Motivations on *TikTok* addiction: The moderating role of algorithm awareness on young people

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Abstract

Algorithm awareness, which is defined as the degree to which the user is aware of the presence of algorithms and the way in which they function, could influence how users behave online and interact. The main focus of this study is to understand how algorithm awareness moderates the association between usage motivations and addiction to *TikTok* videoclips among young people. An online questionnaire was designed and responses attained from 473 young people in China to explore the motivations for consuming video clips, their algorithm awareness levels, and the degree of addiction when using *TikTok*. The survey results confirm that there are six main factors that motivate young people to consume video clips on *TikTok*, of which the relaxing entertainment motivation and the information-seeking motivation receive higher scores. They also reveal that the level of addiction to *TikTok* is relatively high, whereas the level of algorithm awareness among young people remains at a relatively moderate level. Second, when investigating the motivations for use that lead to addiction, the motivations of information seeking, relaxing entertainment, and social interaction are found to be predictors of *TikTok* video clip addiction. Third, the moderating role of algorithm awareness, whose effects on interactions with information seeking and relaxing entertainment are significant, is studied, and it is found that increasing the level of algorithm awareness among young people could help reduce the addictive use of *TikTok*.

Keywords

Motivation; Moderation; Young people; *TikTok*; Social media; Social networks; Algorithm awareness; Algorithms; Video clip; Filter bubbles; Addiction; Social interaction; Information; Entertainment.

1. Introduction and theoretical framework

Currently, *TikTok*, which is based on the streaming of video clips, has become a mobile application that has expanded rapidly throughout the world. Since the beginning of Covid-19 and the lockdown, the average amount of time per day that young people spend consuming video clips has been continuously increasing, causing the social network *TikTok* to become more and more popular and triggering a boom in the creation and dissemination of audiovisual content for it. Moreover, *TikTok* uses artificial intelligence to show the user content that may interest them, creating addiction through

the process of using this software that uses an automatic algorithm, the result of which is reflected in the filter bubble around young people. Therefore, examining the awareness of algorithms on the platform and understanding how it influences the relationship between the motivations behind *TikTok* use and *TikTok* addiction among young people are the main concerns of this study.

1.1. Video clip platforms and motivations for using *TikTok*

Studies on short video consumption and the usage habits of young people have received renewed attention in recent years. Platforms such as *YouTube* allow users to search for and view videos, as well as interact in certain ways, such as following users, liking/disliking videos, and posting comments; they can also create user channels, on which videos made by the users themselves are stored and disseminated (**Orduña-Malea**; **Font-Julián**; **Ontalba-Ruipérez**, 2020). *TikTok* allows users to watch, share, comment on, and create short videos, satisfying the different needs of recreation, socialization, and information seeking (**Omar**; **Dequan**, 2020).

The uses and gratifications theory (U&G), which is used to analyze how and why people use media, is based on five main assumptions (**Katz**; **Blumler**; **Gurevitch**, 1973):

1) that media use is governed by goals, motivations, and intentions;

2) that audiences take the initiative in selecting and using the media to satisfy a set of psychosocial needs;

3) that media outlets compete with other forms of communication to satisfy needs;

4) that members of the audience are aware of their motivations for using media; and

5) that audience members play a prominent role in evaluating the value of media content and the gratification gained from media use.

Research using the U&G theory has revealed that the needs and desires that motivate consumption and engagement on media outlets also vary depending on the platform being used (**Kircaburun** *et al.*, 2020).

Four main uses of *TikTok* have been identified: information, dissemination of interesting video clips, promotion, and participation in challenges (**Fiallos**; **Fiallos**; **Figueroa**, 2021). Therefore, young people consider *TikTok*'s video clip software to be not only a space for pure entertainment but also a means of spreading information and knowledge. Particularly during the pandemic, the three main reasons why *TikTok* users spent their time using this social network were related to activities they do in their free time, namely find funny or entertaining video clips, fill free time, and find new ideas or inspiration (**Oana-Frățilă**, 2021). Furthermore, in this period, *TikTok* videos could have a therapeutic impact on consumers, relieving boredom and positively impacting their mental health (**Udenze**; **Uzochukwu**, 2021). The most common category is news, used for communicating facts and relevant data to citizens and generally linked to current affairs, including politics, science and the environment, society, mass events, education, and news related to *TikTok* (**Vázquez-Herrero**; **Negreira-Rey**; **López-García**, 2020). However, the media's presence and impact on the social network *TikTok* is low, and most of the content is created by active *TikTok* users and is based on viral and entertainment content and topical information (**Peña-Fernández**; **Larrondo-Ureta**; **Morales-i-Gras**, 2022).

Users also value how social networks such as *TikTok* and *YouTube* provide them with the opportunity to post and share self-produced content with friends and family and receive likes as a form of self-expression (**Scherr**; **Wang**, 2021; **Khan**, 2017). Thus, it can be stated that as a social networking platform, showing others who you are is an equally important motivation for using *TikTok*. The motivation of there being new trends in *TikTok* usage reflects how the app itself is cool, new, and exciting to use, and also how many other users use the app for this reason (**Scherr**; **Wang**, 2021).

1.2. Addiction, the recommendation algorithm, and filter bubbles

Social media addiction is a behavioral addiction characterized by an uncontrollable and insatiable desire to be constantly online, neglecting other areas of one's personal life (**Brailovskaia**; **Schillack**; **Margraf**, 2020). Social media addiction is more difficult to deal with than substance addiction because social media platforms use algorithms to increase users' time on the platform, tapping into the desire for social recognition and providing intermittent reinforcement to stimulate excessive use as a compulsive behavior (**Liao**; **Sher**; **Liu**, 2023). Research on online short video apps shows that the development of an addiction is partly due to the app's algorithm, which allows users to get personalized content without having to search for it (**Zhang**; **Wu**; **Liu**, 2019). In *TikTok*'s case, the risk factors for problematic and addictive use have also included younger age, low income, and low level of education (**Huang**; **Hu**; **Chen**, 2022; **Lewin**; **Ellithorpe**; **Meshi**, 2022).

Young people still lack necessary knowledge about digital and computer technologies and their proper use. The lack of knowledge related to the recommendation algorithm and media literacy have led to young people obtaining potentially dangerous and limited types of information when they consume short videos (**Quelhas-Brito**, 2012). Although software algorithms could help by recommending more content that they need to young people in the context of Big Data and the information explosion –information with which artificial intelligence automates its search function, classification, and information processing and is already a fixture in its editorial duties (**Túñez-López**; **Toural-Bran**; **Cacheiro-Requeijo**, 2018)– it is inevitable that for these reasons young people end up addicted and trapped within their own filter bubble, in the searches and recommendations that are excessively personalized to what they consume when using the platform.

The filter bubble is a concept defined by cyber-activist **Pariser** (2011) to illustrate how people live in a universe of personalized information that matches their own preferences and tastes and are trapped in this state of intellectual isolation with results from related searches and homogeneous results. In filter bubbles, people are encapsulated in data streams, with news or updates from social networks that are personalized according to the interests of the users owing to algorithm-based searches (**Pariser**, 2011).

Many researchers in the journalism and communication fields are more inclined to worry about and criticize the negative aspects of the recommendation algorithms with which users interact as they are stuck in their filter bubble (**Rodríguez-Cano**, 2018). Personalized content and services limit the diversity of media content that people are exposed to and will have an adverse effect on democratic discourse, open-mindedness, and a healthy public sphere (**Nguyen** *et al.*, 2014). In this sense, the filter bubble is a problematic consequence of modern media and social networks since it creates barriers to the rational and diversified dialogue that is necessary for a democratic society (**Amrollahi**, 2021).

1.3. Algorithm awareness to curb addiction

Algorithm awareness is defined as the degree to which users are aware of the presence and operation of algorithms in a specific consumer context and in relation to concepts such as fairness, transparency, and trust (**Swart**, 2021). Algorithmic media content awareness (AMCA) is defined as the extent to which people have accurate perceptions of what algorithms are doing in a particular media environment, as well as their impact on the way users consume and experience the media content (**Zarouali**; **Boerman**; **De-Vreese**, 2021). The user's level of algorithm awareness influences how the user would behave online and interact and engage with algorithms (**Schwartz**; **Mahnke**, 2021).

However, most users do not fully understand that platforms use such automatic algorithms to offer recommendations to them (**Gran**; **Booth**; **Bucher**, 2021). In particular, many young people, when dealing with school stress, become even more addicted to the use of automated social networks (**Fernandes** *et al.*, 2020). Thus, when they consume the short videos offered on the *TikTok* platform to get news and have fun, they easily get addicted, they become deeply immersed in their favorite material, and they cannot free themselves from it because they do not understand the mechanism of the recommendation and filtering system (**Gómez**; **Charisi**; **Chaudron**, 2021).

Since algorithms operate using a process similar to a black box, it is important to examine how users become aware of these issues, how they can meaningfully control their own interactions with AI by managing the data they choose to share and evaluating their privacy and security practices, and what impact transparency has on user behaviors, particularly in their response to privacy concerns (**Shin**; **Park**, 2019). Four factors for defining algorithm awareness were found, namely content filtering, automated decision-making, human-algorithm interaction, and ethical considerations for the AMCA scale, which from a theoretical perspective could function as a moderator at the individual level and serve as an important variable in influencing the magnitude of algorithmic media's effects or altering algorithmic perceptions and attitudes (**Zarouali**; **Boerman**; **De-Vreese**, 2021). Ethical considerations address three important ethical concerns in relation to algorithm-mediated content: privacy intrusion, lack of transparency, and algorithmic bias (**Koene** *et al.*, 2015; **Susser**; **Roessler**; **Nissenbaum**, 2019; **Bigman** *et al.*, 2021).

Based on these arguments and previous research, we propose the following research objectives and hypotheses:

(1) Identify the main motivations for consuming *TikTok* videos. It is hypothesized that the motivations for the consumption of *TikTok* videos are for information, entertainment, social interaction, and self-expression, and because of a new trend.

(2) Analyze what consumption motivations lead to the addictiveness of *TikTok* videos. It is hypothesized that young people influenced by some motivations are likely to be addicted to *TikTok* videos.

(3) Assess the relationships between algorithm awareness and *TikTok* addiction. It is hypothesized that algorithm awareness moderates the association between motivations and addiction to *TikTok* in such a way that, among young people with higher level of algorithm awareness, addiction to *TikTok* will be lower.

2. Method

This article analyzes the motivations and the addiction of young people who consume *TikTok* videos; explores the correlations between consumption motivations, algorithm awareness, and *TikTok* addiction; and finally analyzes the moderating effect of algorithm awareness.

We recruited participants through *Credamo*,
https://www.credamo.com

Credamo is an online survey service provider in China and has similar features to *Amazon Mechanical Turk*. *Credamo* has an online research sample of 2.8 million participants. Its online research sample includes participants from different regions of China and of different ages, educational levels, and economic statuses. To calculate the sample, a proportional and stratified sampling strategy was followed, with stratification according to sex, age, and course and type of university. At the beginning, 503 responses were collected from *TikTok* users. After the filtering process was carried out and the incomplete responses were excluded, 473 valid responses were retained for data analysis. In light of the exposed theo-

retical framework, and considering that empirical studies on this matter are still scarce, we carried out a study based on the sample of 473 young people between the ages of 18 and 22 years, with an average age of 20.53 years (standard deviation [SD] = 1.31 years), who consumed short videos on the platform *TikTok* in China. The ages would correspond to the undergraduate stage in China. Of the sample,

- 25.4% were students in their 1st year of the degree,
- 25.2% were in the 2nd year of their degree,
- 24.8% were in the 3rd year of their degree and, finally,
- 24.5% were in the 4th year of their undergraduate degree.

The survey was carried out from April 27 to 29, 2023, using a structured questionnaire. According to sex, 47.3% were boys and 52.6% were girls. Of the total number of the students, 83.3% attended public universities and 16.7% were from private universities.

The data obtained from the survey were analyzed using *SPSS* software version 26, and the statistical significance of *p*-value < 0.05 was used. Starting from the basic descriptive statistics, other more complex inferential statistical analyzes were carried out. Overall, the procedure consisted of three parts. The first involved understanding the descriptive characteristics of the sample of *TikTok* users. The second was about finding and measuring the main motivations for the use of *TikTok*, the degree of awareness of the recommendation algorithm, and the level of addiction using the five-point Likert scale. Third, the correlations between the three variables mentioned above and the moderating effect of algorithm awareness on the relationships between motivations for use and addiction were investigated.

The measuring tool for the motivations used in the current study was based on previous research for the motivations for using *Facebook* (**Papacharissi**; **Mendelson**, 2010; **Andreas-Schwartz**; **Skrubbeltrang-Mahnke**, 2021) and *Instagram* (e.g., **Sheldon**; **Bryant**, 2016), and those adapted from *TikTok* (**Omar**; **Dequan**, 2020), and the items were rated on a 5-point Likert scale (where 1 = very unlikely and 5 = very likely). In all, six motivational factors related to U&G were included in this study: information seeking, information giving, relaxing entertainment, self-presentation, social interaction, and new trend. The scales were created using a set of items that had good reliability and Cronbach's alphas, since all the scales were above 0.7.

There is currently no specific validated scale to measure *TikTok* addiction severity. Therefore, this dimension was assessed using an adapted version of the Internet Addiction Test (IAT; **Young**, 1998), which is the most widely used and validated scale to evaluate Internet addiction. The IAT is composed of 20 items, and each item is rated on a 5-point Likert-type scale (1 = rarely; 5 = always). The items were modified to fit the context of *TikTok* usage (e.g., How often do you stay longer on *TikTok* than you intended?). In the present study, Cronbach's alpha was 0.90, which indicated a good internal consistency.

Awareness of the algorithm that selects and presents content on *TikTok* was assessed using an adapted version of the Algorithmic Media Content Awareness (AMCA) scale (**Zarouali**; **Boerman**; **De-Vreese**, 2021). The AMCA scale was successfully verified through three online platforms: *Netflix*, *YouTube*, and *Facebook*. The scale consists of 13 items that specifically measure the level of users' awareness of the use of algorithms (e.g., algorithms are used to prioritize certain media content over others, algorithms are used to show me media content on *TikTok* on the basis of automated decisions, and the media content that algorithms recommend to me on *TikTok* depend on my online behavior on that platform). Possible responses ranged from 1 (not at all aware) to 5 (completely aware). The higher an individual's score was, the higher the level of the algorithm awareness was.

Table 1. AFE results regarding motives for *TikTok* video consumption

Factors and items	Loading	α
Factor 1: Information seeking		0.92
To get information about things that interest you.	0.83	
To learn how to do things.	0.78	
To keep up with news and current events.	0.77	
Factor 2: Information giving		0.88
To provide others with information.	0.86	
To share information about your interests with others.	0.80	
To generate ideas.	0.83	
Factor 3: Relaxing entertainment		0.84
You enjoy it.	0.85	
It helps you relax.	0.85	
To pass the time when bored.	0.83	
To disconnect from your environment for a moment.	0.79	
Factor 4: Self-presentation		0.89
To feel important.	0.83	
Posting *TikTok* videos can get the attention of others.	0.78	
You can show others who you are by posting *TikTok* videos.	0.85	
You can get likes from others by posting *TikTok* videos.	0.84	
Factor 5: Social interaction		0.86
To stay in touch with other users.	0.79	
You feel like you belong to a community.	0.82	
To connect with people who share some of your values.	0.76	
Factor 6: New trend		0.82
Because it's cool.	0.80	
Because everyone does it.	0.77	
It can be exciting and interesting.	0.72	

3. Results

First, an exploratory factor analysis (EFA) was performed using *SPSS 26.0*, in which 20 items were loaded into the six different motivations, and both the reliability and the validity of the scale of six motivations were examined. Factor loadings ranged from 0.72 to 0.86, all significant ($p < 0.01$), indicating adequate convergent validity. Cronbach's alpha ranged from 0.82 to 0.92, indicating good internal consistency for all six factors.

Table 2 presents an overview of the descriptive statistics and correlations. In the six motivations, relaxing entertainment (mean [M] = 4.23; SD = 1.25) and information seeking (M = 3.61; SD = 1.14) were the motivations that received higher scores (means), while self-presentation (M = 1.90; SD = 1.33) and new trend (M = 1.69; SD = 0.76) were the motivations that received lower scores (means) among young people. The algorithm awareness level (M = 3.31; SD = 1.12) was moderate, while the *TikTok* addiction level (M = 3.59; SD = 1.19) was relatively high. Of the motivations, information seeking, relaxing entertainment, and social interaction were correlated with *TikTok* addiction. There was a negative relationship between algorithm awareness and *TikTok* addiction.

Table 2. Means, standard deviations, and correlations between motivations, algorithm awareness, and addiction (*N* = 473)

Variables	M	DT	1	2	3	4	5	6	7	8	9	10
1. Sex	-	-	-									
2. Age	20.53	1.31	.00	-								
3. Information seeking	3.61	1.14	.04	.05	-							
4. Information giving	3.13	1.34	.06	.08	.12	-						
5.Relaxing entertainment	4.23	1.25	.10	.03	.16	.09	-					
6. Self-presentation	1.90	1.33	.15	.05	.08	.15	.12	-				
7. Social interaction	3.37	1.23	.11	.06	.07	.13	.31*	.24*	-			
8. New trend	1.69	0.76	.09	.03	.05	.08	.11	.12	.05	-		
9. Algorithm awareness	3.31	1.12	.16	.11	.22*	.08	.27*	.03	.09	.05	-	
10. TikTok addiction	3.59	1.19	.09	.08	.27*	.17	.23*	.15	.31*	.14	-.19*	-

Note. * p<0.05

For the severity of *TikTok* addiction, Table 3 presents the data from the Likert IAT scale with five points that represent the mean and standard deviation of each item that composed it. The following statements "You stay on *TikTok* longer than you intended" (M = 4.31; SD = 1.31), "Others in your life complain to you about the amount of time you spend on *TikTok*" (M = 4.01; SD = 1.26), and "You try to cut down the amount of time you spend on *TikTok* and fail" (M = 4.32; SD = 1.09) had the highest scores (means).

Table 3. IAT adapted to *TikTok*

	M	SD
1. You stay on *TikTok* longer than you intended.	4.31	1.31
2. You neglect household chores to spend more time on *TikTok*.	3.62	1.25
3. You prefer the excitement of *TikTok* to intimacy with your partner.	3.54	1.26
4. You form new relationships with fellow *TikTok* users.	3.57	1.22
5. Others in your life complain to you about the amount of time you spend on *TikTok*.	4.01	1.26
6. Your school work suffers because of the amount of time you spend on *TikTok*.	3.48	1.23
7. You watch *TikTok* videos before something else that you need to do.	3.32	1.17
8. Your job performance suffers because of *TikTok*.	3.57	1.21
9. You become secretive when anyone asks you what you do on *TikTok*.	3.32	1.11
10. You block out disturbing thoughts about your life with soothing thoughts from *TikTok*.	3.25	1.04
11. You find yourself looking forward to when you can go on *TikTok* again.	3.63	1.12
12. You fear that life without *TikTok* would be boring, empty, and joyless.	3.50	1.23
13. You snap, yell, or act annoyed if someone bothers you while you are on *TikTok*.	3.32	1.22
14. You lose sleep because of watching *TikTok* videos late at night.	3.42	1.13
15. You feel preoccupied with *TikTok* when off-line, or fantasize about watching videos on *TikTok*.	3.44	1.21
16. You find yourself saying "just a few more minutes" when watching videos on *TikTok*.	3.61	1.26
17. You try to cut down the amount of time you spend on *TikTok* and fail.	4.32	1.09
18. You try to hide how long you've been on *TikTok*.	3.54	1.12
19. You choose spending more time on *TikTok* over going out with others.	3.41	1.22
20. You feel depressed, moody, or nervous when you are off-line, which goes away once you are back on *TikTok*.	3.56	1.21

The moderating effect is defined as a relationship between two variables (independent and dependent), conditioned by the levels of another variable (moderator), and is statistically characterized as an interaction between the independent variable and the moderator variable in a regression equation; if the *p*-value for the interaction in the regression output is statistically significant, this indicates that there is a moderating effect (**Hair** *et al.*, 2000; **Wen**; **Hau**; **Zhang**, 2005). Thus, algorithmic awareness was taken as a moderator variable; information seeking, relaxing entertainment, and social interaction as independent variables; and addiction to *TikTok* as a dependent variable. To reduce multicollinearity in moderated regression, the independent variable and the moderator variable were centralized. Then, the products of the centralized independent variables and the centralized moderator variable were calculated. Finally, a hierarchical regression analysis was performed.

Table 4 shows the results of the multiple linear regression of motivations for use, algorithm awareness, and addiction with beta weighting and *p*-values. For the model that includes addiction, a statistically significant regression equation was found (F = 60.94, $P < 0.001$) with an adjusted R^2 of 0.36. The adjusted R^2 coefficient of 0.36 indicated that addiction was explained by the model in 36%. The three motivations information seeking, relaxing entertainment, and social interaction presented positive and significant relationships with *TikTok* addiction, and of them, social interaction had the strongest relationship (β = 0.32) with addiction.

Table 4. Multiple linear regressions of usage motivations, algorithm awareness, and *TikTok* addiction

	β	t	p	F	P	R^2
Constant	3.45	0.00	0.00			
Information seeking	0.20	3.76	0.00			
Relaxing entertainment	0.26	7.34	0.00			
Social interaction	0.32	12.59	0.00	60.94	0.00	0.36
Algorithm awareness	−0.21	−3.65	0.03			
Information seeking × algorithm awareness	−0.09	−6.54	0.01			
Relaxing entertainment × algorithm awareness	−0.14	−3.52	0.02			

Furthermore, only the coefficient of the interaction term between information seeking and algorithm awareness (β = −0.09, p = 0.01) and the coefficient of the interaction term between relaxing entertainment and algorithm awareness (β = −0.14, p = 0.02) were significant and negative. First, this implied that the impact of the information seeking motivation on *TikTok* addiction was greater among young people with lower levels of algorithm awareness than among young people with higher levels of algorithm awareness. Second, the impact of relaxing entertainment on *TikTok* addiction was greater among young people with lower levels of algorithm awareness than among young people with higher levels of algorithm awareness.

To visualize the moderations, Figures 1 and 2 were drawn showing the effects of information seeking and relaxing entertainment, respectively, on *TikTok* addiction for the two selected values of algorithm awareness. The low level of algorithmic awareness is −1 standard deviation below the mean (2.19), while the high level of algorithmic awareness is +1 standard deviation above the mean (4.43). The two figures also indicated that the two motivations both have positive relationships with addiction, and young people with lower levels of algorithm awareness are more likely to be addicted to *TikTok* because of these two motivations.
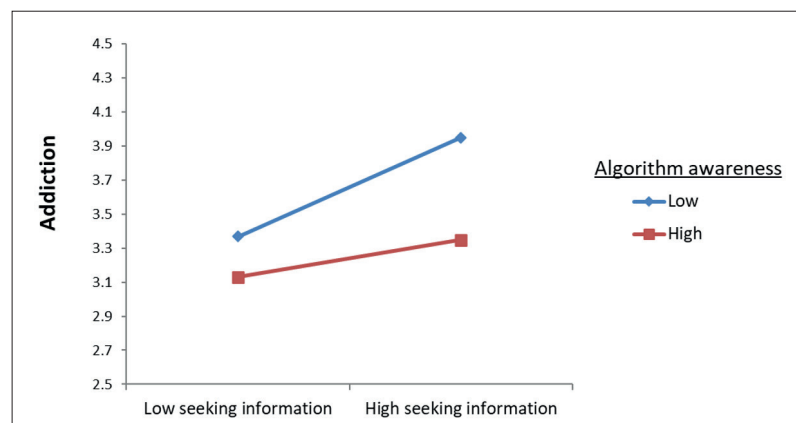

Figure 1. Moderating effect of algorithm awareness on the relationship between information seeking and *TikTok* addiction
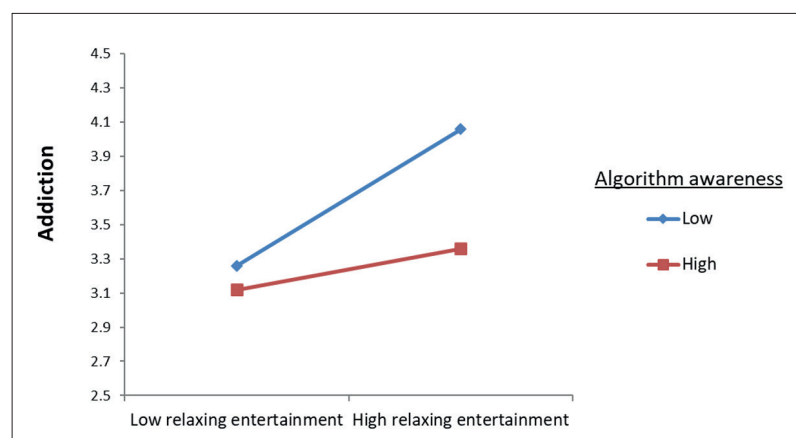

Figure 2. Moderating effect of algorithm awareness on the relationship between relaxing entertainment and *TikTok* addiction

4. Discussion and conclusions

In summary, the findings of the current study matter because it is the first time that the young people's motivational factors for *TikTok* consumption in the post-lockdown (Covid-19) period have been assessed in the context of existing literature. Also, as there has recently been increasing academic attention to perceptions of and reactions to algorithmically created content in online media, the validated AMCA scale, rather than the simple one-item self-report, developed by **Zarouali**, **Boerman** and **De-Vreese** (2021), was used for the meaningful and reliable measurement of the level of awareness of *TikTok*'s algorithm, and its moderation effects on the relationships between specific motivations and the level of addiction were also calculated.

The hypothesis that the main motivations in the consumption of *TikTok* videos were information, entertainment, social interaction, self-presentation, and new trend was verified. First of all, most young people consider relaxing entertainment and information seeking to be their main objectives, as reflected in previous studies of the motivations for engagement with audiovisual content according to the perspective of the uses and gratifications theory, in which the most important are usually entertainment, relaxation, and escapism (**Igartua**; **Humanes**, 2004). In the specific context of *TikTok*, our results regarding motivation are also consistent with previous research (**Omar**; **Dequan**, 2020; **Falgoust** *et al.*, 2022). Regarding information seeking, for the young people, *TikTok* could present several opportunities for the concise and effective dissemination of knowledge in many different fields of science (**Fiallos**; **Fiallos**; **Figueroa**, 2021), and as an open educational resource, it could even produce a considerable improvement in academic performance (**Rodríguez-Licea**; **López-Frías**; **Mortera-Gutiérrez**, 2017). But, on the other hand, it is important to take into account that the capability for entertainment and having fun has become more significant in their digital leisure practices on *TikTok*. For example, interesting short videos of products posted on *TikTok*, with the algorithm capturing demand and evaluating their preferences, could effectively reach these young people, thus imposing a strong and significant effect on their purchasing decisions and allowing for easy economic returns (**Chenkov-Shaw**, 2021).

In our case, young people also consumed video clips largely for social interaction, which reflects the fact that those who were confined at home or on campus studying, deep in social isolation during a long epidemic period, were more likely to experience high rates of depression and anxiety and to have a need for socialization and release from loneliness during and after the long forced isolation period (**Imaz-Roncero**, 2020).

Upon analyzing the motivations that lead to addiction to *TikTok* videos, it was discovered that information seeking, relaxing entertainment, and social interaction turned out to be the three predictors, having relatively high levels, with social interaction being the most significant factor. This also supports previous studies that show that social interaction is an important predictor of *TikTok* addiction (**Miranda** *et al.*, 2023). Taking into account the lockdown and algorithms' recommendations, it is most likely that young people are used to leveraging social networks as a way to communicate and promote interaction with others as followers or creators of video clips that are uploaded and played on *TikTok*, and thus young people become more dependent on and addicted to the platform.

The hypothesis that algorithm awareness moderates the association between motivations and *TikTok* addiction is also verified. The results obtained regarding the moderating role of algorithm awareness show that the interactions with information seeking and relaxing entertainment were significant; thus, awareness of algorithmic recommendation had a moderating effect on the association between these two motivations and *TikTok* addiction. With higher levels of awareness of the recommendation algorithm, the relationships between the two specific motivations and *TikTok* addiction would be lower.

By definition, the term "pure moderator" can be used when the moderator is not statistically correlated with the independent variable or with the dependent variable (**Soderlund**, 2023). But if there is a significant interaction effect and at the same time a significant correlation between the moderator and the independent variable, the dependent variable, or both the independent variable and the dependent variable, the moderator can be referred to as a quasi-moderator (**Sharma**; **Durand**; **Gur-Arie**, 1981). As indicated in the results, there are significant correlations between the moderator of algorithm awareness and the dependent variable of addiction/independent variables of motivations, so algorithm awareness is a quasi-moderator, and thus, it is necessary to explore the direct impact of algorithm awareness on addiction and even its mediation effect in future studies.

Another important fact to take into account is that it was revealed that the level of algorithm awareness among young people is still relatively moderate. This observation is consistent with previous studies, in which ordinary users are often unaware of how their data is collected and used and how such personalization algorithms and privacy management work (**Shin**; **Kee**; **Shin**, 2022; **Hamilton** *et al.*, 2014). Therefore, it is advisable to propose that universities promote education focused on teaching the correct and beneficial usage of *TikTok* and the understanding of algorithm recommendation and its functions to help temper the negative impact of addiction to this social network among young people.

Some limitations of this study can be noted. Our findings may not fully translate to *TikTok* usage in other countries, and there may be cultural differences regarding the content consumption. Future studies should explore samples made up of young people from other countries to yield more generalizable and reliable results. Second, the different motivations and addiction factors of viewers versus creators could also be investigated in the future. Furthermore, the present study

only used cross-sectional data, so a longitudinal design is needed in future research to facilitate the causal effect inference.

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