UNDERSTANDING THE IMPACT OF ADHD MENTAL HEALTH AWARENESS CONTENT ON TIKTOK: A STUDY ON GENERATION Z

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ABSTRACT

This study examines the impact of Attention-deficit-hyperactivity disorder (ADHD) mental health awareness content on TikTok on the emotional and empathetic responses of Generation Z individuals. By utilizing Russell's Circumplex Model of Affect (1980), known today as the Valence-Arousal Model, it explores how emotional valence (positive vs. negative) and arousal (high vs. low) affect Generation Z's responses. Four mental health awareness TikTok video stimuli were created, representing different combinations of emotional valence and arousal, to evaluate Generation Z's emotional and empathetic responses and understand how different digital campaign strategies might influence their perceptions of ADHD mental health concerns.

A total of 120 participants, aged 18 to 27, were randomly assigned to view one of the four TikTok video. Their emotional and empathetic responses were measured using a Likert scale survey. The results indicated that positive valence TikTok stimuli content elicited strong emotional responses from Generation Z, but did not trigger empathetic responses. Arousal levels did not significantly impact either emotional or empathetic responses. These research findings highlight the effectiveness of emotionally evocative content, emphasizing the importance of emotionally positive content messages to engage with Generation Z effectively in digital mental health awareness campaigns.

The study contributes to understanding social media's role in mental health advocacy, emphasizing the persuasive potential of the TikTok platform to stimulate emotional and empathetic responses among young people. It highlights the importance of strategically designed content to engage and educate young TikTok viewers. Future research should explore these dynamics across other mental health awareness topics and diverse populations to enhance the effectiveness of digital mental health advocacy campaigns.

Key words: mental health awareness, ADHD, TikTok, Generation Z, digital campaigns, social media, emotions, empathy, valence (positive vs. negative), arousal (high vs. low)

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INTRODUCTION

TikTok is a rapidly expanding social media platform that has attracted significant attention from Generation Z users globally (Stahl & Literat, 2023). The platform serves as a hub for entertainment and has become a pivotal space where mental health awareness content thrives, significantly impacting its users (Milton et al., 2023). These impacts extend into the formation of TikTok communities where users actively seek for helpful mental health content which is highlighting the platform's role in mental health awareness advocacy (Jerin et al., 2024).

Within this context of modern digital engagement, global human rights organizations such as Amnesty International are actively using social media platforms to enhance their advocacy on human rights-related topics. According to Joscelyne et al. (2015), Amnesty International utilises social media platforms worldwide to raise awareness of mental health issues. This engagement illustrates how traditional human rights activism can incorporate modern digital communication strategies to increase the reach and impact of their initiatives.

Furthermore, Attention-deficit-hyperactivity disorder (ADHD) mental health awareness content is currently trending on TikTok (Chevalier, 2024), making it another compelling reason for this research to focus primarly on ADHD mental health awareness content. According to the DSM-5, ADHD is a neurodevelopmental disorder characterized by a persistent pattern of inattention and/or hyperactivity-impulsivity that disrupts individual's functioning or development. Therefore, the increased visibility and discussion around ADHD on TikTok highlight the need to understand how such content affects emotional and empathetic responses among Generation Z users. This trend highlights TikTok's role in both raising awareness and shaping perceptions and responses to ADHD-related content (Ramsden & Talbot, 2024).

Considering TikTok's significant role in advocating mental health awareness, it is evident that this digital platform is closely connected to the emotional responses of its users (Barta & Andalibi, 2021). The content on TikTok can evoke a wide range of emotional responses, influenced by viewer's personal beliefs, attitudes, and perceptions (Li, 2019). Additionally, emotions evoked by digital content can lead to physical reactions and behaviors that help individuals achieve specific goals and adapt to their real life environment (Kleinginna & Kleinginna, 1981). Furthermore, it is important to note that the emotional

engagement facilitated by vivid and narrative TikTok content can significantly reinforce empathetic responses among its users (Zaki & Ochsner, 2012). Empathy, defined as the ability to understand and share the feelings of another, connects both our emotions and internal cognitive processes (Davis, 1983). This is primarily relevant for Generation Z, known for its high engagement with digital media and a strong focus on social justice and mental health awareness advocacy (Braghieri et al., 2022). Within the context of this research, empathy, by referring to Zaki and Ochsner (2012) ideas, encompasses both the cognitive ability to place the TikTok viewer in the position of the person presented in the digital content and the affective response to that person's emotional state. This dual aspect of empathy can be modulated by media content, which can both inform and reinforce stronger emotional responses (Zaki & Ochsner, 2012). Therefore, TikTok, as an engaging digital platform, can significantly influence emotional and empathetic responses by improving empathy accuracy, which is the ability to understand others' thoughts and emotions from digital social cues (Montag et al., 2021).

To analyze the emotional and empathetic responses evoked by ADHD mental health awareness TikTok content phenomenon among Generation Z, this study incorporates two independent variables by utilizng the Valence-Arousal Model (Russell, 1980) which classifies emotions according to two dimensions: valence (positive vs. negative) and arousal (high vs. low). These variables will be manipulated within the experimental stimuli to observe their effects on two dependent variables: emotional responses and empathetic responses. This model provides a valuable framework for analysing how different levels of valence and arousal in ADHD mental health awareness TikTok content could influence emotional and empathetic responses among Generation Z users. Therefore, understanding how these dimensions of emotional valence and arousal content affect viewers can reveal insights into how they perceive and react to ADHD mental health awareness TikTok content.

Moreover, Social Information Processing Theory (Walther, 1992) provides insights into how Generation Z interprets social cues in TikTok content. Applying this theory allows to assess whether emotional responses to mental health awareness content on TikTok are essential to the interpretive process and linked to empathetic responses. This theory will help explain whether Generation Z processes social cues depicted in the emotionally evocative ADHD mental health content on TikTok and how this significantly influences their emotional and empathetic responses.

Additionally, Social Judgment Theory (Sherif & Hovland, 1961) offers valuable insights into how individuals process persuasive messages, allowing an in-depth analysis of Generation Z's emotional and empathetic responses to ADHD mental health awareness content on TikTok. This research applies this theory to understand how TikTok viewers' emotional and empathetic responses to digital messages can change or be reinforced based on their pre-existing opinions and attitudes toward ADHD mental health issues.

Hence, this study explores the complex ways that media consumption on TikTok influences emotional and empathetic responses toward ADHD mental health awareness content by manipulating emotional arousal (high vs. low) and valence (positive vs. negative) among Generation Z users. This manipulation is expected to reveal significant insights because valence and arousal are fundamental aspects of emotional responses that shape how individuals perceive and react to ADHD mental health awareness content, alongside potentially enhancing empathetic responses with this content. Subsequently, the research question for this study was formulated:

RQ: *"How does the dissemination of Mental Health Awareness content by the Amnesty International UTwente student activism organization on TikTok influence emotional and empathetic responses of Generation Z individuals?"*

This research highly contributes to the fields of Communication Science and social media psychology by enhancing the understanding of TikTok's influence on mental health awareness, primarily ADHD. From the theoretical perspective, it delves into how ADHD content on TikTok affects Generation Z's emotional and empathetic responses, applying theoretical frameworks such as the Valence-Arousal Model (Russell, 1980), Social Information Processing Theory (Walther, 1992), and Social Judgment Theory (Sherif & Hovland, 1961). These models assist in identifying how digital media influences emotional and empathetic responses, providing valuable insights into the relationship between media content and viewers' experiences. From the practical perspective, the research findings assist mental health advocates and organizations such as Amnesty International create more effective TikTok campaigns content. By understanding emotional impacts, they can create TikTok content that resonates deeply with young audiences, improving the effectiveness of mental health awareness campaigns and fostering greater empathy and understanding.

THEORETICAL FRAMEWORK

This research study seeks to delve into the dynamic relationship between emotional and empathetic responses among Generation Z users, specifically within the context of mental health awareness content on TikTok. To achieve the study's purpose, the research expands upon existing literature on mental health content on TikTok. It integrates theoretical frameworks such as the Valence-Arousal Model (Russell, 1980), Social Information Processing Theory (Walther, 1992), and Social Judgment Theory (Sherif & Hovland, 1961). Therefore, a new theoretical conceptual model will be developed based on the aforementioned academic literature review and insights acquired from these theoretical frameworks. This newly developed model aims to shape both the content stimuli and the subsequent research survey designed to collect user responses from Generation Z individuals. By integrating these elements, this study aims to contribute significant insights to the field of social media research, investigating how mental health awareness TikTok content influences the emotional and empathetic responses of Generation Z users.

Mental Health Awareness Content on Social Media

Mental health awareness content on social media has become an essential tool for promoting mental health literacy and encouraging digital help-seeking behavior regarding possible mental health struggles among Generation Z individuals (Alonzo & Popescu, 2021; Saha et al., 2019). TikTok, in particular, has emerged as a crucial platform for these purposes. Existing research literature indicates that young individuals increasingly prefer online sources over traditional methods for seeking mental health information, a trend significantly reinforced during the COVID-19 pandemic (Pretorius et al., 2021; Scott et al., 2022).

Furthermore, mental health awareness digital content plays a crucial role in shaping the emotional and empathetic responses of Generation Z. However, integrating human rights advocacy into digital platforms can introduce psychological risks, necessitating that content creators manage their messages ethically and effectively to foster appropriate emotional responses among viewers (Joscelyne et al., 2015; Peek et al., 2015).

Nevertheless, TikTok's role in social activism and personal expression offers a unique platform for advocacy and education, facilitating a deeper understanding and wider conversation regarding mental health among young people (Fraguas, 2021; Wong, 2023).

ADHD Content on TikTok

Understanding the motivations of Generation Z to engage with mental health content is crucial for comprehending their emotional and empathetic responses. Various mental health struggles, such as ADHD, anxiety, and depression, often co-occur or influence one another, impacting therapeutic approaches and the type of mental health awareness social media content (McGrath et al., 2020; Naslund et al., 2020). ADHD is currently the most trending topic on TikTok (Milton et al., 2023). Therefore, this thesis will primarily focus on ADHD mental health awareness content on TikTok.

Content on TikTok regarding ADHD often focuses on explaining symptoms and correcting misconceptions, which is crucial as ADHD frequently coexists with other mental health issues such as anxiety and depression (Yeung et al., 2022). TikTok's dynamic and engaging content helps reduce stigma and promote effective management strategies, fostering a better understanding of ADHD's complexity and its intersections with other disorders (Grabb, 2023).

This thesis aims to provide a perspective on the characteristics of ADHD-related mental health awareness content on TikTok, treating ADHD as a spectrum to highlight the various ways in which this mental health struggle is expressed. Individual variations exist in the symptoms of ADHD, emphasizing the importance of seeing ADHD as a spectrum disorder (Hill, 2015). This variation underscores how crucial it is to highlight both positive and negative aspects of ADHD in TikTok content. It underscores the spectrum nature of ADHD and demonstrates that individuals with ADHD can thrive in environments that value their unique and even creative abilities (Antshel et al., 2011), as will be illustrated in the positive TikTok content stimuli.

The initial goal of this thesis research paper is to develop TikTok mental health awareness video stimuli that highlight positive aspects of ADHD, such as creativity and high energy, as well as negative aspects, such as daily challenges and internalized emotional tension (Hours et al., 2022; Rubin et al., 2023). By applying insights from these studies, the TikTok mental health awareness video stimuli will depict both the struggles and resilience of individuals with ADHD, presenting a balanced view of ADHD mental health awareness content.

Strategies for Creating Engaging TikTok Content

To create effective ADHD mental health awareness TikTok videos, it is essential to consider various campaign creation strategies that impact the target Generation Z audience.

1. **Emotionally Evocative Content:**

Creating emotionally evocative content on TikTok involves various campaign creation strategies such as utilization of effective visuals, music, and powerful narratives to evoke strong emotional responses (Fuaddah et al., 2022). This is essential for effectively engaging Generation Z audiences and conveying convincing messages on social media platforms, primarily TikTok, especially in the context of mental health digital advocacy. Jerin et al. (2024) suggest that mental health-related videos should utilize different emotional appeals such as:

- **Affiliation**: Content stimuli should reinforce a sense of belonging to the community, particularly within the context of research stimuli aimed at individuals who may have ADHD or other related mental health struggles.
- **Hope**: Content stimuli should inspire optimism and positivity by depicting a sense of hope in various aspects of the ADHD condition.
- **Sorrow**: Content stimuli should depict the challenges and struggles associated with ADHD to evoke an empathetic response.
- **Personal Stories**: Content stimuli should convey the ADHD awareness narrative by showing individual experiences with real people to create a personal connection with the viewer.

2. **Empathetically Resonant Content:**

Empathetically resonant content plays a crucial role in digital viewers' content perception, especially in the context of digital mental health advocacy. Cultivating empathy through humanized content narratives that viewers can relate to their own personal experiences can significantly enhance viewer engagement and emotional connection (Roberts, 2021). Realistic narratives regarding ADHD's daily challenges and potential positive changes can elicit compassion, reinforcing the perceived content impact among Generation Z viewers (Kim & Kim, 2024). This empathetically engaging content creation strategy can help viewers feel a sense of belonging to the community, potentially leading

them to perceive mental health advocacy content as integral to positive global change and encouraging them to be more engaged and supportive toward this content (Kim & Kim, 2024).

Theoretical Framework for analysing Emotional & Empathetic Responses of Generation Z TikTok Users

The emotional and empathetic impact of an ADHD mental health awareness campaign on TikTok can be effectively analyzed using Russell's Valence-Arousal Model (1980). By utilizing this model, the research aims to understand how variations in emotional valence (positive vs. negative) and arousal (high vs. low) influence the emotional and empathetic responses of Generation Z viewers. This theoretical framework will guide the investigation into how the dissemination of mental health awareness content by Amnesty International UTwente on TikTok affects Generation Z individuals.

The ADHD awareness campaign will utilize positive emotional valence content to evoke pleasant emotional states, such as happiness or satisfaction. In contrast, negative valence content will be designed to evoke unpleasant emotional states, such as sadness or anger. For instance, a persuasive video with negative emotional valence depicting the struggles of living with ADHD might evoke feelings of sadness. According to Keskin et al. (2017), persuasive digital messages can lead to a strong emotional shift, thereby triggering a strong empathetic response in the viewer. To support this idea, the emotional contagion social media marketing strategy identified by Herrando and Constantinides (2021) will be applied in the creation of TikTok stimuli. Emotional contagion refers to the phenomenon where emotions depicted in social media posts are subconsciously transferred from the human models depicted in the digital content to the viewer (Herrando & Constantinides, 2021). Subsequently, the hypotheses regarding the influence of valence on emotional and empathetic responses are formulated as follows:

H1a: *There is a stronger effect of valence (positive vs. negative) on the emotional response of Generation Z individuals.*

H2a: *There is a stronger effect of valence (positive vs. negative) on the empathetic response of Generation Z individuals.*

Furthermore, the emotional arousal dimension from the Valence-Arousal Model (Russell, 1980) will be applied as a concept that determines the degree of excitement or calmness experienced in response to ADHD mental health awareness content stimuli. This dimension will modulate the intensity of these emotional states. High arousal content, characterized by stimulating and engaging elements, might evoke stronger emotional responses, while low arousal content, which is more calming or neutral, will evoke more subdued responses. According to Xu et al. (2022), these variations in emotional arousal can lead to the "Arousal-Homophily-Echo" effect, which suggests that content with high emotional arousal can evoke strong emotions in content viewers. Therefore, people whose emotional responses resonate with the depicted emotions in the digital content may experience a strong empathetic reaction (Xu et al., 2022). For example, a TikTok content stimuli video with high emotional arousal regarding overcoming ADHD symptoms may evoke strong emotional responses in viewers, affecting them to feel a sense of hope. Conversely, a TikTok content stimuli video with low emotional arousal might lead to an emotionally mild reaction. In this way, the hypotheses regarding the arousal effect on emotional and empathetic responses are formulated as follows:

H1b: *There is a stronger effect of arousal (high vs. low) on the emotional response of Generation Z individuals.*

H2b: *There is a stronger effect of arousal (high vs. low) on the empathetic response of Generation Z individuals.*

Thus, the emotional contagion effect (Herrando & Constantinides, 2021) evoked from further developed TikTok content stimuli can enhance emotional responses along with empathetic responses among Generation Z viewers. Emotional contagion is defined as that empathic response that often a result of shared emotional experiences (Herrando & Constantinides, 2021). Therefore, research by Herrando and Constantinides (2021) supports the idea that emotionally evocative content enhances emotional responses which implies that the content with a distinct emotional message and strong emotional arousal effectively triggers an emotional contagion effect, deeply resonating with viewers. Thus, this emotional valence and arousal interaction effect is crucial in understanding how Generation Z processes and responds to TikTok content emotionally and empathetically, thereby the following hypotheses are formulated:

H1c: *There is an interaction effect between valence and arousal on the emotional response of Generation Z individuals.*

H2c: *There is an interaction effect between valence and arousal on the empathetic response of Generation Z individuals.*

Thereafter, by utilizing the Valence-Arousal Model (Russell, 1980), the ADHD mental health awareness campaign on TikTok will involve different narratives related to ADHD struggles to observe the anticipated dynamics in emotional and empathetic responses among Gen Z individuals.

Furthermore, to analyze these hypotheses in a great detail, applying Social Information Processing Theory by Walther (1992) is crucial. This theory posits that individuals use cognitive processes to interpret social cues in digital content. By utilizing this theory, this research can assess whether emotional responses to mental health awareness content on TikTok are fundamental to the interpretive process of the viewed digital content and linked to empathetic reactions. Additionally, it assists in explaining how Generation Z processes emotional information from evocative mental health content and how this influences their emotional and empathetic responses to the content they view.

However, it is important to note that the effects of persuasive ADHD mental health awareness content stimuli on TikTok can have unpredictable emotional and empathetic impacts on Generation Z individuals. This is due to varying sensitivity to emotional-evoking content, personal experiences, internal beliefs, and attitudes related to ADHD awareness. As Soler-Gutierrez et al. (2023) discuss, the broader emotional and empathetic impacts of digital content stimuli can lead to diverse responses. For instance, while one person might find a motivational video on ADHD inspiring and empowering, another might find it overwhelming or triggering based on their personal experience or attitudes toward ADHD (Confetto et al., 2023). Therefore, in order to comprehend and evaluate the complex and anticipated effects of further developed ADHD mental health awareness TikTok content stimuli on emotional and empathetic responses among Generation Z, the application of Social Judgment Theory by Sherif and Hovland (1961) is beneficial for this research study. By applying Social Judgment Theory (Sherif and Hovland, 1961), the impact of viewed stimuli content on empathetic responses among Generation Z can be explained by their willingness to either accept or reject information in the viewed digital content, which is referred to as the “latitude of acceptance”

or “latitude of rejection”. Therefore, this research study, by referring to Social Judgment Theory (Sherif and Hovland, 1961), aims to propose the assumption that content closely aligned with the viewer’s beliefs and attitudes towards ADHD mental health awareness TikTok content will be more persuasive and evoke stronger empathetic responses. Therefore, to systematically investigate the dynamics between the different dimensions of valence (positive vs. negative) and arousal (high vs. low) in ADHD mental health awareness stimuli TikTok content, and their influence on emotional and empathetic responses, and to validate the previously outlined research assumptions, the following hypotheses are formulated:

H1d: *At high arousal levels, there is a stronger difference in emotional response between positive and negative valence.*

H1e: *At low arousal levels, there is a stronger difference in emotional response between positive and negative valence.*

H1f: *For positive valence, there is a stronger difference in emotional response between high and low arousal.*

H1g: *For negative valence, there is a stronger difference in emotional response between high and low arousal.*

H2d: *At high arousal levels, there is a stronger difference in empathetic response between positive and negative valence.*

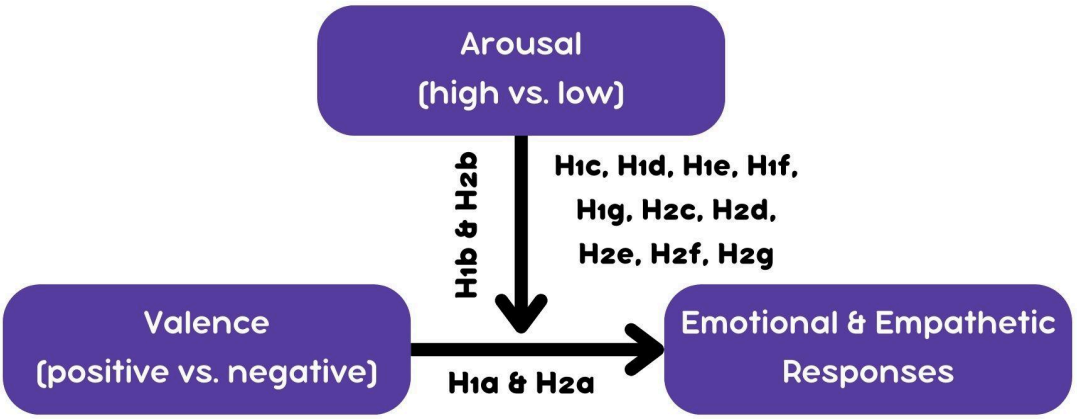
H2e: *At low arousal levels, there is a stronger difference in empathetic response between positive and negative valence.*

H2f: *For positive valence, there is a stronger difference in empathetic response between high and low arousal.*

H2g: *For negative valence, there is a stronger difference in empathetic response between high and low arousal.*

Hence, the conceptual research model was developed to illustrate the relationships between the independent variables such as valence and arousal on dependent variables such as emotional and empathetic responses (See Figure1).

Figure 1
Conceptual Research Model



Lastly, the study will explore the following hypotheses related to emotional and empathetic responses, as presented below in Table 1.

Table 1

Overview of the Hypotheses

	Hypotheses
Valence Main Effect on Emotional Responses	**H1a:** There is a stronger effect of valence (positive vs. negative) on the emotional response of Generation Z individuals.
Arousal Main Effect on Emotional Responses	**H1b:** There is a stronger effect of arousal (high vs. low) on the emotional response of Generation Z individuals.
Interaction Effect between Valence & Arousal for Emotional Responses	**H1c:** There is an interaction effect between valence and arousal on the emotional response of Generation Z individuals. **H1d:** At high arousal levels, there is a stronger difference in emotional response between positive and negative valence. **H1e:** At low arousal levels, there is a stronger difference in emotional response between positive and negative valence. **H1f:** For positive valence, there is a stronger difference in emotional response between high and low arousal. **H1g:** For negative valence, there is a stronger difference in emotional response between high and low arousal.

Valence Main Effect on Empathetic Responses	**H2a:** There is a stronger effect of valence (positive vs. negative) on the empathetic response of Generation Z individuals.
Arousal Main Effect on Empathetic Responses	**H2b:** There is a stronger effect of arousal (high vs. low) on the empathetic response of Generation Z individuals.
Interaction Effect between Valence & Arousal for Empathetic Responses	**H2c:** There is an interaction effect between valence and arousal on the empathetic response of Generation Z individuals. **H2d:** At high arousal levels, there is a stronger difference in empathetic response between positive and negative valence. **H2e:** At low arousal levels, there is a stronger difference in empathetic response between positive and negative valence. **H2f:** For positive valence, there is a stronger difference in empathetic response between high and low arousal. **H2g**: For negative valence, there is a stronger difference in empathetic response between high and low arousal.

METHODS AND INSTRUMENTS

The research aimed to investigate Generation Z's emotional and empathetic responses to ADHD mental health awareness content on TikTok. An experimental approach was adopted, manipulating emotional valence (positive vs. negative) and arousal (high vs. low) in a 2x2 between-subjects design. Four distinct TikTok videos related to ADHD mental health awareness as experiment research stimuli were created as based on the outlined theoretical framework and Valence-Arousal Model (Russell, 1980):

1) Positive valence with high arousal message

2) Positive valence with low arousal message

3) Negative valence with high arousal message

4) Negative valence with low arousal message.

The stimuli videos were presented to participants within a Qualtrics survey platform, aligning with the quantitative approach of this research. By implementing these specific stimuli conditions within the Qualtrics survey, the study aimed to quantitatively analyse participants' responses to a variety of emotionally and empathetically evocative content across mental health awareness theme on TikTok.

Sampling

Given the research's specific focus on examining mental health awareness TikTok content, the sample was drawn from a group of Generation Z individuals both within and beyond the University of Twente community. To enhance the sampling strategy, an exclusive focus was placed on Generation Z, targeting active TikTok users. Participants were selected using a simple random sampling method, specifically targeting individuals aged 18 to 27 years. Furthermore, participants were recruited via WhatsApp chats with University of Twente students and by sharing a research survey through Instagram Stories on personal and Amnesty International UTwente social media accounts. Random selection was used to assign each of the four groups of 30 participants to expose them to one of the mental health

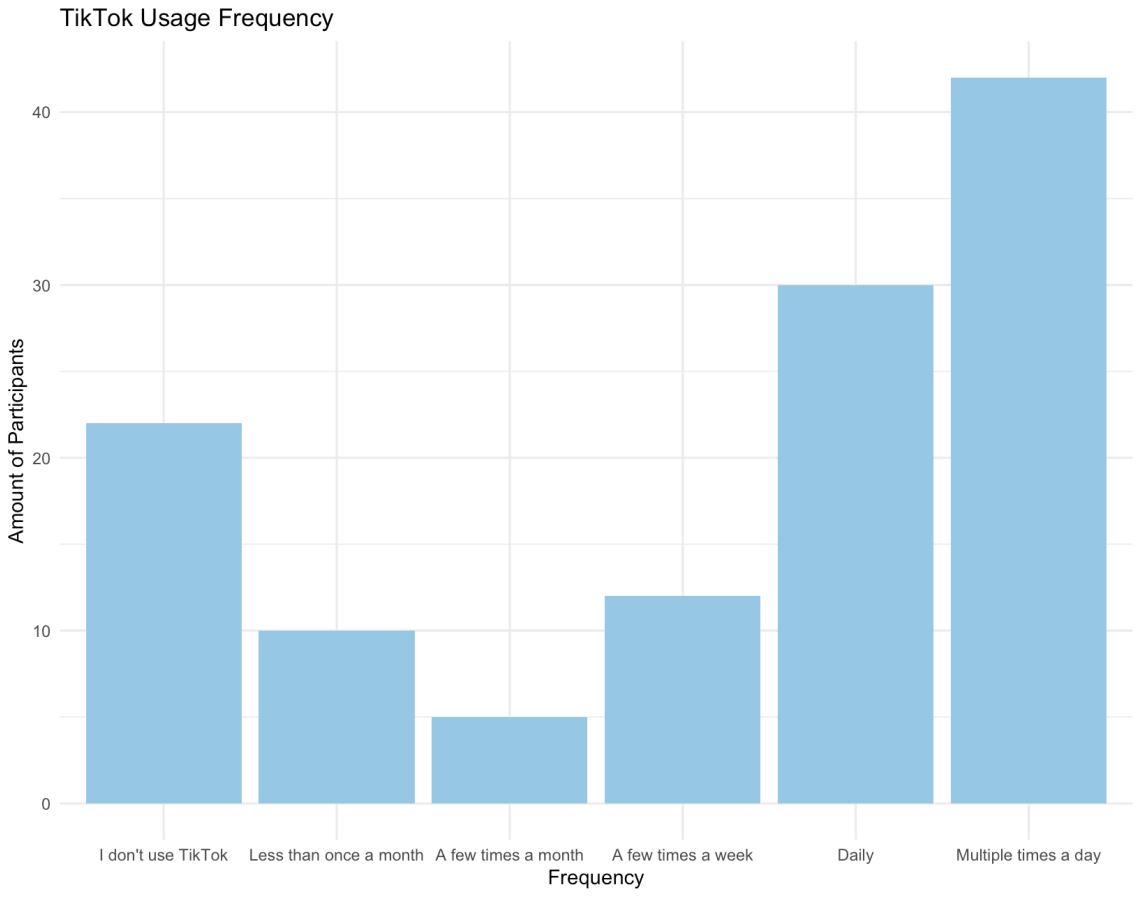
awareness TikTok content stimulus videos. Thus, a total of 120 participants were recruited for this study.

The descriptive statistics was conducted for the age of participants. The mean age of participants was 22.28 years (SD = 2.21). The median age was 22 years, and the mode was 21 years.

Subsequently, the frequency distribution for TikTok usage among all 120 participants was performed which reveals a varied pattern of TikTok usage engagement (see Figure 2). A considerable number of participants, specifically 22 individuals (27.5%), reported that they do not use TikTok at all. Meanwhile, a more frequent usage pattern was observed among 30 participants (37.5%) who use TikTok daily. Notably, the highest frequency group includes 42 participants (52.5%) who use TikTok multiple times a day.

Figure 2

Clustered bar chart Frequencies TikTok Usage

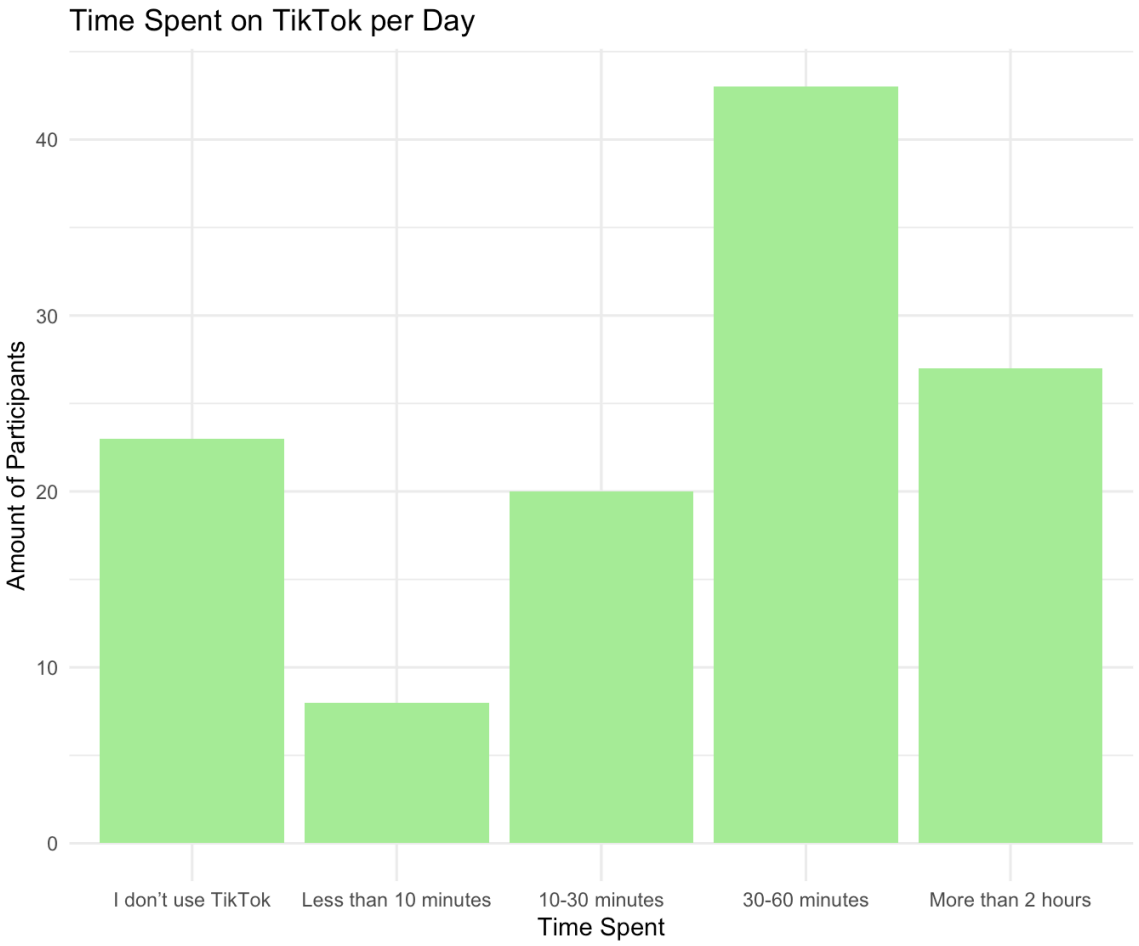


Regarding the daily time spent on TikTok, the responses indicate varied levels of spent time on TikTok (see Figure 3). A total of 23 participants (28.75%) do not use TikTok at

all. Nonetheless, the largest group, consisting of 43 participants (53.75%) who spend 30-60 minutes on TikTok each day. Furthermore, notably, 27 participants (33.75%) reported spending more than 2 hours daily on TikTok.

Figure 3

Clustered bar chart Time Spent TikTok per Day



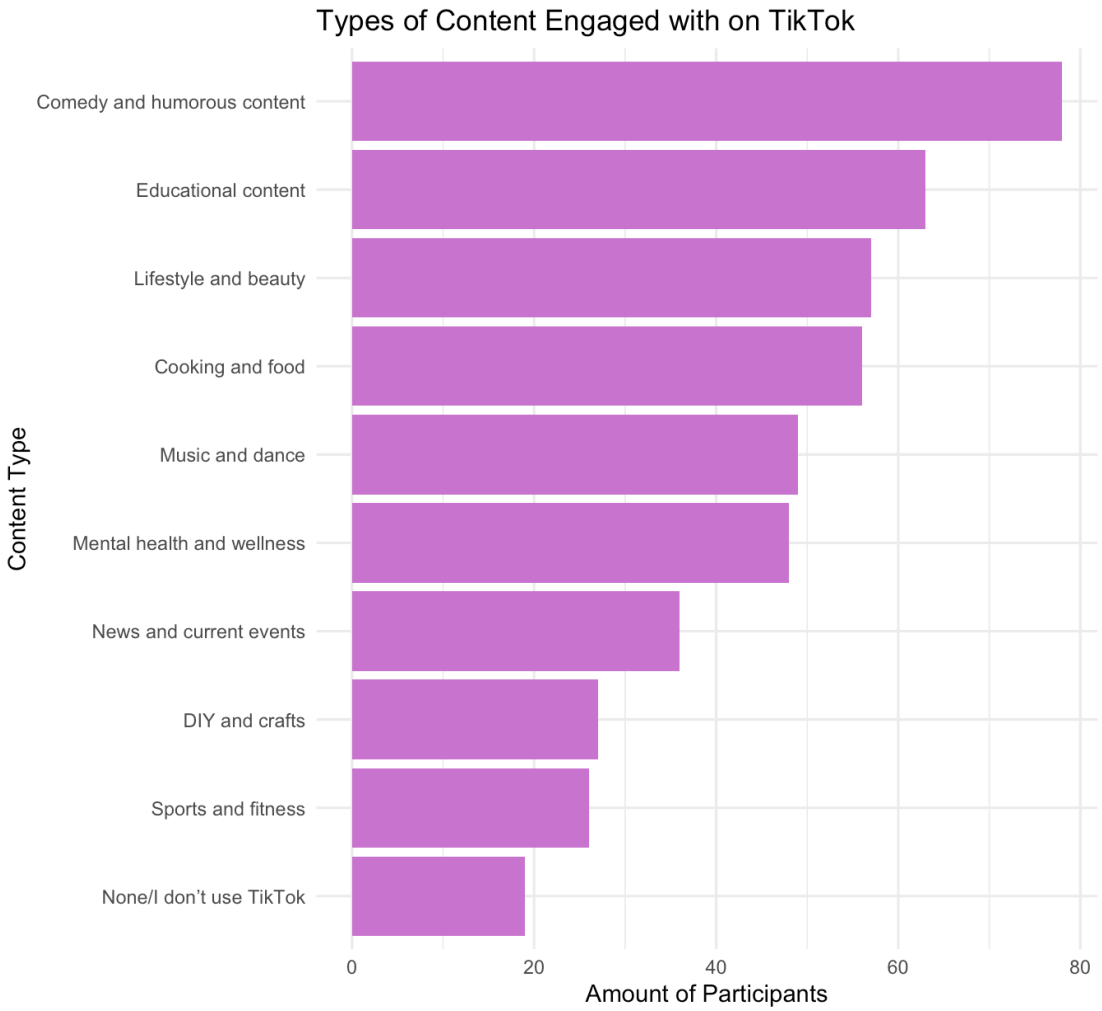
For the survey question regarding the content categories with which Generation Z participants interact, respondents were allowed to select multiple answers. Consequently, it became clear that Generation Z engages with a diverse set of content categories on TikTok (see Figure 4). The most popular category was Comedy and humorous content, which was selected by 78 participants. Educational content also saw significant engagement, with 63 participants, while Lifestyle and beauty attracted 57 participants.

In contrast, less frequently engaged categories included Sports and fitness, chosen by 26 participants, and DIY and crafts, selected by 27 participants. Notably, the Mental health

and wellness category, which drew the attention of only 48 participants, is important for this research. This relatively low engagement indicates that a smaller portion of the Generation Z survey sample group interacts with mental health content. This could significantly impact the research results, considering the main research focus on mental health awareness TikTok content. Additionally, it is significant that a small minority of participants, 19 in total, reported that they do not engage with any TikTok content at all. This finding is particularly fascinating given that, at the beginning of the survey, 22 participants indicated they do not use TikTok at all. The inconsistency in these results will be further examined through a cross-tabulation analysis between the types of content, the frequency of TikTok usage, and the time spent on TikTok per day.

Figure 4

Clustered bar chart Frequencies Type of Content Engaged TikTok



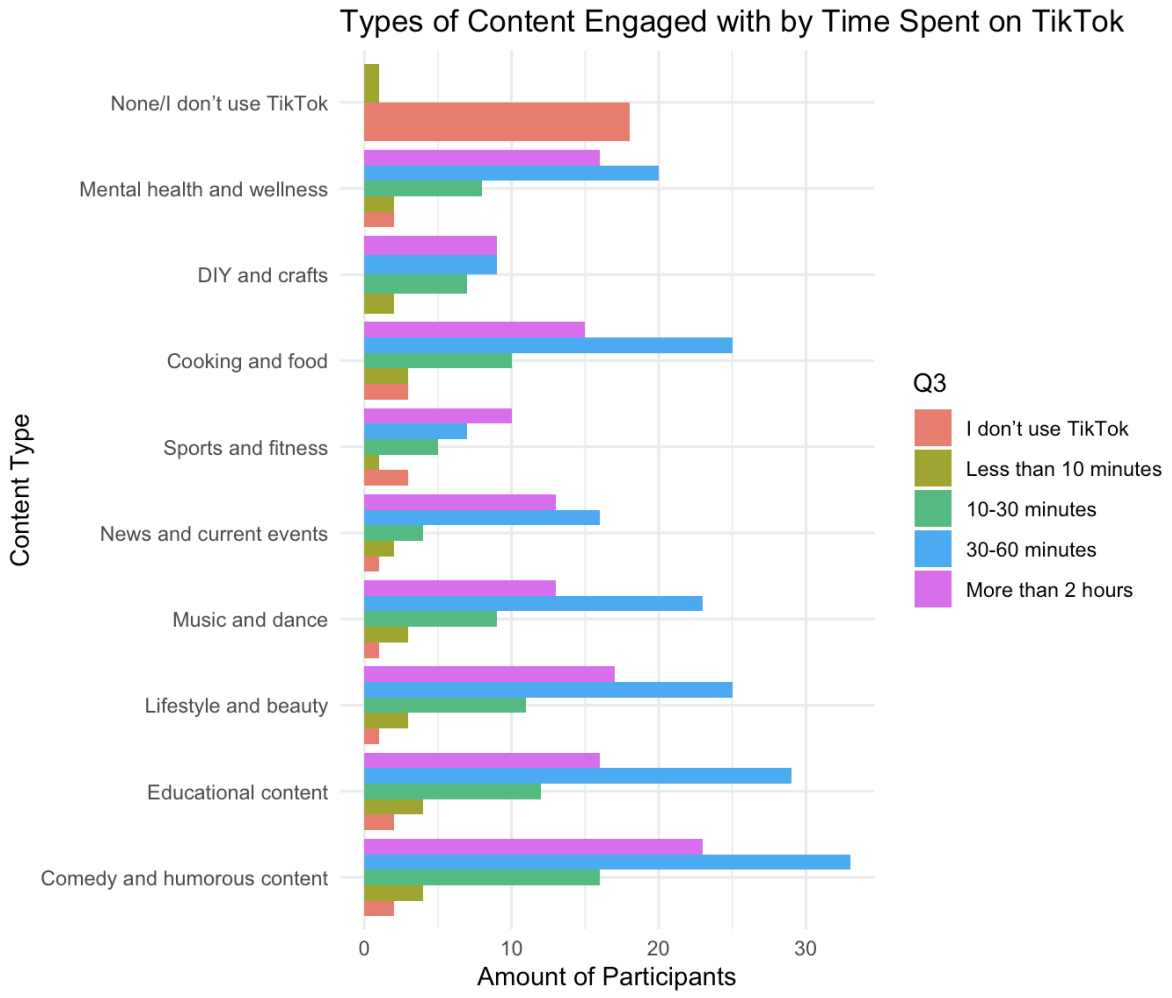
The cross-tabulation analysis of TikTok usage reveals intriguing insights into content engagement patterns. The first chart below illustrates engagement based on daily usage time (See Figure

5), highlighting that participants who spend more than two hours on TikTok are the most engaged with content categories such as Music and dance, Comedy, and Cooking.

These findings are significant for the research focus on mental health awareness content. Despite its importance, the mental health and wellness category has relatively low engagement, suggesting a smaller group of the Generation Z sample interacts with it. Additionally, there is a notable discrepancy between participants who claimed not to use TikTok and those reporting no content engagement. This suggests that these individuals might still interact with TikTok content through reuploaded TikTok videos on other social media platforms or via third parties, such as friends sharing TikTok content through private messages.

Figure 5

Clustered bar chart Type of Content Engaged TikTok with Time Spent



Procedure

This research was conducted online through a web-based Qualtrics survey, developed in collaboration with Amnesty International UTwente, intending to examine emotional and empathetic responses to ADHD mental health awareness content on TikTok. The survey specifically targeted Generation Z individuals, requiring participants to be aged between 18 and 27 years. First, informed consent was presented to the participants at the beginning of the survey to inform them about data anonymity and to ask whether they agreed or disagreed to participate in the study (see Appendix A). The data collection procedure was conducted from May 27 to June 3.

After providing informed consent and agreeing to participate in the study, participants were asked to specify their age. Subsequently, they were asked about their TikTok usage patterns, including the frequency and duration of their activities within the platform. Options for frequency ranged from “I don’t use TikTok” to “Multiple times a day,” while options for daily usage duration ranged from “Less than 10 minutes” to “More than 2 hours.” Participants were also asked to specify the types of content they typically engage with on TikTok, with choices including Comedy, Educational content, Lifestyle and beauty, Music and dance, and several other content categories. For the full set of survey questions, see Appendix B.

After the preliminary questions, participants were randomly assigned to view one of four video stimuli featuring ADHD mental health awareness content. The presentation order of these stimuli was randomized using Qualtrics software to ensure that each participant was exposed to only one video. After viewing the stimuli video, participants responded to a series of Likert scale statements designed to assess their emotional and empathetic responses towards the viewed content (See Appendix D & Appendix E). Therefore, the participants were divided into four groups of 30, each assigned to one of four specific video stimuli conditions.

As a gesture of appreciation and to encourage participation, after the survey, participants were provided with valuable information about a well-being workshop organized by Amnesty International UTwente (See Appendix C). This resource aims to further support participants’ well-being and engagement with mental health advocacy, thereby enhancing the practical impact of participating in the study.

In addition to the previous methodology components, ensuring participants' data anonymity was essential in the conducted research. Participants' identities were kept confidential, protecting their privacy regarding their potential TikTok content preferences and emotional and empathetic responses toward the viewed ADHD mental health awareness stimuli content. Therefore, ensuring ethical standards implied keeping participants' data anonymous throughout the research process. Furthermore, ethical approval was provided by the University of Twente's Ethics Committee BMS review board, which carefully considered all possible ethical concerns.

Stimuli Design

The stimuli development process encompassed crafting four different types of TikTok videos, each designed based on the Valence-Arousal Model (Russell, 1980) to evoke specific emotional and empathetic responses. Each video was dedicated to ADHD mental health awareness. Positive valence content highlighted creativity and high energy, while negative valence content depicted daily challenges and internalized emotional tension. High arousal content included engaging and stimulating elements, whereas low arousal content used calming or neutral elements. To ensure consistency and reinforce the effects of valence and arousal, all videos were similar in length, format, and visual style. Additionally, the same actor was participating in both positive valence with low arousal and negative valence with low arousal conditions, demonstrating different symptoms of ADHD which ensures a more consistent portrayal of social and emotional cues. This approach helps to maintain a similar effect on Generation Z's content perception, minimizing the influence of external and additional factors.

The videos were created collaboratively by a Communication Science Bachelor's student and the Amnesty International UTwente student activist group. To view all the original stimuli videos, please follow the Google Drive link provided in Appendix F. Additionally, a written description of each stimuli video condition can be found in Appendix G.

Research Survey Measures

Additionally, the research survey was developed using the Likert scale methodology (Likert, 1932), offering participants five response options, ranging from 1 to 5: 1 – Strongly Disagree, 2 – Disagree, 3 – Neither Agree nor Disagree, 4 – Agree, 5 – Totally Agree. Participants were instructed to select the response that aligned with their personal agreement level with each statement presented. The survey primarily focused on two scales such as Emotional and Empathetic.

1. Emotional Response Towards the Viewed Mental Health Content

This survey scale, created specifically for this research, consists of twelve items designed to assess participants' emotional perceptions of each combination of different level of valence and arousal stimuli video conditon. Each item is customised to capture the specific emotional states evoked by the stimuli, based on established emotional frameworks by Hepach et al. (2011), which includes a table ranking emotions by arousal and valence (See Appendix D). The survey results (M = 2.5, SD = 0.12) suggest that, on average, respondents are neutral or have mixed feelings about the items being measured. The relatively low standard deviation indicates that the responses are closely clustered around the mean, suggesting that most respondents have similar views or experiences regarding the survey items.

The reliability analysis of the emotional scale was performed and revealed a Cronbach's alpha of 0.767, indicating acceptable internal consistency. Item-total correlations ranged from -0.2138 to 0.5224. Exploratory Factor Analysis (EFA) using a two-factor model with varimax rotation showed that Factor 1 (MR1), representing positive valence with high arousal stimuli condition, included items from (1) to (12) with loadings from -0.66 to 0.83 and communalities from 0.22 to 0.70. Factor 2 (MR2), representing negative valence with low arousal stimuli condition, included items from (1) to (12) with loadings from -0.71 to 0.88 and communalities from 0.19 to 0.77. All items from (1) and (12) both in the positive valence with low arousal and negative valence with high arousal conditions had near-zero loadings and low communalities. Thereafter, the emotional scale demonstrates general reliability. However, certain items exhibit problematic characteristics that do not align well with the overall scale structure. Hence, all items were retained to maintain the scale's validity across all conditions.

2. Empathy Toward the Viewed Mental Health Content

This factor was carefully developed, inspired by the Empathy Assessment Scale by Malakcioglu (2022) and enhanced with original elements by the researcher. These original elements were developed to address specific gaps identified in the existing literature and empathy scale by Malakcioglu (2022), providing a unique perspective on empathy toward mental health awareness content. This enhancement involved developing a unique empathy scale created for the thesis research question in order to extend the scope of this study regarding mental health awareness content effects. The newly developed scale consists of eight items customized to measure how participants deeply empathise with different emotions on TikTok's mental health content. These items look at participants' empathetic responses across three dimensions: how they interact socially, their thinking patterns, and how well they understand and share emotions when they see mental health challenges on TikTok stimuli (See Appendix E). The survey results (M = 2.5, SD = 0.12) suggest that, on average, respondents exhibit neutral or mixed feelings about the items being measured. The relatively low standard deviation indicates that responses are closely clustered around the mean, suggesting a high level of agreement among respondents regarding the survey items.

The reliability analysis of the empathy scale was conducted and revealed a Cronbach's alpha of 0.618, indicating moderate internal consistency. Item-total correlations ranged from -0.169 to 0.601, with several items exhibiting low or negative correlations. Exploratory Factor Analysis (EFA) using a two-factor model with varimax rotation showed that Factor 1 (MR1), representing positive valence and high arousal stimuli condition, included items from (1) to (8) with loadings from 0.41 to 0.87 and communalities from 0.17 to 0.75. Factor 2 (MR2), representing positive valence with low arousal stimuli condition, included items from (1) to (8) condition with loadings from 0.55 to 0.77 and communalities from 0.31 to 0.60. Items in the negative valence with high arousal stimuli condition (item 1, belonging to the Social Interaction empathetic dimension, and item 6, belonging to the Emotional Understanding and Sharing empathetic dimension) and in the negative valence with low arousal stimuli condition (item 1, belonging to the Social Interaction empathetic dimension, and item 4, belonging to the Emotional Understanding and Sharing empathetic dimension) had near-zero loadings and low communalities. Therefore, many items many items, especially those related to negative valence condition, are poorly performing in this

scale. However, to uphold the scale's validity across all conditions, all items were retained. To uphold the scale's validity across all conditions, all items were retained.

Data Analysis Plan

Initially, descriptive statistics were applied to provide an overview of participants' responses across various stimuli conditions. This included calculating the frequency, mean, median, and mode for variables such as age, frequency of TikTok usage, and time spent on TikTok per day. The distribution of responses for categorical data, such as the types of content engaged with on TikTok, was also assessed. Cross-tabulation analysis was used to explore relationships between the types of content viewed and the frequency of TikTok usage. This analysis helped identify patterns and correlations within the data, offering crucial insights for testing the research hypotheses.

To measure the reliability and validity of emotional and empathetic scales, initial reliability analysis was performed by applying Cronbach's alpha and Exploratory Factor Analysis (EFA). This analysis revealed several items with low item-total correlations. However, removing these items significantly impacted the number of items available across all conditions. Therefore, it was chosen to include all items in the further data analysis despite the overall scales' reliability issues. The limitations posed by the inclusion of potentially unreliable items are highlighted in the discussion section.

Given the complexity of item removal and its impact on the analysis, a two-way ANOVA (Analysis of Variance) and Post-hoc test (Tukey's HSD) were conducted using all items to analyze the interaction effects of valence (positive vs. negative) and arousal (high vs. low) on emotional and empathetic responses. Two-way ANOVA was conducted to analyze the interaction effects of valence (positive vs. negative) and arousal (high vs. low) on emotional and empathetic responses. Two-way ANOVA was employed to compare the means of emotional and empathetic responses across four different video stimuli conditions, categorized by valence (positive vs. negative) and arousal (high vs. low). This analysis aimed to determine whether different age groups within Generation Z exhibit varying responses to these stimuli.

Additionally, post-hoc tests were conducted to identify specific group differences among Generation-Z participants. This allowed for a more detailed examination of the data

and assisted in identifying significant differences for proposed research hypotheses. The results from these analyses were visualized in pairwise comparisons plots, with significant differences clearly marked to enhance interpretation and understanding.

RESULTS

Hypotheses Testing

The data analysis began with loading and preparing the dataset from a CSV file. Empty rows in the dataset with missing values were removed to ensure data completeness. The dataset was divided into subsets based on response types (Emotional and Empathetic) and their characteristics such as positive valence and high rousal, positive valence and low arousal, negative valence and high arousal, negative valence and low arousal. Relevant columns for each subset were selected. The subsets were combined into two main datasets: one for emotional responses and one for empathetic responses. These were further merged into a single dataset for comprehensive analysis. The combined dataset was transformed to long format to facilitate analysis, categorizing responses by valence (positive vs. negative) and arousal (high vs. low). Subsequently, two-way ANOVA tests were performed on the prepared and cleaned dataset which examined the effects of valence and arousal on emotional and empathetic responses. Furthermore, Post-hoc tests identified specific group differences, and the results were organized for further analysis. Differences between groups were visualized in plots, with significant differences marked.

The two-way ANOVA analysis was conducted to examine the effects of valence (positive vs. negative) and arousal (high vs. low) on the emotional responses of Generation Z individuals. The results are presented in Table 2.

Firstly, the main effect of valence on emotional response was found to be highly significant, $F(1,118) = 25.338$, $p < .001$. This indicates that there is a stronger effect of valence on the emotional responses of Generation Z individuals, supporting hypothesis **H1a.**

In contrast, the main effect of arousal on emotional response was not significant, $F(1,118) = 2.440$, $p = .118$. This suggests that arousal does not have a stronger effect on emotional responses, leading us to reject hypothesis **H1b.**

Furthermore, the interaction effect between valence and arousal on emotional response was not significant, $F(1,118) = 0.538$, $p = .464$. This indicates that the combination of valence and arousal does not result in a stronger interaction effect on emotional responses, leading to reject hypothesis **H1c.**

Table 2
Two-Way ANOVA of Valence and Arousal Effects on Emotional Responses Among Gen-Z

Effect	Sum of Squares	*df*	Mean of Squares	*F*	*P*	*95% CI*	
						LL	*UL*
Intercept	0.800	1	0.800	0.537	0.463	2.613	2.865
Valence	37.700	1	37.710	25.338	< .001	-0.453	-0.096
Arousal	3.600	1	3.630	2.440	0.118	-0.233	0.121
Valence:Arousal	0.800	1	0.800	0.538	0.464	-0.345	0.157

Note. N=120. CI= confidence interval; LL = lower limit, UL = upper limit.

Subsequently, post hoc comparisons using Tukey's HSD test (See Figure 6) revealed a significant difference in emotional response between positive and negative valence at high arousal levels (mean difference = -0.275, SE = 0.119, $p < .001$). This supports the hypothesis **H1d,** that high arousal levels are associated with a stronger difference in emotional response between positive and negative valence.

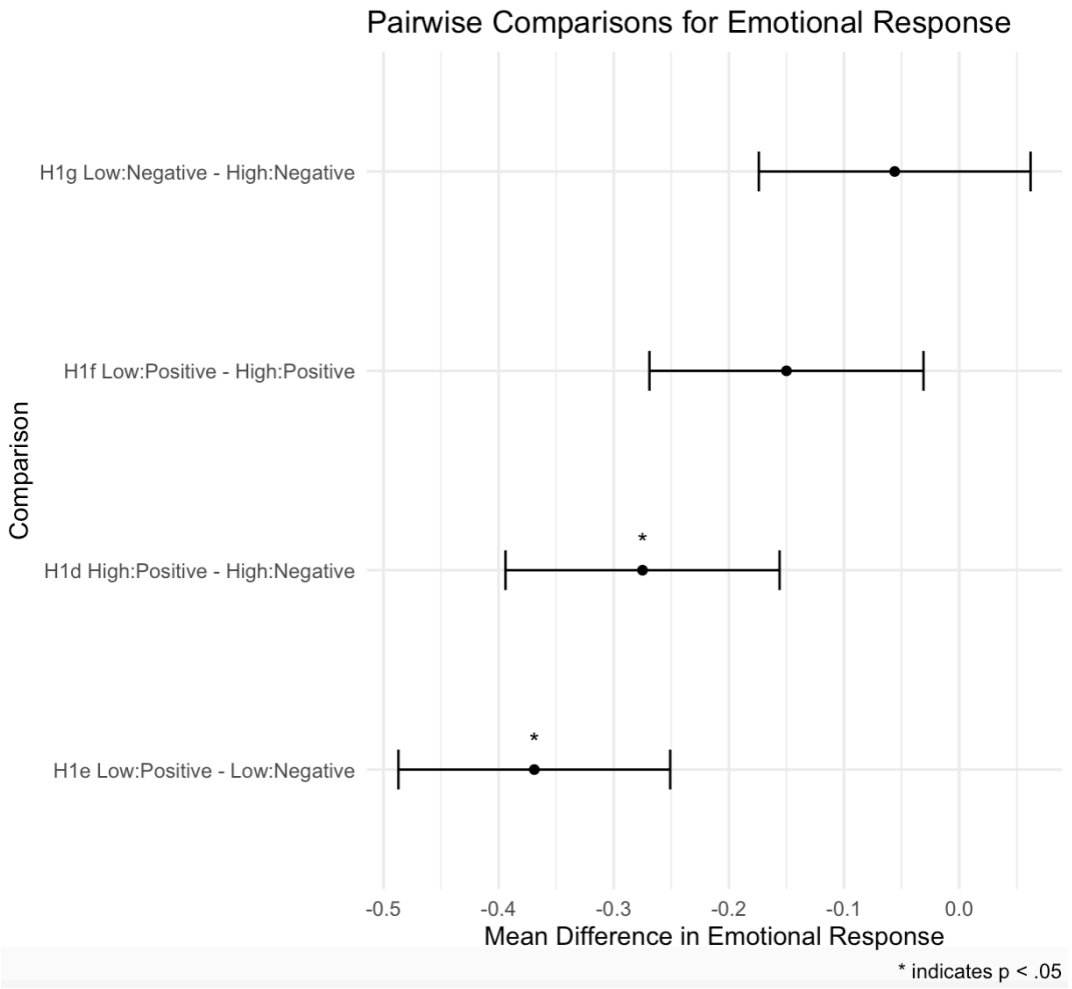
A significant difference was found between positive and negative valence at low arousal levels (mean difference = -0.369, SE = 0.118, $p < .001$), supporting **H1e.**

In contrast, the comparison between high and low arousal for positive valence was not significant (mean difference = -0.150, SE = 0.119, $p = .351$), thus **H1f** was not supported.

Similarly, the difference between high and low arousal for negative valence was also not significant (mean difference = -0.056, SE = 0.118, $p = .925$), thus **H1g** was not supported.

Figure 6

*Post Hoc Pairwise Comparisons Plot for **H1d, H1e, H1f** & **H1g***



The two-way ANOVA analysis was also conducted to examine the effects of valence and arousal on the empathetic responses of Generation Z individuals. The results are presented in Table 3.

The main effect of valence on empathetic response was found to be highly significant, $F(1,118)=6.294$, $p < .001$. This indicates that there is a stronger effect of valence on the empathetic responses of Generation Z individuals, supporting hypothesis **H2a.**

On the other hand, the main effect of arousal on empathetic response approached significance but was not significant, $F(1,118) = 3.543$, $p = .061$. This suggests that arousal might have some influence but does not have a sufficiently stronger effect on empathetic responses, leading us to cautiously reject hypothesis **H2b.**

Moreover, the interaction effect between valence and arousal on empathetic response was not significant, $F(1,118) = 0.036$, $p = .851$. This indicates that the combination of valence and arousal does not result in a stronger interaction effect on empathetic responses, leading us to reject hypothesis **H2c.**

Table 3
Two-Way ANOVA of Valence and Arousal Effects on Empathetic Responses Among Gen-Z

Effect	Sum of Squares	*df*	Mean of Squares	*F*	*P*	*95% CI*	
						LL	*UL*
Intercept	0.800	1	0.800	0.537	0.463	2.613	2.865
Valence	9.100	1	9.094	6.294	< .001	-0.453	-0.096
Arousal	5.100	1	0.319	3.543	0.061	-0.233	0.121
Valence:Arousal	0.100	1	1.445	0.036	0.851	-0.345	0.157

Note. N=120. CI= confidence interval; LL = lower limit, UL = upper limit.

Additionally, post hoc comparisons using Tukey's HSD test (See Figure 7) revealed that the difference in empathetic response between positive and negative valence at high arousal levels was not statistically significant (mean difference = -0.179, *SE* = 0.144, p = .361). Thereafter, hypothesis **H2d** is not supported.

The difference in empathetic response between positive and negative valence at low arousal levels was not statistically significant (mean difference = -0.208, *SE* = 0.143, p = .223). Thus, hypothesis **H2e** is not supported.

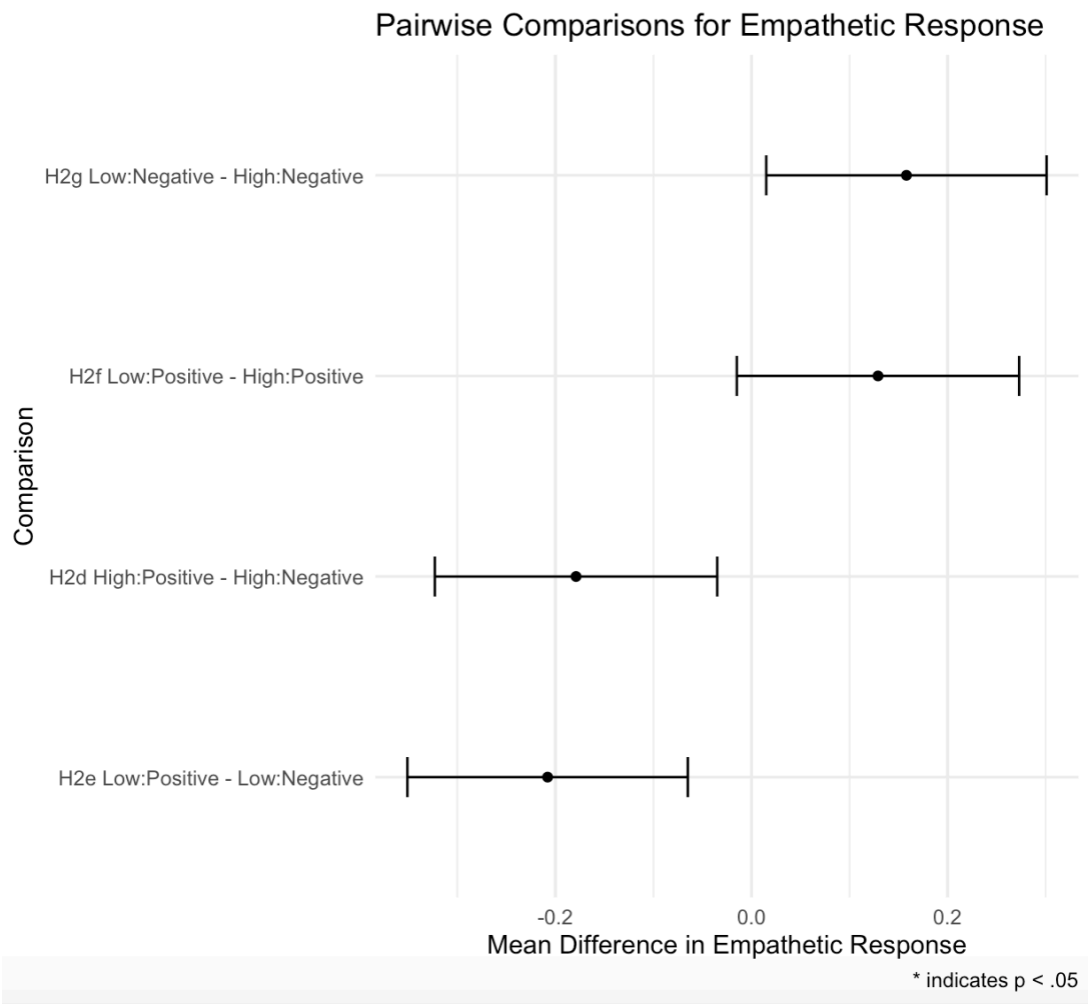
Similarly, the difference in empathetic response between high and low arousal for positive valence was not statistically significant (mean difference = 0.129, *SE* = 0.144, p = .641). Therefore, hypothesis **H2f** is not supported.

Furthermore, the difference in empathetic response between high and low arousal for negative valence was also not statistically significant (mean difference = 0.158, *SE* = 0.143, p

= .466). Thus, hypothesis **H2g** is not supported.

Figure 7

*Post Hoc Pairwise Comparisons Plot for **H2d, H2e, H2f** & **H2g***



DISCUSSION

The primary objective of this study was to explore the influence of ADHD-related mental health awareness TikTok content disseminated by Amnesty International UTwente on the emotional and empathetic responses of Generation Z individuals. The research utilised the Valence-Arousal Model (Russell, 1980), aiming to understand how variations in emotional valence (positive vs. negative) and arousal (high vs. low) impact these responses.

The study findings reveal that the emotional valence of TikTok content significantly influences both the emotional and empathetic responses of Generation Z individuals. Furthermore, positive valence content, highlighting creativity and resilience, elicited more favorable responses compared to negative valence content that depicted daily challenges and internalized emotional tension. This finding supports the hypotheses **H1a** and **H2a**, suggesting that the nature of the content, whether positive or negative, significantly affects how Generation Z individuals emotionally and empathetically react to ADHD awareness content on TikTok. These findings align with the Valence-Arousal Model (Russell, 1980), which posits that variations in emotional valence significantly influence emotional responses. Additionally, this supports the idea discussed by Herrando and Constantinides (2021) on emotional contagion, where emotionally evocative content triggers significant emotional and empathetic reactions.

However, contrary to expectations regarding the hypotheses **H1b** and **H2b**, the effect of arousal on emotional and empathetic responses was not significant. This indicates that the level of excitement or calmness induced by the content does not significantly alter the emotional and empathetic responses among the participants. This finding contradicts earlier research by Xu et al. (2022) that suggested high arousal content could evoke stronger emotional responses.

Additionally, the interaction effects between valence and arousal were found to be non-significant for both emotional and empathetic responses, leading to the rejection of hypotheses **H1c** and **H2c**. This suggests that the combination of these factors does not produce a stronger effect than each factor alone. These results contradict the ideas presented by Herrando and Constantinides (2021), who proposed that the emotional contagion effect in digital content suggests that arousal can modulate emotional responses and simultaneously enhance empathetic responses. However, these findings can be better understood through the

work of Xu et al. (2022), who discussed the Arousal-Homophily-Echo effect which indicates that while arousal can modulate emotional responses, it does not necessarily interact with valence to reinforce these effects further.

Further post-hoc analysis provided deeper insights into the specific conditions under which valence influenced responses. For emotional responses, significant differences were observed between positive and negative valence at both high and low arousal levels (**H1d** & **H1e**), indicating that the valence of the content consistently affects emotional reactions regardless of arousal levels. Positive valence content elicited stronger emotional responses compared to negative valence content. This finding is supported by Keskin et al. (2017), who noted that persuasive digital messages with distinct emotional valence can trigger strong emotional responses. However, no significant differences were found when comparing high and low arousal within the same valence condition, either positive or negative (**H1f** & **H1g**). By referring to (Xu et al., 2022) paper, these findings suggest that arousal alone, without the interaction with valence, does not significantly evoke the emotional responses.

Similarly, for empathetic responses, no significant differences were found in any of the comparisons involving arousal and valence interactions (**H2d**, **H2e**, **H2f**, & **H2g**), suggesting a more complex and less predictable relationship between these variables and empathetic reactions. This finding resonates with the insights from Social Information Processing Theory (Walther, 1992), which suggests that individual interpretations of social cues in digital content can vary widely. Therefore, it leads to less predictable empathetic responses. Additionally, Soler-Gutiérrez et al. (2023) discuss the broader impacts of digital content on empathetic responses which implies that these responses have a complex and unpredictable nature.

Theoretical Implications

The findings of this study provide valuable insights into the theoretical frameworks applied, specifically the Valence-Arousal Model (Russell, 1980), Social Information Processing Theory (Walther, 1992), and Social Judgment Theory (Sherif & Hovland, 1961). These insights effectively address the research questions regarding the emotional and empathetic responses of Generation Z to ADHD mental health awareness content on TikTok.

First, the Valence-Arousal Model (Russell, 1980) is relevant, as positive valence content elicited more favorable emotional responses, aligning with the conceptual research model's predictions. However, arousal's non-significant impact suggests its limited applicability in this context. Thus, while the model is useful, its relevance may vary based on content type and viewer characteristics.

Next, Social Information Processing Theory (Walther, 1992) states that viewers use cognitive processes to interpret social cues that could also be depicted in digital content, influencing their responses. The significant effect of valence according to two-way ANOVA findings on both emotional and empathetic responses supports this theory. Generation Z's engagement with positive valence content confirms the importance of emotional information in shaping responses, validating the theory's relevance. However, post-hoc comparison analysis revealed that empathetic responses were not as strongly influenced by the persuasive emotional appeals developed by Jerin et al. (2024) used in the negative stimuli as initially expected. This complexity in empathetic responses might be influenced by individual differences in sensitivity to emotional content and the varying psychological impacts of mental health advocacy content, as suggested by Peek et al. (2015) and Joscelyne et al. (2015). Additionally, the lack of significant findings in overall empathetic responses can be explained by referring to Roberts (2021), who highlights the importance of personal connection and relatability with the viewed content narrative in fostering empathetic responses.

Furthermore, Social Judgment Theory (Sherif & Hovland, 1961) suggests that content aligning with viewers' beliefs enhances engagement. This theory is supported by the post-hoc comparisons showing that both positive and negative content with low arousal evoked stronger emotional responses. This finding aligns with Kim & Kim (2024), who emphasize the importance of relatable and believable content in fostering engagement. Interestingly, negative content did not evoke empathy at all, which could be explained by Joscelyne et al. (2015) and Peek et al. (2015), who warned about the potential psychological risks of negative digital content. This implies that while valence is crucial, arousal has a limited impact on empathetic responses, indicating that arousal may not interact with viewers' beliefs as strongly. The complexity of empathetic responses is further supported by Roberts (2021), who highlights the significance of personal connection and relatability in cultivating empathetic reponses through digital content.

Integrating these theories provides a comprehensive understanding of how emotional valence and arousal influence responses to ADHD mental health awareness content on TikTok. The Valence-Arousal Model (Russell, 1980) and Social Information Processing Theory (Walther, 1992) are particularly relevant, offering reliable theoretical frameworks for understanding emotional and cognitive processing. Social Judgment Theory (Sherif & Hovland, 1961), while applicable, may need further exploration to fully capture the complexities of viewer engagement. Thereafter, the theoretical frameworks applied in this study are largely relevant, offering significant insights into Generation Z's emotional and empathetic responses to TikTok content. These findings address the research questions and contribute to a broader understanding of social media's impact on mental health awareness.

Practical Implications

The study's findings highlight the need for content creators and mental health advocates to focus on positive aspects of ADHD, such as creativity and resilience, to enhance emotional and empathetic responses among Generation Z on TikTok. Integrating mental health messages into popular content categories such as comedy or music and collaborating with influencers can attract a wider audience. This approach is supported by the findings of Joscelyne et al. (2015), who emphasize the psychological risks associated with negative digital content, and Peek et al. (2015), who advocate for ethical considerations in digital mental health advocacy. By ensuring that content is managed ethically and support resources are provided, creators can help foster positive emotional and empathetic responses among viewers. TikTok can support these efforts by offering guidelines for creating sensitive acceptable content. Furthermore, collaborating with mental health organizations can improve the effectiveness of mental health campaigns on the platform.

For the scientific community, this study validates the relevance of the Valence-Arousal Model (Russell, 1980), Social Information Processing Theory (Walther, 1992), and Social Judgment Theory (Sherif & Hovland, 1961) in understanding responses to mental health content on TikTok. The experimental approach used can serve as a model for future research. Furthermore, interdisciplinary collaboration between psychology, communication studies, and digital media can help to better understand how digital content affects emotional and empathetic responses. Future research should include long-term studies to see how mental health awareness content impacts people over time. Additionally,

exploring the effect of different mental health awareness advocacy digital contet among various demographic groups can contribute to a more informed and empathetic society.

Limitations and Future Research

This study has several limitations that should be addressed in future research. Firstly, the sample was limited to Generation Z within a specific age range, potentially not representing the broader population. Additionally, 23 of the 120 participants were not active TikTok users, which may have impacted the findings. Therefore, future studies should include a more diverse sample to enhance generalizability.

Additionally, the limitations of the survey scales used in this study must also be acknowledged. Both the emotional and empathy scales exhibited certain weaknesses. The emotional scale, despite acceptable internal consistency, showed problematic characteristics in both the positive valence with low arousal and negative valence with high arousal conditions which is indicating that they did not align well with the overall scale structure. Similarly, the empathy scale demonstrated moderate internal consistency, with negative valence with high arousal stimuli condition and negative valence with low arousal stimuli conditions. These issues suggest that the scales may not have fully captured the intended constructs which significantly affected the reliability of the findings. However, in this research, which used a 2x2 between-subjects design based on four varying stimuli conditions with valence (positive vs. negative) and arousal (high vs. low), it was necessary to retain most items to proceed with the two-way ANOVA and post hoc comparisons using Tukey's HSD test. The limitations of the scales significantly impacted the two-way ANOVA and post-hoc tests, resulting in overall no significant emotional valence-arousal research stimuli effect on empathetic responses. Future research should refine these scales to improve their reliability and validity for more accurate analysis of the four possible valence (positive vs. negative) and arousal (high vs. low) stimuli conditions.

Furthermore, the focus on ADHD-related content limits the applicability of the findings to other mental health issues. Future research should explore a wider range of mental health TikTok content topics to determine if the effects of valence and arousal are consistent across different conditions. Additionally, incorporating stronger emotional appeals and diverse narratives could evoke more significant empathetic responses. Thus, examining a

broader set of mental health content across different platforms can help develop more effective stimuli.

Moreover, the cross-sectional design does not allow for the assessment of long-term effects. Longitudinal studies are needed to understand how sustained exposure to ADHD mental health content influences emotional and empathetic responses over time. Furthermore, advanced statistical analysis techniques should be incorporated to better identify the complexity of these relationships. Specifically, two-way ANOVA and post hoc comparisons using Tukey's HSD test may not fully identify the complexity of the relationship between different stimuli and participants' emotional and empathetic responses. This suggests that future studies should consider utilizing more advanced data analytical approaches.

Lastly, while this study used several reliable theoretical frameworks, future research should explore additional models to comprehensively explore the complexity of emotional and empathetic responses. Expanding the scope of research will enhance the understanding of digital mental health advocacy's impact and support the development of more effective and empathetic evoking content strategies.

Conclusion

This research explored the influence of ADHD mental health awareness content disseminated by Amnesty International UTwente on TikTok on the emotional and empathetic responses of Generation Z. By integrating theoretical frameworks such as the Valence-Arousal Model (Russell, 1980), Social Information Processing Theory (Walther, 1992), and Social Judgment Theory (Sherif & Hovland, 1961), the study examined how emotional valence and arousal affect these responses.

The study found that the emotional valence of TikTok content significantly influences both emotional and empathetic responses among Generation Z. Positive valence content elicited more favorable responses compared to negative valence content, highlighting the importance of the content's nature. In contrast, the level of arousal did not significantly impact responses, suggesting its limited role compared to valence. Additionally, there were no significant interaction effects between valence and arousal, indicating that their combination does not produce stronger effects than each factor alone.

Analysis of TikTok usage and engagement patterns revealed that mental health and wellness content has relatively lower engagement among Generation Z, suggesting the need to integrate these messages into more popular content categories to reach a wider audience. This aligns with the finding that Generation Z prefers online sources over traditional methods for seeking mental health information, a trend reinforced during the COVID-19 pandemic.

Practically, the study provides valuable insights for content creators and mental health advocates. Focusing on positive aspects of mental health conditions, integrating messages into popular categories, and collaborating with influencers can enhance emotional and empathetic responses. Ethical content management and providing support resources are also crucial to mitigate potential negative effects. Furthermore, emotionally evocative and empathetically resonant content, such as personal stories and realistic narratives, can enhance viewer engagement and emotional connection.

While the study offers significant insights, future research should include a more diverse sample and explore a broader range of mental health topics. Longitudinal studies are needed to understand the long-term effects of mental health content exposure. Expanding the scope of research will enhance the understanding of digital mental health advocacy's impact and support the development of more effective and empathetic content strategies.

On the last note, this research contributes to the fields of Communication Science and social media psychology by enhancing the understanding of TikTok's influence on mental health awareness, primarily ADHD. It provides a theoretical foundation and practical recommendations for creating engaging, impactful mental health awareness content on TikTok and other social media platforms.

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APPENDICES

Appendix A: Survey Informed Consent

Dear Participant,

You have been invited to participate in a research study titled "Understanding the Impact of ADHD Awareness Content on TikTok on the Emotions and Empathy of Generation Z. This study is being conducted by a BSc Communication Science student at the University of Twente.

During the survey, you will watch a TikTok video focused on ADHD awareness. After viewing the video, you will be asked to answer several questions related to its content. The entire session will take approximately 5-10 minutes.

Your participation in this study is completely voluntary. You are free to withdraw from the study at any time without having to provide any reason.

The research does not pose any significant risks to participants, although the content may evoke mild emotional responses. If you feel distressed, you can stop at any time. We assure you that your personal information will not be collected. Only anonymized survey responses will be analyzed for the scientific report. Furthermore, all data collected during the research procedure will be kept confidential and de-identified to ensure anonymity.

Please be informed that the anonymized data will only be visible to the group of researchers and will be stored securely. The data access is controlled by the group of researchers. Moreover, the research project has been reviewed and approved by the BMS Ethics Committee.

If you have any questions or concerns regarding the research, please do not hesitate to contact me at v.pirtakhiia@student.utwente.nl or my thesis supervisor, Dr. Annemarie J. Nanne, at a.j.nanne@utwente.nl.

For any concerns or questions about your rights as a participant, you may contact the BMS Ethics Committee at ethicscommittee@utwente.nl

Thank you for considering participating in this study.

Sincerely,

Viktoriia Pirtakhiia

Appendix B: Demographic, TikTok Usage and Content Engagement Survey Questions

How old are you?

How often do you use TikTok?

- ○ I don't use TikTok
- ○ Less than once a month
- ○ A few times a month
- ○ A few times a week
- ○ Daily
- ○ Multiple times a day

How much time do you spend on TikTok per day?

- ○ I don't use TikTok
- ○ Less than 10 minutes
- ○ 10-30 minutes
- ○ 30-60 minutes
- ○ More than 2 hours

What types of content do you typically engage with on TikTok? (Select all that apply)

- ☐ Comedy and humorous content
- ☐ Educational content (e.g., tutorials, facts)
- ☐ Lifestyle and beauty
- ☐ Music and dance
- ☐ News and current events
- ☐ Sports and fitness
- ☐ Cooking and food
- ☐ DIY and crafts
- ☐ Mental health and wellness
- ☐ None/I don't use TikTok

Appendix C: End of the Survey

Thank You for Participating in my Thesis Research Survey!

This research would not have been possible without the help of my thesis supervisor, Dr. Annemarie J. Nanne, and the dedicated Amnesty International UTwente team.

As a gesture of my sincere gratitude, I am pleased to invite you to join us for Amnesty UTwente Well-Being Day!

Event Details:
- Healing Yoga @ 12:45 PM
- Bystander Intervention Training @ 5:30 PM (walk-in, start at 5:45 PM)

🗓️ Date: Thursday, May 30th
📍 Location: DesignLab

👉 More Event Info & Sign- Up:
https://docs.google.com/forms/d/e/1FAIpQLSeiLY5EhmKDC

👉 You can also join our Amnesty International UTwente WhatsApp chat for updates on upcoming events:
https://chat.whatsapp.com/E9eTLbveVzcIi0gRzOBuSB

👉 Amnesty UTwente
TikTok: https://www.tiktok.com/@aist.utwente

Thank you again for your participation!

Viktoriia Pirtakhiia

Appendix D: Emotional Scale

Condition	Associated Emotions with Emotional Items	Emotional Factor Items
Positive Valence High Arousal	*Joy, Excitement, Hope.*	(1) The video made me enthusiastic while watching. (2) I felt energized and enthusiastic while watching. (3) It gave me hope and made me feel powerful.
Positive Valence Low Arousal	*Calmness, Contentment, Satisfaction.*	(4) The video made me feel calm and peaceful. (5) I felt content and relaxed watching it. (6) It made me feel quietly happy.
Negative Valence High Arousal	*Sadness, Anxiety, Anger.*	(7) Watching the video made me feel sad and worried. (8) I felt anxious and upset after watching. (9) It made me feel angry and frustrated.
Negative Valence Low Arousal	*Depression, Melancholy, Disheartenment.*	(10) The video left me feeling down and somber. (11) I felt gloomy and melancholic while watching. (12) It made me feel disheartened and reflective.

Appendix E: Empathetic Scale

Empathetic Dimensions	Emotional Factor Items
Social Interaction	(1) When I see someone expressing sadness in the presented content, my empathy makes me feel their sadness too. (2) Witnessing someone find relief or happiness in the presented content evokes empathy in me, making me share in their joy. (3) My empathy drives me to provide comfort and reassurance to those who express fear or anxiety in the presented content.
Thinking Patterns	(5) I can accurately empathize with the emotions of individuals in the presented content based on their actions and expressions. (8) The empathy I feel from the messages in the presented content inspires me to change my behavior or attitudes towards ADHD mental health concerns, bringing me happiness and a sense of purpose.
Emotional Understanding & Sharing	(4) Emotional scenes depicting ADHD struggles in the presented content evoke empathy that moves me to tears. (6) I find solace through empathy in the lighthearted or uplifting moments portrayed in the presented content. (7) My empathy makes me feel a strong sense of anxiety when I see others expressing worry or concern in the presented content.

Appendix F: Google Drive Link to the 4 different stimuli videos

https://drive.google.com/drive/folders/1J2YcCX8wVRFR13zSGgoFpyKRdKbLmEEs?usp=drive_link =

Appendix G: Stimuli Videos Description

1. Positive Valence with High Arousal

Title: “Don’t Underestimate the Power of ADHD”

Visuals:

A dynamic, fast-paced montage features an individual performing high-energy activities such as drawing and dancing. Additionally, this video includes quick, vibrant graphics with keywords like “Creative”, “Energetic”, and “Curious”. Lively music, colorful patterns, and soap bubbles in the background maintain high energy. Furthermore, an impactful message, “Be Bold. Be Creative. Be You” appears at the end of the video to show compassion and support for those who might struggle with ADHD.

2. Positive Valence with Low Arousal

Title: “A Day in My Shoes”

Visuals:

A montage features an individual wearing a bright jacket in a group social setting, actively engaging in conversation and displaying only positive facial expressions to evoke positive emotions in the viewer. To highlight sociable traits associated with ADHD, music was excluded, and only the recorded audio of the conversation was included. This stimuli video includes quick, vibrant graphics with keywords such as “Sociable”, “Friendly”, “Lively”, and “Dynamic”. Furthermore, an impactful message, “Embrace. Empower. Thrive.” appears at the end of the video to show compassion and support for those who might struggle with ADHD.

3. Negative Valence with High Arousal

Title: “The ADHD Struggle Is Real”

Visuals:

An intense montage with rapid sequences shows the daily challenges of someone with ADHD. It includes fast-paced scenes of procrastination, task-switching, and struggling to focus in a cluttered workspace. The video features sharp, abrupt transitions and intense music to convey stress and urgency. Additionally, this stimuli video includes quick, vibrant graphics with keywords such as “Disorganization”, “Task Switching”, “Procrastination”, and “Excoriation Disorder”. Furthermore, an impactful message, “Challenge. Adapt. Achieve.”

appears at the end of the video to show compassion and support for those who might struggle with ADHD.

4. Negative Valence with Low Arousal

Title: “The Silent Side of ADHD”

Visuals:

A montage features an individual in a group social setting, not actively engaging in conversation and displaying only negative facial expressions, such as stress and anxiety, to evoke negative emotions in the viewer. To highlight anxious traits associated with ADHD, intense music was included. This stimuli video includes quick, vibrant graphics with keywords such as “Frustrated”, “Sensitive”, “Isolated”, and “Anxious”. Furthermore, an impactful message, “Embrace. Empower. Overcome. Thrive.” appears at the end of the video to show compassion and support for those who might struggle with ADHD.