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Behavioural influence of TikTok's algorithm recommendations on users' engagement and users' self-persuasion

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ABSTRACT

This study examines how TikTok's algorithm influences user behaviour, particularly in user engagement and self-persuasion. The algorithm recommends content based on user interactions, but its opaque nature complicates understanding of how it prioritizes content and potential biases. These biases can reinforce specific behaviours and viewpoints, create echo chambers, and influence users' self-perception. By focusing on maximizing engagement, the algorithm can also promote addictive behaviours, impact mental health, shorten attention spans, and disrupt daily activities. The research aims to achieve the following objectives: (1) identify the level of behavioural influence exerted by TikTok's algorithm on users, (2) examine the level of users' engagement in response to TikTok algorithm recommendations among users, (3) identify level of users' self-persuasion influenced by the algorithm, (4) identify the relationship between behavioural influence and users' engagement, and (5) identify the relationship between behavioural influence and users' self-persuasion. Using quantitative methods and stratified sampling, this study analyses data from 385 Millennial and Generation Z TikTok users in the Klang Valley, Malaysia. An online survey conducted via Google Forms captures users' experiences and perceptions regarding TikTok's algorithm. Overall, the findings conclude that TikTok is a persuasive platform, as the results reveal a significant relationship between behavioural influence and both user engagement and self-persuasion. This study highlights the substantial impact of TikTok's algorithm on user behaviour, offering valuable insights for social media managers. However, a primary limitation is the short timeframe, which resulted in data collection from only 203 respondents

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1. INTRODUCTION

The early 2024 report highlights a significant milestone, the number of active social media user identities worldwide has surpassed five billion. Specifically, the global total has surged to 5.04 billion at the beginning of 2024, with an increasing number of users favouring TikTok as one of their preferred social media apps (Kemp, 2024). TikTok has established itself as a dominant force in the realm of social media, boasting a staggering user base of over 1.04 billion worldwide as of 2024 (Backlinko, 2024). The platform's meteoric rise to fame was particularly evident in 2020 when it peaked with approximately 313.5 million downloads in the first quarter alone. Despite TikTok's efforts to maintain a safe environment, there have been instances where inappropriate or harmful content has bypassed moderation filters. This includes content that promotes violence, hate speech, or explicit material (Palombo, 2024). The platform uses a combination of automated systems and human moderators to review content, but the sheer volume of uploads makes it challenging to catch every violation. This raises concerns about TikTok's ability to protect its users, especially younger audiences, from exposure to harmful material.

In Malaysia, as of June 2023, the majority of TikTok's users fell within the Generation Z demographic, aged 19 to 25, comprising an impressive 35.61 percent of the user base (Statista, 2023). Following closely behind were Millennials, aged 26 to 32, making up around 29 percent. ByteDance's advertising data underscores TikTok's sustained popularity, revealing that the platform boasted 28.68 million users in Malaysia aged 18 or older in early 2024.

In conjunction with the data above, TikTok can be considered as a powerful platform as engaging content with the users. TikTok's captivating content, coupled with its tailored experience and interactive functionalities, renders it an exceptionally addictive platform that continually attracts users (Shaikh, 2024). TikTok's brief, captivating videos swiftly attract users' attention and maintain their engagement, rendering it an exceedingly addictive platform (Kaye et al., 2022).

TikTok employs algorithmic personalisation to filter material according to user preferences, guaranteeing that viewers are consistently presented with videos that correspond to their interests (Mastantuono, 2024). This customised experience enhances user engagement and retention, making TikTok the powerful platform for users.

ByteDance utilises advanced machine learning algorithms to construct the "For You Page", a personalized recommendation feed. Following Alekhin (2021), the algorithm operates through two principal mechanisms. The first mechanism involves clustering the content database based on variables such as content type, audio tracks, video captions, and hashtags. The second mechanism analyses user behavioural patterns based on their interactions within the application. Subsequently, user interaction scenarios are formulated, and the algorithm evaluates the discrepancy between predicted and actual user behaviour. A zero discrepancy indicates that the recommendation feed is optimally tailored, leading to users consistently engaging with increasingly relevant videos as they continue to scroll.

However, like any social media platform, the TikTok algorithm has its drawbacks. In the realm of digital connectivity, TikTok users perceive that the platform's algorithm deliberately suppresses content associated with marginalized social identities, thereby affecting their experiences, behaviours, and sense of belonging (Karizat et al., 2021). These users' folk theories about the algorithm can shape their interactions and resistance to such suppression, further influencing their feelings of belonging and value on the platform. Concerns have emerged about the algorithm's potential to foster addictive behaviour, its lack of transparency, inherent biases, and susceptibility to manipulation.

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The TikTok algorithm can encourage addictive behaviour by promoting excessive user engagement, which can negatively affect mental health, decrease attention spans, and disrupt daily activities (Qin et al., 2022). Designed to maximize user interaction, the algorithm often leads to increased usage and behavioural changes. Klug et al. (2021), found that higher video engagement and posting at specific times boost the likelihood of a video trending on TikTok, while the use of trending and algorithm-related hashtags does not significantly influence the algorithm's decision-making.

Real-time engagement with TikTok's interactive features, such as live streaming and comment sections, enables companies to engage with their audience in real-time, thereby cultivating a sense of connection and loyalty among their audience (Githaiga, 2024).

The proprietary nature of TikTok's algorithm means its inner workings are not fully transparent. Following (Ionescu & Licu, 2023), TikTok's algorithms shape users' self-perceptions and personal values, with cognitive biases influencing this dynamic. This lack of transparency complicates understanding of how content is prioritized and what biases may be present. Potential algorithmic biases could reinforce certain behaviours and perspectives while suppressing others, creating echo chambers and potentially distorting users' self-perception and persuasion.

While TikTok's algorithm is efficient in targeting users, it is also seen as potentially harmful due to its ability to manipulate user experiences and private data (Scalvini, 2024). Creators and external actors can exploit the algorithm to promote specific content, including misinformation or harmful narratives. Therefore, this study aims to examine the behavioural influence of TikTok's algorithm recommendations on users' engagement and users' self-persuasion, as shown in the conceptual framework in Figure 1. Main issue of this study sheds light on the significant influence that TikTok's algorithm has on user activity, providing crucial information for those who manage social media accounts.

1.1 Research objective

1. To identify the level of behavioural influence by TikTok algorithm recommendations among users.
2. To examine the level of users' engagement in response to TikTok algorithm recommendations among users.
3. To examine the level of users' self-persuasion in response to TikTok algorithm recommendations among users.
4. To identify the relationship between behavioural influence and users' engagement on TikTok.
5. To identify the relationship between behavioural influence and users' self-persuasion on TikTok.

1.2 Research hypothesis

H1: There is a significant relationship between behavioural influence and users' engagement on TikTok

H2: There is a significant relationship between behavioural influence and users' self-persuasion on TikTok.

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1.3 Conceptual framework

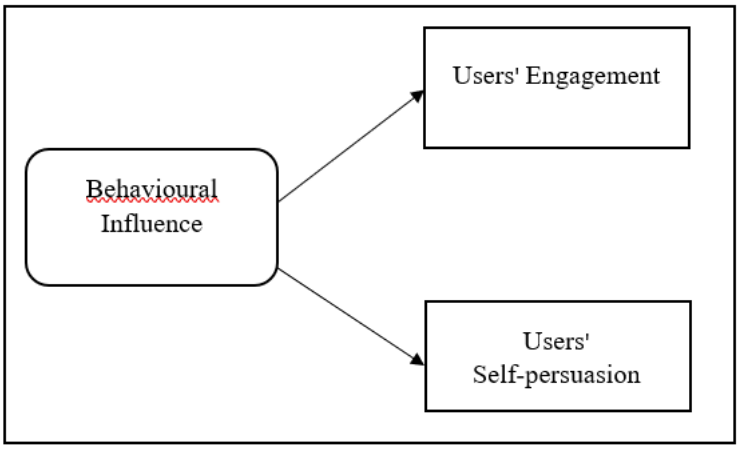

Fig. 1. Conceptual framework of the behavioural influence of TikTok's algorithm recommendations on users' engagement and users' self-persuasion

The conceptual framework above elucidates the relationship between behavioural influence and its impacts on users' engagement and self-persuasion. Based on Figure 1, it is crucial to highlight that this study positions behavioural influence as the independent variable, while engagement and self-persuasion are considered the dependent variables. This framework aims to explore how the behavioural influence exerted by TikTok's algorithm affects users' engagement with the platform and their self-persuasion. Additionally, this study draws on the Theory of Planned Behaviour (TPB), which provides a robust framework for understanding behavioural changes. TPB posits that individual behaviour is driven by intentions, which are influenced by attitudes, subjective norms, and perceived behavioural control. By integrating TPB into this study, this research can better comprehend the dynamics between the behavioural influence of TikTok, user engagement, and self-persuasion.

1.4 Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (TPB), developed by Ajzen in 1985, expands on the theory of reasoned action, which asserts that human decisions are made voluntarily, and most human behaviour can be anticipated because decisions are generally based on rational thinking (Arli et al., 2020).TPB begins by precisely defining the behaviour under study, including its target, specific action, context, and timeframe (Hagger et al., 2020). These elements can be defined with varying levels of detail. Therefore, this research adopts the behavioural concept in this theory as its basis, given that the entire concept of TPB revolves around behaviour. Specifically, TPB helps to explain how the algorithm's influence can shape users' intentions and attitudes, thereby impacting their engagement and susceptibility to self-persuasion (Habes et al., 2023). This theoretical underpinning supports the notion that the algorithm-driven content on TikTok can significantly affect users' behavioural patterns, leading to higher engagement levels and increased self-persuasion. By examining these relationships, the study provides valuable insights into the mechanisms through which TikTok's algorithm influences user behaviour and highlights the broader implications for understanding users' engagement and persuasion in social media contexts.

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2. LITERATURE REVIEW

TikTok's algorithm recommendations have a big impact on user engagement and self-persuasion since they curate personalised material that catches attention while reinforcing current preferences. This interwoven relationship emphasises the significance of understanding algorithmic dynamics in efficient social media management (Grass & Sheiter, 2022).

In addition, TikTok's algorithm is a powerful tool for shaping user behaviour in significant ways. By curating personalised material, it keeps users engaged and reinforces their existing preferences, resulting in a cycle of continual interaction and self-persuasion (Lew, 2022). Understanding these dynamics is critical for social media users who want to create effective strategies that connect with their audience and increase engagement.

2.1 TikTok algorithm recommendation

TikTok's For You Page (FYP) significantly influences user experiences by presenting content tailored to individual interests and current trends (Aulia, 2023). The FYP is seen as mirroring mainstream preferences, where the content reflects genuine user interests rather than purely algorithmic choices (Ramadhani et al., 2023). This personalised feed shapes the type of content users interact with, such as discussions on ADHD, leading to self-diagnoses and positive mental health conversations among young people (Gilmore et al., 2022). However, the FYP also highlights body image trends, often showcasing toxic standards, highlighting the platform's need to address and mitigate harmful content (Liu, 2021).

Moreover, TikTok serves as a powerful digital marketing tool, with strategies centred on content dissemination, audience connection, trust-building, content optimisation, interaction management, and audience engagement (Gesmundo et al., 2022). The For You Page (FYP) on TikTok plays a pivotal role as the platform's algorithmic medium for delivering personalized content. By analysing user interactions, the algorithm curates a dynamic feed tailored to individual preferences, thereby enhancing user engagement and fostering community. However, TikTok must manage harmful trends to ensure a safe and positive user experience.

The TikTok algorithm plays a pivotal role in content distribution and user engagement on the For You Page (FYP). Leveraging algorithmic recommendation technology akin to that utilized in the news media industry, TikTok efficiently tailors video content to users' interests (Rakatiwi et al., 2023). Academic studies have explored sentiment analysis of TikTok users' comments using algorithms like Naïve Bayes and Support Vector Machine, yielding notably high accuracy rates in discerning user sentiments (Rahmadani et al., 2022). Furthermore, scholarly inquiries have conducted content analyses of TikTok videos to comprehend social media's impact on user engagement and the dissemination of diverse content, including religious messages (Silitonga et al., 2023). These analyses offer valuable insights for content creators and users alike (Chen & Shi, 2022). Collectively, the sophistication exhibited by the TikTok algorithm in content recommendation and sentiment analysis underscores its significant role in shaping user experiences and interactions on the platform.

2.2 Behavioral influence of TikTok

Numerous studies emphasize TikTok's extensive impact on various user behaviours. This literature review in-depth into these influences, concentrating on consumer impulse purchasing, user behaviour, hedonic consumption experiences, knowledge acquisition, and the platform's role in fostering digital communication. On impulse purchasing behaviour, TikTok has a notable effect on consumers' impulse

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buying tendencies. Factors such as visual appeal, product practicality, perceived enjoyment, and usefulness contribute to this behaviour. These aspects collectively create an enticing environment that encourages spontaneous purchase decisions among users (Chen & Shi, 2022). As stated by Nugroho et al. (2023), TikTok also significantly affects user behaviour, influencing areas such as self-esteem, video interactions, manners, and the adoption of trending behaviours. The platform has both positive and negative impacts, boosting confidence in some students while potentially promoting undesirable behaviours in others. For example, while some users may gain confidence from engaging with TikTok, others might mimic inappropriate behaviours seen in popular trends.

Additionally, TikTok's algorithm creates a highly personalised feed for each user called the "For You Page" (FYP). This feed is personalised based on user behaviours, such as likes, shares, comments, and viewing time. By regularly analysing these interactions, the algorithm guarantees that users are given content relevant to their interests, making the experience both interesting and addictive (Koc, 2023).

The enjoyable experiences provided by TikTok, such as escapism, role-playing, excitement, and sensory engagement, are crucial in shaping users' intentions and actual use. Following Abbasi et al. (2023), these experiences make the platform appealing by offering entertaining and emotionally satisfying content, which drives user engagement. The variety and engagement of TikTok content keep users entertained, encouraging extended and repeated use. TikTok impacts user by influencing their knowledge accumulation, values, and social cognition. This underscores the platform's significant role in shaping young users' perspectives (Zhang, 2023).

Therefore, strategies are needed to guide minors toward the positive and informed use of social media, addressing the cognitive and social developmental impacts. Collaboration between educators and parents is essential to ensure that the content consumed by students is beneficial and educational. However, TikTok's role in digital communication significantly contributes to addictive behaviour among students. The platform's engaging content and design can lead to excessive use and dependency, highlighting the need to address the addictive nature of digital communication and its impact on behavioural control (Razali & Yulianti, 2022). It is crucial to develop interventions that promote healthy usage habits and mitigate the risks associated with digital addiction.

Overall, the TikTok algorithm significantly influences trends and user behaviour. Viral challenges and trends frequently originate from the platform, prompting users to engage and produce their iterations of popular videos (Mastantuono, 2024). This not only cultivates a sense of community but also enhances user engagement and content generation.

2.3 Users' Engagement

TikTok's algorithms have a significant impact on user engagement by affecting the visibility of content and user interactions. Studies have demonstrated that these algorithms are crucial in determining the success of posts, with factors such as video engagement, posting time, and user interactions influencing a video's likelihood of trending (Bouillon et al., 2023). This indicates that the algorithm plays a pivotal role in curating the content that users see on their "For You" page, based on their interactions and the popularity of the content. Moreover, the interaction between users and AI on TikTok enhances personalized experiences and affects content curation, leading to increased engagement and social interactions (Klug et al., 2021).

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This interaction includes how users engage with the platform, such as liking, commenting, and sharing content, which helps the algorithm understand their preferences and suggest more relevant content. The recommendation system of the algorithm, influenced by various factors like language, location, follow- and like-feature usage, and viewing patterns, is significant in determining the content users are exposed to, ultimately impacting engagement levels on the platform in line with (Kang & Lou, 2022). For example, users who engage frequently with content related to a specific topic are more likely to see similar content, which increases their engagement with the platform.

Additionally, TikTok is an effective tool for language learners, with specific content categories like pronunciation receiving high engagement due to the platform's interactive and innovative nature (Boeker & Urman, 2022). This suggests that TikTok's format of short, engaging videos is conducive to language learning, providing learners with practical language use and pronunciation tips in an enjoyable format. In summary, TikTok's algorithms play a critical role in influencing user engagement and content curation on the platform. Understanding these algorithms and how users interact with them provides insights into TikTok's impact on social interactions and content dissemination (Firth, 2025).

2.4 Users' self-persuasion

Self-persuasion involves individuals convincing themselves to adopt attitudes or behaviours, often through their actions and expressions (Li et al., 2022). On TikTok, users engage in self-presentation by curating content that aligns with their desired self-image, which influences both self-perception and external perceptions. Wang (2022) provides empirical evidence that TikTok serves as a persuasive system, influencing user behaviour and attitudes through algorithmic content recommendations and interactive features. This influence extends to shaping user interactions, content consumption patterns, and attitudes on various topics, highlighting TikTok's role in disseminating and amplifying specific viewpoints and behaviours.

Furthermore, the study explores how TikTok's design and content curation contribute to these persuasive effects, impacting users' digital behaviours and broader social perceptions. Persuasive technology on TikTok plays a pivotal role in shaping users' decision-making by influencing their behaviours, reflecting significant advancements in recent years (Larbi et al., 2023). The widespread integration of persuasive design into various technologies has accelerated, significantly enhancing its influence and impact across diverse fields.

TikTok employs various methods to influence self-persuasion among its users. Firstly, the platform's high levelof user engagement and its visually appealing interface enhance users' enjoyment and perceived usefulness, which can result in impulsive purchasing behaviours (Tee et al., 2023). Secondly, TikTok's widespread popularity among adolescents can have adverse effects on their self-esteem, potentially impacting their development and mental health (Cai, 2023).

In addition, the platform has been shown to affect students' motivation to learn, with some students becoming addicted to TikTok and subsequently experiencing reduced motivation to study (Pratiwi et al., 2023). Additionally, the role of influencer marketing on TikTok underscores the need for influencers to manage privacy effectively, setting a positive example for their followers and reducing the risks associated with social media usage (Handayani et al., 2022). In summary, TikTok's influence on self-persuasion is complex and multifaceted, impacting users in numerous ways

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Main issue of this study sheds light on the significant influence that TikTok's algorithm has on user activity, providing crucial information for those who manage social media accounts (Lee, et al, 2022). Overall, TikTok's algorithm has a huge impact on user behaviour since it provides people with an experience that is highly personalised and fascinating (Chen, 2024). There is a possibility that this will result in positive outcomes, such as increased creativity and the establishment of communities; nevertheless, it also raises concerns around mental health, echo chambers, and addictive habits.

3.0 METHODOLOGY

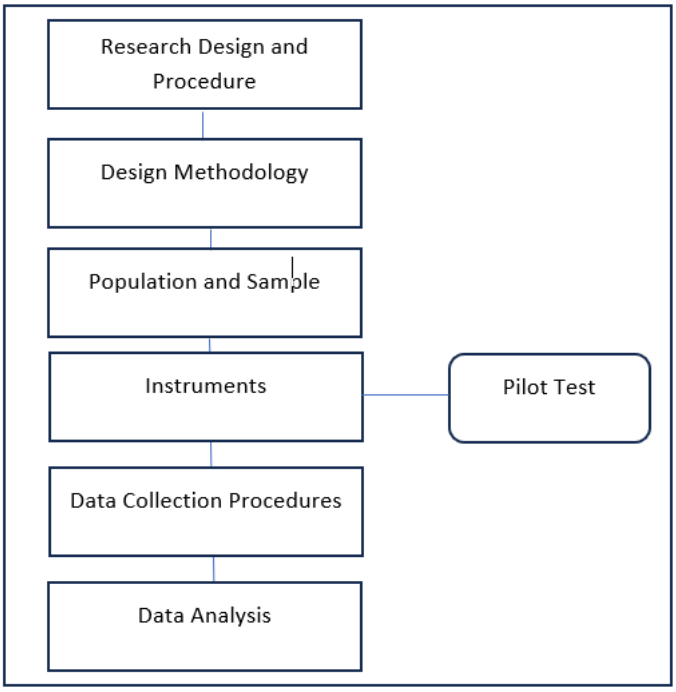

Fig. 2. Research design flowchart

This chapter outlines the methods employed to study the behavioural influence of TikTok's algorithm recommendations on users' engagement and users' self-persuasion. A quantitative research design was utilized, with a survey as the primary instrument for data collection. Based on Figure 2 above, this chapter will provide a thorough explanation of the study's methodology. It will cover the data collection procedures, the research design, the selection of the population and sample, the instruments used, the methods employed for data collection, and the analysis of the results.

3.1 Population and sample

The survey targeted Millennials and Generation Z residents in the Klang Valley area, Malaysia. Respondents are specifically those who are active TikTok users. The study population consisted of individuals from both generations, born between 1981 and 2012. Stratified sampling involves dividing a

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population into distinct subgroups (strata) based on known characteristics (Reddy & Khan, 2023). By doing so, each subgroup is treated as a separate population, and random samples are then drawn from each subgroup. This method ensures that the sample reflects the diversity within the population's strata, rather than relying purely on random chance, thereby enhancing the sample's representativeness.

For this research, stratified sampling was implemented using the Klang Valley population data as of July 2023: Selangor was estimated to have a population of approximately 7.2 million, while Kuala Lumpur was estimated at 2 million, combining to form the Klang Valley with a total estimated population of 9.2 million (Statista, 2023). Participants were selected from Millennials and Generation Z who are TikTok users residing in the Klang Valley area, with specific breakdowns for stratified sampling.

Utilizing the Krejcie and Morgan table as illustrated in Figure 3, a sample size of 385 is determined to ensure the collection of accurate data. Participants were recruited through online distribution channels, primarily via WhatsApp groups, Telegram channels, and TikTok-related Facebook communities, to maximize response rates from active TikTok users. Consequently, this justifies the selection of generation millennial and generation Z in the Klang Valley as the primary focus for this study.

Primary data were collected through a Google Forms survey, which included 32 items divided into four categories: Part A – Demographic profile, Part B – Behavioural influence, Part C – Users' engagement, and Part D – Users' self-persuasion. Part A contained 5 items, Part B included 7 items, Part C and Part D had 10 items respectively. Multiple-choice questions were used for Part A, while Likert scale questions were employed for Part B, C, and D.

Class interval analysis was used to assess the level of behavioural influence, users' engagement, and user' self-persuasion, while Pearson correlation was conducted to examine the relationships between behavioural influence towards users' engagement, and users' self-persuasion. The results of this study provide findings and conclusions based on the sample but cannot be generalized to the entire population due to time constraints, which limited the collection to 203 respondents. By applying the methodology described above, this study aims to determine the relationship between behavioural influence and users' engagement, and whether there is a relationship between behavioural influence and users' self-persuasion.

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N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

Fig. 3. Krejcie and Morgan sample size table

3.2 Research instrument

A structured questionnaire was used for data collection, comprising 32 items divided into four sections:

(i) Section A: Demographic profile (5 items), followed by
(ii) Section B: Behavioural influence (7 items).
(iii) C: Users' engagement (10 items) and
(iv) Section D: Users' self-persuasion (10 items)

Sections B, C, and D employed a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) to measure respondents' perceptions. The questionnaire items were adapted from validated scales in previous studies, specifically:

(i) Behavioural Influence: Adapted from Klug et al. (2021)
(ii) Users' Engagement: Adapted from Kang & Lou (2022)
(iii) Users' Self-Persuasion: Adapted from Wang (2022)

3.3 Data Analysis

In addressing the research objectives, data were analysed using Statistical Package for the Social Sciences (SPSS). The following statistical methods were applied:

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(i) Descriptive Analysis: Used to summarize demographic profiles and measure the levels of behavioural influence, engagement, and self-persuasion.
(ii) Class Interval Analysis: Applied to categorize the levels of behavioural influence, engagement, and self-persuasion.
(iii) Pearson Correlation Analysis: Conducted to examine the relationships between behavioural influence and both users' engagement and self-persuasion, as required by the research objectives.

The inclusion of correlation analysis ensures that the relationships between the key variables are statistically validated, strengthening the study's findings. By employing these analytical techniques, this research provides comprehensive insights into how TikTok's algorithm influences user behaviour.

4. DATA ANALYSIS AND FINDINGS

This section examines the levels and relationships between the findings and the study's objectives. It is divided into respondents' generation, respondents' behavioural influence, respondents' engagement, and their self-persuasion. However, this study only managed to secure 203 samples out of 385 due to time constraints.

4.1 Respondents based on generation

Table 1: Frequency distribution of respondents based on generation

Generation	Frequency	Percentage
Millennials	91	44.8
Generation Z	112	55.2
Total	**203**	**100**

Table 1 reveals that a significant majority of respondents (55.2%) belonged to Generation Z, while Millennials comprised of the remaining 44.8%. These findings suggest that the study's outcomes may predominantly reflect characteristics and behaviours prevalent among Generation Z, as they constitute the predominant demographic in the sample. Consequently, caution is warranted in extrapolating conclusions to represent Millennials, given their comparatively smaller representation in this research.

4.2 Level of behavioural influence

Table 2: Level of behavioural influence

Behavioural Influence	Frequency	Percentage
High	88	43.3
Moderate	81	39.9
Low	34	16.7
Total	**203**	**100**

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Table 2 indicates that the majority (43.3%) of TikTok users exhibit a high level of behavioural influence, while 39.9% demonstrate a moderate level of influence. Conversely, approximately 16.7% experience a low level of behavioural influence on the platform. Users with high and moderate levels of behavioural influence tend to be more active on TikTok and are highly engaged with their For You Page (FYP) content. This suggests that they frequently interact with and adhere to the recommendations provided by the FYP algorithm. On the other hand, users with lower levels of behavioural influence maintain their own beliefs and remain resistant to external influences.

4.3 Level of User's Engagement

Table 3: Level of user's engagement

User' Engagement	Frequency	Percentage
High	117	57.6
Moderate	65	32.0
Low	21	10.3
Total	**203**	**100**

Table 3 indicates that the majority (57.6%) of TikTok users exhibit a high level of engagement, while 32.0% demonstrate a moderate level of engagement. Conversely, approximately 10.3% of users show low engagement on TikTok. Users with high and moderate levels of engagement tend to be active in liking, commenting, and sharing content. In contrast, those with lower levels of engagement likely spend less time on TikTok compared to users with higher and moderate levels of engagement.

4.4 Level of users' self-persuasion

Table 4: Level of user's self-persuasion

User' Self-Persuasion	Frequency	Percentage
High	95	46.8
Moderate	75	36.9
Low	33	16.3
Total	**203**	**100**

Table 4 indicates that the majority (46.8%) of TikTok users have a high level of self-persuasion on the platform, while 36.9% demonstrate a moderate level of self-persuasion. Conversely, approximately 16.3% exhibit low self-persuasion on TikTok. Users with high and moderate levels of self-persuasion can be influenced by the content served by the platform's algorithm. In contrast, those with low self-persuasion remain resistant to such content due to their strong personal beliefs or resistance to external influences.

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4.5 Relationship between behavioural influence and users' engagement

Table 5: Relationship between behavioural influence

Variable	Users' Engagement	
Behavioural Influence	r Value	p Value
	.623	<.001

**Correlation is significant at the 0.01 level (2-tailed).

Findings from Table 5 reveal a significant and moderate relationship between behavioural influence and user's engagement, as indicated by the correlation coefficient ($r = .623$, $p < 0.05$). This indicates that as the behavioural influence exerted by the TikTok algorithm increases, user engagement on the platform also tends to rise. The moderate correlation suggests that the algorithm's influence is a substantial factor in driving users' engagement. In conclusion, the significant relationship between behavioural influence and user engagement highlights the effectiveness of TikTok's algorithm in shaping user behaviour and increasing active participation on the platform. This finding underscores the critical role of algorithm-driven content in fostering user interaction and involvement.

4.6 Relationship between behavioural influence and user's self-persuasion

Table 6: Relationship between behavioural influence and user's self-persuasion

Variable	Users' Self-Persuasion	
Bahavioural Influence	r Value	p Value
	.769	<.001

** Correlation is significant at the 0.01 level (2-tailed)

Findings from Table 6 show a significant and strong relationship between the influence of the TikTok algorithm on behavioural influence and users' self-persuasion ($r = .769$, $p < 0.05$). This suggests that as the level of behavioural influence increases, the level of self-persuasion among users also tends to rise markedly. The strength of this relationship implies that while behavioural influence is not the sole determinant of self-persuasion, it plays a substantial role. In conclusion, the significant correlation between these two variables underscores their interconnection, highlighting that users who are more behaviourally influenced by TikTok content are also more likely to exhibit higher levels of self-persuasion. This finding supports the notion that TikTok's algorithm effectively shapes user behaviour and beliefs through personalized content recommendation.

5. DISCUSSION AND CONCLUSION

This study demonstrates that the TikTok algorithm significantly impacts behavioural influence related to user engagement and self-persuasion. Objective one aimed to identify the level of behavioural influence by TikTok algorithm recommendations among users. Findings indicate a high level of behavioural influence, with 43.3% among both Millennials and Generation Z. This suggests that these generations are significantly influenced due to their active usage of TikTok, which could potentially lead to addictive behaviour.

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Previous literature by Razali and Yulianti, (2022) has noted TikTok's role in digital communication, significantly contributing to addictive behaviours among users. However, it is important to note that the 43.3% majority does not represent conclusive 100% influence among all users. This study aligns with findings from Nugroho et al. (2023), which suggest that TikTok also significantly impacts user behaviour, influencing aspects such as self-esteem, video interactions, etiquette, and the adoption of trending behaviours. These findings are supported by current research.

Objective two aims to examine the level of users' engagement in response to TikTok algorithm recommendations among users. The findings reveal a notable level of engagement, reaching 57.6% among users from both generational groups. This indicates active participation in various engagement actions such as liking, commenting, and sharing TikTok videos that appear on their personalized For You Page, curated by the algorithm. The current research findings are consistent with observations made by Klug et al. (2021), who argue that the dynamic interaction between users and AI technologies on TikTok enhances personalized experiences and profoundly influences content curation. As a result, this interaction fosters increased engagement and promotes more frequent social interactions among users. These insights underscore the premise that increased exposure to TikTok content correlates positively with heightened levels of users' engagement.

Objective three aims to examine the level of users' self-persuasion in response to TikTok algorithm recommendations. The level of self-persuasion, at 46.8% indicates a high degree among Millennials and Generation Z. Wang (2022) provides empirical evidence that TikTok operates as a persuasive system, influencing user behaviour and attitudes through algorithmic content recommendations and interactive features. This is supported by consistent high levels observed across the first to third objectives. Thus, this research corroborates previous studies emphasizing TikTok's role as a persuasive platform, as evidenced by consistently positive findings.

Objectives four and five of this study aim to explore the relationships between key variables. Objective four aims to identify the relationship between behavioural influence and users' engagement on TikTok, revealing a moderate correlation coefficient of ($r = .623$, $p < 0.05$). This finding underscores a significant relationship where higher levels of behavioural influence correspond to increased users' engagement. This observation aligns with existing research that underscores TikTok's role as a platform with persuasive interactive features, as discussed previously in objective three.

Meanwhile, objective five delves into the relationship between behavioural influence and users' self-persuasion on TikTok. The findings indicate a notable and strong correlation coefficient of ($r = .769$, $p < 0.05$), suggesting that users' behavioural responses to TikTok content significantly influence their own self-persuasion processes. This correlation further substantiates TikTok's function as a persuasive platform, reinforcing previous research findings (Haq & Chiu, 2024).

However, referring to Table 7, all findings and discussions lean more towards Generation Z because the majority of respondents (55.2%) belonged to Generation Z, while Millennials comprised the remaining 44.8%. This shows a limitation of the study where the findings lean towards Generation Z and cannot be generalized. Another significant limitation of this study was the restricted duration allocated for data collection, which spanned to only two months.

Based on the Krejcie and Morgan Table, achieving a sample size of 385 respondents was deemed necessary for ensuring data accuracy. However, only 203 responses were obtained within the allotted timeframe. This shortfall potentially compromises the study's representativeness and generalizability. Furthermore, a

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notable proportion of respondents did not complete the distributed Google Forms, resulting in a lower-than-expected response rate. This non-response phenomenon could introduce bias and undermine the comprehensiveness of the collected data. Therefore, future studies need to allow more time for data collection to reach a fair number of Millennials and Generation Z respondents (Abassi et al, 2023). Additionally, this research, while exploring the high behavioural influence potentially leading to addictive behaviour in objective one, did not thoroughly investigate whether this influence could contribute to higher addictive behaviour. This could be an area for future research since it was not fully explored in this study.

Table 7: Demographic analysis

Demographic	Frequency	Percentage
Gender		
Male Female	98	48.3
	105	51.7
Generation		
Millennials Gen z	91	44.8
	112	55.2
Education Level		
Primary Secondary Undergraduate Postgraduate	11	5.4
	41	20.2
	117	57.6
	34	16.7

In conclusion, this study highlights TikTok's significant influence on user behaviour, driving both engagement and self-persuasion among Millennials and Generation Z. As TikTok's popularity soars, it becomes increasingly important to understand how its algorithm shapes user interactions and self-perception. The findings reveal that a substantial portion of users exhibit high levels of behavioural influence, leading to heightened engagement and self-persuasion. This underscores TikTok's powerful role in shaping user behaviour, raising concerns about potential addictive behaviours and mental health impacts, and highlighting the need for responsible content curation and user awareness. Additionally, this research makes a significant contribution to marketers, particularly social media managers and officers, by providing insights into the level of TikTok's algorithmic influence on Millennial and Generation Z users. By reviewing this study, marketing professionals will gain valuable information to enhance content production and overall marketing strategies. Future research should explore strategies to mitigate these risks while leveraging the platform's potential for positive social impact.

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7. CONFLICT OF INTEREST STATEMENT

No conflict of interest is involved in preparing this paper. The authors agree that this research was conducted in the absence of any self-benefits, commercial or financial conflicts and declare the absence of conflicting interests with the funders.

8. AUTHORS' CONTRIBUTION

Siti Khatijah Amir Hamzah: Conceptualisation, methodology, Data Collection, Data Analysis and writing original draft. **Ahlam Abdul Aziz**: Consulting, Supervision, Reviewing, Writing, Editing, Formatting and Validating.

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