate evaluation of the presentation skills of YouTube program hosts. Additionally, the content presented by the YouTubers in the study plays a role in raising awareness about certain issues.

Furthermore, self-presentation management is an integral part of the personal and professional lives of YouTubers.

- **Study by Iman Ezz El-Din Mohamed Dawaba (2023) titled:** "University Students' Exposure to Scientific Channels on YouTube and Its Relationship to Their Problem-Solving and Productive Thinking Skills.The study aimed to identify the extent and level of university students' exposure to scientific channels on YouTube and to determine the most important scientific channels they follow. The study relied on the descriptive approach, and the researcher selected a purposive sample of (327) university students who follow scientific programs on YouTube. The results concluded that there is a statistically significant correlation between university students' exposure to scientific channels on YouTube and their productive thinking skills.
- **Study by Rania Ramzy Halim (2022) titled:** "The Role of Social Influencers in the Daily Lives of Egyptian Youth: A Field Study on a Sample of University Students‹The current study seeks to identify the role of social influencers in the daily lives of university students by uncovering the reasons behind the widespread phenomenon of social influencers among youth circles, as well as exploring the nature of the preferred issues and topics among young people. This study is a descriptive and analytical study that relied on the social survey method with a sample, using an electronic questionnaire as a data collection tool. Due to the vastness of the study population, the researcher relied on a "networked snowball" sample, with the sample size reaching 562 individuals. The study revealed a variety of motivations for youth following social influencers, ranging from ritualistic motivations Such as entertainment, relaxation, passing the time due to boredom, escaping daily life problems, the desire to travel to beautiful places around the world, friendship, and familiarity with influencers, and self-discovery. Utilitarian motivations: the desire to obtain new information (scientific, historical, religious, medical, nutritional, practical). It also became evident that there is a relationship between the characteristics of the youth stage, which is marked by activity

and a desire to acquire new knowledge and skills, and the gratifications achieved from following content creators, such as building knowledge (new information), gaining life experiences, learning skills, forming and changing attitudes, guiding behaviors, and making decisions.

- **A study by Julia Bello, Jane Payumo. (2021)** entitled "The Impact and Reach of Educational Science YouTube Channels"aimed to investigate the influence of educational science videos on viewers, the extent of exposure to them, and their impact. The study relied on analyzing data from several informal educational channels on YouTube to measure the characteristics related to the impact of the videos and their reach to the viewers' minds .The results of the study concluded that the most popular science videos among the audience were those related to medical and technological topics, as well as videos concerning agriculture and food security. The findings also revealed a statistical relationship between the intensity of watching science videos and channels on YouTube and an increase in the level of interaction with them, including commenting on them and communicating with the content creators
- **A study by Jesús Muñoz Morcillo, Klemens Czurda, et al. (2021)** entitled:"The Production of Scientific Videos and Channels on YouTube" aimed to identify the characteristics and traits of producers of scientific content on YouTube channels and the scientific videos they broadcast. The study also sought to explore the participatory culture of some scientific content creators on YouTube .The study results revealed a statistically significant correlation between the production of scientific videos and their success in influencing viewers. Additionally, the findings indicated a relationship between the strategies used in producing scientific videos and the audience's reliance on them as a source of scientific information and knowledge**.**
- **A study by Joachim Allgaier. (2020)** entitled: "Science and Environment on YouTube Channels" aimed to explore the content related to science and environment presented on YouTube channels and websites, and to observe its impact on

audience behavior. The study also sought to understand its effects on enriching the audience's knowledge about scientific and environmental topics. The sample consisted of (89) online video clips focusing on scientific and environmental subjects . The results revealed a correlational relationship between science and the change in some habits, behaviors, and ideas of individuals toward various topics across different fields.

- **Second: The Second Axis: Studies Addressing Cultural Awareness.**
- **A study by Yasmin Atallah Bakhir (2025)** entitled: "The Impact of Podcast Programs on Developing Cultural Awareness: A Field Study on the Egyptian Audience"aimed to explore the impact of podcast applications on the Egyptian audience, particularly in relation to cultural programs, and to assess the role of podcasts in enhancing cultural awareness among the audience. The study relied on the descriptive approach using the media survey method, collecting data from a random sample of 400 individuals, both male and female, through an electronic questionnaire. The study is based on the Uses and Effects Model, which examines how the Egyptian audience uses podcast programs to develop cultural awareness.
  The results of the study revealed several important observations. It showed that a large proportion of the sample consisted of educated youth (77%), with most participants aged between 18 and 35 years, reflecting this group's openness to digital media. It also found that 89.6% of participants follow podcast programs irregularly, and that cultural topics were the most appealing, accounting for 60.25%.
- **Study by Ghada Mohamed Abdel Aal (2024) titled:** "Adolescents' Exposure to Cultural Programs on Arab Documentary Channels and Its Relationship to Their Cultural Awareness and Encouragement of Innovation"**
- The study aimed to identify adolescents' exposure to cultural programs on Arab documentary channels and its relationship to their cultural awareness and encouragement of innovation. It relied on the field survey method. The study population consisted of adolescents who watch cultural programs on Arab

documentary channels, and the study used a purposive sample of (400) adolescents aged between (15-18) years. The study found that adolescents in the sample watch cultural programs on documentary channels most frequently, ranking first with a percentage of (65.3%). Adolescents in the sample preferred watching the (National Geographic Abu Dhabi) channel as their top choice among documentary channels, with a percentage of (83.3%). The statement "I gained new information about scientific and technological developments" ranked first in adolescents' attitudes toward the impact of watching cultural programs on documentary channels on their level of cultural awareness, with an arithmetic mean of (2.73).

- **A study by Amira Abdel Wahab (2022)** entitled: "The Role of Cultural Channels on YouTube in Developing Cultural Awareness Among Youth" aimed to achieve several objectives, including identifying the extent to which young people use the content of cultural channels on YouTube and the gratifications derived from them. This study is a descriptive one that employed the survey method through a questionnaire administered to a purposive sample of 450 young individuals who watch cultural channels on YouTube. Among the key findings of the study were :The percentage of respondents who regularly follow cultural channels, specifically "BookTube," was 50.7% .The percentage of respondents who follow these channels regularly and sometimes was 38.2%, while the percentage of those who follow them rarely was 11.1% .The average scores of respondents regarding their motivations for using the content of cultural channels ("BookTube") ranked as follows: Providing new and meaningful information** came in first place with an average score of 2.92** .، Increasing my interest and depth in certain topics** ranked second with an average score of 2.88 .Meeting my diverse cognitive needs** ranked third with an average score of 2.8.
- **A study by Rana Samir Mohamed. (2021)** entitled " adolescents' Use of Literary Culture Content on YouTube and Its Relationship to Developing Their Cultural Awareness" belongs to descriptive studies that employed the media survey

method with a field component. The study sample consisted of a purposive sample of 300 adolescents aged between 18 and 20 years who watch literary content on YouTube .The study found the following results: There is a statistically significant relation between the gender of respondents (male, female) and their subscription to YouTube channels at a 95% confidence level. There is a statistically significant relationship between the gender of respondents (male, female) and their frequency of watching videos with literary content on YouTube at a 99.9% confidence level .There is a statistically significant relationship between gender (male, female) and the levels of cultural awareness among followers of literary channels on YouTube at a 99.9% confidence level.

- **A study by Nancy Abdel Sayed et al. (2021)** entitled: "Adolescents' Use of Literary Pages on Facebook and Its Relationship to Developing Their Cultural Awareness" aimed to explore adolescents' use of literary pages on Facebook and its relationship to developing their cultural awareness. The researcher employed the survey method on a random sample of 400 adolescents who have Facebook accounts, follow literary pages, and are enrolled in public and private colleges, aged 18 years, with 200 males and 200 females. The study relied on a questionnaire, and the results revealed several findings, including :The field study results showed a high usage of Facebook by adolescents, with 73.5% of the sample using the site daily.The page (Thaqaf Nafsak) ranked first among the literary pages followed by adolescents, with a percentage of 55.3%.The page" Aseer Al Kotob "came in second place, with a percentage of 33.3% .The results indicated that the reasons adolescents follow literary pages include trust in the information they provide .Respondents' reflections on the cultural values dimension revealed that literary pages help them express their opinions freely, form views and ideas on cultural issues, and provide them with cultural information in various fields

- **The researcher benefited from the previous studies in the following:**

After reviewing previous studies, it became evident that they relied on the descriptive approach as the most suitable scientific research method for studies in the field of media. Most of these studies were conducted on university students, with only a small portion addressing adolescent samples. These studies emphasized the importance of social media networks and certain television programs in shaping the cultural awareness of adolescents. The researcher benefited from the available studies in the following ways:

- Contributing to the precise identification of the research problem.
- Understanding the nature of societies and demographic characteristics, and their role in differing results.
- Defining the study's questions, objectives, scientific methodology, and approach.
- On a procedural level, these studies helped in accurately defining the study sample, represented by a field sample of adolescents, to assess their exposure rate to science and knowledge programs on YouTube and its relationship to their cultural awareness.
- Developing a general framework for the study by identifying the key dimensions to focus on when addressing the research problem.

significance of studying:

The significance of the current study stems from the following points:

- The importance of the age stage: Represented by adolescence, which is a sensitive period requiring careful handling, as it is when the adolescent's personality, opinions, and ideas are formed.
- The widespread popularity of these programs on YouTube among adolescents: This necessitates their examination and analysis to understand their importance and impact.
- These programs address issues of cultural awareness, public behavior, general culture, health, and digital literacy: This

makes them highly influential in shaping adolescents' awareness.

- Understanding the impact of platforms like YouTube on adolescents' learning: The study helps in understanding how these platforms influence adolescents' comprehension of scientific and informational content.
- Evaluating the accuracy and reliability of scientific content on YouTube: The study examines the quality of the scientific content provided, helping to determine the extent to which adolescents benefit from it.

aim of the study : The current research aims to explore adolescents' exposure to science and knowledge programs and its relationship to their cultural awareness. From the main objective, a set of sub-objectives branches out, which are as follows **:**

- Disclosure of adolescents' exposure to science and knowledge programs and its relationship to their cultural awareness
- Monitoring differences between adolescents in their exposure to science and knowledge programs on YouTube
- Identify the reasons why teenagers watch science and knowledge programs on YouTube
- Learn what attracts teenagers the most when watching science and knowledge programs

Research terms:

- **Science and Knowledge Programs :**Operationally defined by the researcher as: "A form of media programs presented through YouTube channels, addressing various scientific and cultural topics. They are prepared by an individual or a specialist, either personally or affiliated with an institution, aiming to deliver cultural and scientific content to diverse audiences in a simplified manner, whether in a comedic, satirical, or serious format".

- **Cultural Awareness :**Operationally defined by the researcher as: "The information, knowledge, and social and cultural influences that adolescents acquire\ as a result of their exposure to

science and knowledge programs on YouTube, which impact the formation of their ideas, opinions, and beliefs".

research questions

study Problem

New media, in general, and social media, are among the most significant tools of human and civilizational communication that nations have achieved. Their importance lies in shaping attitudes, beliefs, and opinions resulting from the cultural awareness developed through exposure to them. They also have numerous advantages and disadvantages, as they can impart positive and negative ideas to individuals and societies. Moreover, they are a widely accessible medium that reaches all segments of society, making them a guide and influencer for the public. One of the most important groups exposed to media is adolescents in high school and university, as they are the most exposed to modern media platforms and the most engaged with science and knowledge content online.

These modern platforms have contributed to the emergence of a new media format known as "YouTube channels," which offer various types of scientific, cultural, medical, and other programs across different fields. Due to their effective role in delivering information and knowledge to diverse groups, especially adolescents, many studies have recommended analyzing the content of these channels. Some studies have also confirmed that YouTube, with its channels, is the primary reference for younger audiences, who have grown accustomed to YouTube and the internet in general, facilitating the spread of culture and knowledge among these groups.

Given the importance of YouTube channels with their scientific programs, their widespread use among adolescents, and their interaction with them, this study explores the relationship between adolescents' exposure to science and knowledge programs and their cultural awareness. This problem can be addressed through the following main question:

What is the relationship between adolescents' exposure to science and knowledge programs on YouTube and their cultural awareness?

From this main question, a set of sub-questions arises

- What is the relationship between adolescents' exposure to science and knowledge programs and their cultural awareness?
- What are the differences between adolescents in their exposure to science and knowledge programs on YouTube?
- What are the reasons for adolescents'watching science and knowledge programs on YouTube?
- What attracts adolescents' the most when watching science and knowledge programs?

Research Hypotheses :The current research seeks to verify the validity of the following hypotheses**:**

- There is a statistically significant correlation between the intensity of adolescents' – the study sample – use of science and knowledge programs on YouTube and their level of cultural awareness.

- There are statistically significant differences among adolescents – the study sample – according to demographic variables (educational stage and gender) in their rate of exposure to science and knowledge programs on social media platforms.

research design:

-Research Methodology : The current research used the descriptive approach to measure the impact of the independent variable, which is "adolescents' exposure to science and knowledge programs," on the dependent variable, "cultural awareness," among the adolescents in the research sample.

-Limitations of the Research : The study's limitations are as follows:

-Thematic Limitations :This study was limited to exploring adolescents' exposure to science and knowledge programs on YouTube and its relationship to their cultural awareness .

-Human Limitations:The study focused on high school and university students in schools within Minya Governorate .

-Spatial Limitations:The study was applied in some government schools and certain colleges at Minya University, along with the use of an electronic questionnaire.

-Temporal Limitations: The first semester of the academic year 2023/2024.

Research Population and Sample :The population of the current research consists of adolescents in schools and universities in Minya Governorate. A purposive sample of (610) individuals who follow science and knowledge programs was selected.

Reasons for Selecting the Sample

The study relied on a purposive sample of individuals who follow science and knowledge programs on YouTube. The researcher included both high school and university students, allowing for a comparison of the research results between the two groups to understand differences in their responses to science and knowledge programs based on their educational stage. The researcher's choice of the sample was driven by several methodological and practical reasons, including:

- High school and university students fall within an age group characterized by intellectual curiosity and a deeper ability to grasp scientific and conceptual knowledge, along with their capacity for critical and analytical thinking. This makes them ideal for studying the impact of science and knowledge programs.
- Students at these educational stages come from diverse educational backgrounds, providing a rich sample through which the impact of science and knowledge programs on different groups can be studied. Therefore, examining the impact of these programs at this stage can contribute to improving the quality of education and increasing scientific awareness.

Research Tools:

A. Survey Questionnaire (Prepared by the Researcher) :To be applied to the study sample of adolescents to identify their exposure to science and knowledge programs and its relationship to cultural awareness. It consists of two main sections :

-The First section: Included the rate and patterns of adolescents' exposure to science and knowledge programs .

-The Second section: Cultural awareness (cognitive, cultural, and emotional impacts) on adolescents and its effects on them.

Reliability of the Survey:

Table(1)

Cronbach's Alpha equation was used to measure the reliability of the survey questionnaire.

Cronbach's Alpha	Standard Deviation	Variance	Mean
0.938	54.4449	2964.25	427.073

It is evident from the previous table that : The reliability value using Cronbach's Alpha equation reached (0.938), which is close to 1, indicating that the questionnaire enjoys a high degree of reliability ..

The Results

First: Verification of the First Hypothesis :

The first hypothesis states: "There is a statistically significant correlation between the intensity of adolescents'"the study sample's"use of science and knowledge programs on YouTube and their level of cultural awareness".

To verify the validity of this hypothesis, Pearson's correlation coefficient test was used to examine the relationship between the intensity rate and the total axes and level of awareness among the students in the study sample. **The following table(2)** was obtained:

Table (2)
Pearson's Correlation Coefficient between Intensity Rate and Total Axes and Level of Awareness among the Students in the Study Sample

Variables	n	Pearson's r	Deviation	Moral value	Significance level
Density rate and cognitive component	610	0.131	1.998 / 4.644	0.005	D at 0.01
Density rate and affective component	610	0.094	1.998 / 5.955	0.045	D at 0.05
Density rate and cov	610	0.163	1.998 / 5.716	0.001	D at 0.01
Density rate and direction	610	0.154	1.998 / 13.93	0.001	D at 0.01

It is evident from Table that the value of r (0.154) was reached at a significance level of (0.001), indicating a weak positive correlation at the 0.01 level between the rate of exposure to science and knowledge programs on social media and students' overall scores on the attitude scale toward science and knowledge programs. This means that as exposure increases, the rate of positive attitude also increases, but relatively weakly
The value of r (0.094) was reached at a significance level of (0.045), indicating a weak positive correlation at the 0.05 level between the rate of exposure to science and knowledge programs on social media and students' overall scores in the affective component of the attitude scale toward science and knowledge programs.
Meanwhile, the value of r (0.163) was reached at a significance level of (0.001), indicating a weak positive correlation at the 0.01 level between the rate of exposure to science and knowledge programs on social media and students' overall scores in the behavioral component of the attitude scale toward science and knowledge programs.
On the other hand, the value of r (0.131) was reached at a significance level of (0.005), indicating a weak positive correlation at the 0.01 level between the rate of exposure to science and knowledge programs on social media and students' overall scores in the cognitive component of the attitude scale toward science and knowledge programs.

The second hypothesis, which states the following: There are statistically significant differences among adolescents – the study sample – according to demographic variables (educational stage, and gender) in their rate of exposure to science and knowledge programs on social media.

- Regarding the educational stage: To verify the validity of this hypothesis, an independent samples t-test was used to examine the relationship between the educational stage and the intensity of exposure among adolescents in the study sample to science and knowledge programs on social media. **The following table (3)** was obtained:

Table(3)
Differences in educational stage among the study sample of adolescents in the intensity of exposure to science and knowledge programs.

Educational Stage	n	mean	Standard deviation	Value of t	Degree of freedom	Moral value	Indication
Secondary	286	10.745	2.062	0.078	597	0.938	Non-function
university	313	10.757	1.838				

It is evident from table that there are no statistically significant differences among the educational levels of the study sample of adolescents in the intensity of exposure to science and knowledge programs. The t-value was (0.078) with degrees of freedom (597) and a significance value of (0.938), which is not statistically significant.

- Regarding gender: To verify the validity of this hypothesis, an independent samples t-test was used between gender (males and females) and the intensity of exposure among the adolescent study sample to science and knowledge programs on social media platforms. **The following table(4)** was obtained**:**

Table(4)
The differences between genders in the study sample of adolescents regarding the intensity of exposure to science and knowledge programs.

Type	n	mean	Standard deviation	Value of t	Degree of freedom	Moral value	Indication
males	186	10.861	2.024	00.923	597	0.365	Non-function
females	413	10.702	1.911				

It is evident from the table that there are no statistically significant differences between genders (males and females) in the study sample of adolescents regarding the intensity of exposure to science and knowledge programs. The t-value was (0.923), with a degree of freedom of (597) and a significance value of (0.356), which is not statistically significant.

Table(5)
Reasons for pursuing science and knowledge programs

Response	Yes		No		Total	
	percentage	Iteration	percentage	Iteration	percentage	Iteration
Interest in science and knowledge	53.1%	324	46.9%	286	100%	610
Leisure time	38.9%	237	61.1%	373	100%	610
My favorite hobby	21.8%	133	78.2%	477	100%	610
Mind development and intelligence	48.4%	295	51.6%	315	100%	610
Gain new information	72.1%	440	27.9%	170	100%	610
Identify issues	39.3%	240	60.7%	370	100%	610

It is evident from the table that: among the most important reasons for following science and knowledge programs is acquiring new information at a rate of (72.1%), followed by an interest in science and knowledge at (53.1%), then developing the mind and intelligence at

(48.4%). This is attributed to the nature of the stage that seeks knowledge and serves their scientific and cognitive aspects. Meanwhile, spending leisure time came at a rate of (38.9%), and "my favorite hobby" at (21.8%) as the least preferred options. This indicates that the sample individuals are aware of the importance of these programs; hence, they prefer to follow them even during their leisure time.

The study aligns with the study by Abdullah Al-Qahtani (2020), which found that the greatest interest in obtaining information was in the following order: local information, sports, cultural, scientific, technical, and political. There is a high level of agreement on the impact of new media in enhancing informational culture.

Table (6)

What attracts you most in science and knowledge programs

Response	Yes		No		Total	
	Percentage	Iteration	Percentage	Iteration	Percentage	Iteration
Presenter	**37.7%**	**230**	**62.2%**	**380**	**610**	**100**
Information displayed	**72%**	**439**	**28%**	**171**	**610**	**100**
The way information is displayed in terms of speed	**45.4%**	**277**	**54.6%**	**333**	**610**	**100**
Existence of sources of information provided	**54.8%**	**334**	**45.2%**	**276**	**610**	**100**

It is evident from the table**:** What attracts the sample to science and knowledge programs is the information presented by (72%), followed by the presence of sources of information by (54.8%), then the method of presentation by (45.4%) and ending with the presenter of the program by (37.7%), due to the topics presented in these programs and the choice of presenters for titles and information

attractive to the follower in addition to mentioning the source of the information, which adds credibility and confidence to the information addressed in the episodes.

The study differed with the study of WELBOURNE Dustin J and GRANT Will J (2015), which found that the proportionality of the speed of content delivery with the speed of the medium is one of the factors that affect the popularity of videos, as the videos that provided information more quickly increased the number of views, and the study also revealed several key factors (experience, impartiality, Accuracy and reliable source) is preferred by viewers and it increases the continuity of communication in increasing video views.

Summary of Results:

- The results of the current research indicate a statistically significant correlation at the level of (0.01) between the intensity of adolescents' use of science and knowledge programs on YouTube and their level of cultural awareness. This means that the more adolescents use science and knowledge programs on YouTube, the higher their level of cultural awareness, and vice provide diverse information in fields such as history, science, literature, and the arts.
- The results of the study revealed that there were no statistically significant differences between the adolescents of the study sample in the rate of their exposure to science and knowledge programs on social networking sites in terms of (educational stage, gender).
- The results resulted in the information and knowledge presented are the most attractive by respondents to watch these programs.
- The results also showed that the most important reasons for following up science and knowledge programs are the acquisition of new information by (72.1%), followed by interest in science and knowledge by (53.1%).

Research Recommendations:

- There is a necessity to organize workshops within schools and institutions to enhance adolescents' interest in these programs.
-Raising students' awareness of the importance of science in our lives by creating documentary films in schools.
-Collaboration among community institutions is needed to focus on science and instill it in students' minds so that it becomes the foundation for a society characterized by knowledge and learning.

References and Sources

Bakir, Yasmin Ata Allah. (2025). The Impact of Podcast Programs on the Development of Cultural Awareness: A Field Study on the Egyptian Audience. *Journal of Media Research*, Al-Azhar University, Faculty of Media, Issue (73), (3) Volume

Ibrahim, Menna Allah Mohsen. (2023). Media Elites' Evaluation of Self-Presentation Skills of YouTubers on YouTube and Its Relationship to Their Attitudes Toward the Standards of Media Message Quality. *Faculty of Specific .Education - Aswan University*, Volume (47), Issue(9)

Ahlam Awaj et al. (2020). The Role of YouTube in Developing Cultural Awareness Among University Students, University of Mohamed Boudiaf, Faculty of Humanities and Social Sciences.

Bouchareb, Rounak. (2023). Simplifying Science Through the Museum of the Future Channel on YouTube: An Analytical Study of a Sample from the "Dahieh" Program. Published Master's Thesis, University of Salah Boubnider, Algeria.

Dawaba, Iman Ezz El-Din Mohamed. (2020). The Role of Cultural Channels on YouTube in Developing Deep Knowledge and Cognitive Motivation Among Students. Published in *Journal of Media Research*, Faculty of Media, Al-Azhar University, Issue (55), Volume (5).

Ramzy Halim, Rania. (2022). The Role of Social Influencers in the Daily Lives of Egyptian Youth: A Field Study on a Sample of University Students. *Journal of Humanistic and Literary Studies*, Faculty of Arts, Kafr El-Sheikh University, Volume (26), Issue (1).

El-Sayed Samir Mohamed, Rana; Abou Zeid, Dina Farouk; Abdel Halim, Mahmoud Mohamed Mohamed. (2021). The Role of Literary Channels on YouTube in Developing Cultural Awareness Among Adolescents. Published in *Journal of Childhood Studies*, Volume (24), Issue (91).

Sayed, Ezz Sayed Mohamed. (2016). Construction and Standardization of a Cultural Awareness Scale for Primary School Students. *Journal of Educational and Psychological Studies*, Volume (22), Issue (1).

Ashour, Saeed; Kebar, Abdullah. (2023). The Role of School Activities in Developing Cultural Awareness Among Students: A Field Study at Sawariq Secondary School. Published in *Al-Shamel Journal for Educational and Social Sciences", Algeria, Volume (6), Issue (1).

Abdel Zaher, Hamdi. (2020). Specialized Satellite Channels. Dar Damma for Publishing and Distribution.

Abdel Wahab, Amira. (2022). The Role of Cultural Channels on YouTube in Developing Cultural Awareness Among Youth. Master's Thesis, Faculty of Arts, Mansoura University.

Abdullah, Nancy Abdel Sayed Wahib; Mohamed, Sara Talaat Abbas; Al-Jabri, Asmaa Abdel Alam. (2021). Adolescents' Use of Literary Pages on Facebook and Its Relationship to Their Cultural Awareness Development. *Journal of Childhood Studies, Volume (24), Issue (90), pp. 73–77.

Ashoush, Abeer Mohamed. (2024). The Role of the Family in Developing Cultural Awareness Among Children. Published in *Journal of the Faculty of Education, Tanta University, Volume (90). Retrieved from: https://2u.pw/9FRc6M2t

Mohamed Ibrahim El-Sayed, Yasmin. (2020). Self-Presentation of Content Creators "YouTubers" on YouTube and How They Achieve Participatory Culture A Case Study of YouTubers "Dahieh and Ecology". Beni Suef University.

Mohamed Abdel Aal, Ghada. (2024). Adolescents' Exposure to Cultural Programs on Arab Documentary Channels and Its Relationship to Their Cultural

Awareness and Encouragement of Innovation. Published Master's Thesis, New Valley University.

Mokhtar, Zubaida; Mohammadi, Abdel Rahman. (2019). The Role of Electronic Journalism in Developing Cultural Awareness Among University Students. Published Master's Thesis, Algeria, University of Ahmed Draia.

Muñoz Morcillo, J., Czurda, K. and Robertson-von Trotha, C. Y. (2016). "Typologies of the popular science web video'. V.15, N 4.

Julia Bello-Bravo, Jane Payumo. (2021). Measuring the impact and reach of informal educational videos on YouTube: The case of Scientific Animations .without Borders, Research article, journal homepage: www.cell.com/heliyon

Jesús Muñoz Morcillo, Klemens Czurda, (etal). (2021). Producers of Popular Science Web Videos between New Professionalism and Old Gender Issues, Cultural and General Studies at the Karlsruhe Institute of Technology.

Joachim Allgaier. (2020). Science and Environmental Communication on YouTube: Strategically Distorted Communications in Online Videos on Climate Change and Climate Engineering,, Frontiers in Communication on www.frontiersin.org 1, V. 4, N.

Michael Bourk,beinnevido leon(2018). Communicating Science and Technology Researching a New Media Phenomenon. Taylor & Francis .Through Online Video group. Available in https://2u.pw/CHWueg9e

Gabriele Kotsis , Florian Sobieczky,all. Database and Expert Systems Applications - DEXA 2022 Workshops33rd International Conference, DEXA 2022, Vienna, Austria, August 22–24, 2022, Proceedings Springer International Publishing
https://www.google.com.eg/books/edition/Database_and_Expert_Systems_Applications/On6BEAAAQBAJ?hl=ar&gbpv=0