
RETARGETED ADVERTISING AND FEAR OF MISSING OUT IN YOUNG PEOPLE: TOWARDS THE DEVELOPMENT OF A SCALE

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Abstract

We report the first part of a two-phase study designed to develop and validate a scale to measure the fear of missing out (FoMO) in the context of retargeted advertisements among young people. We commenced this study after conducting two systematic literature reviews (SLRs), one focusing on the factors that affect the attitude of young people towards retargeted advertisements and the other concentrating on FoMO and young people. It was revealed that FoMO is an area that is poorly understood in the advertising context, evident from a general lack of studies. More importantly, it was determined in the FoMO-related SLR that studies on the link between FoMO and retargeted advertisements are inexistent. Specifically, we look at the fear that others might encounter when coming across repeated online advertisements displaying products that are associated with scarcity or urgency. These advertisements appear on users' screens after they show interest in a product by, for example, previously visiting a product website. The themes derived from both SLRs relate to fear and lost opportunities, retargeted advertisements, scarcity, and urgency. The SLRs also identified that few studies focus on early and middle adolescence. We then further analysed the derived themes among young people aged between 13 and 21 through focus groups discussions. The findings fielded out a battery of items that emerged from the themes observed in the focus groups discussions. During the second phase, this battery will be deployed in two surveys with different samples. All data will be subjected to diverse factor analysis and tests to construct a robust instrument.

Keywords: *Scale Development, Retargeted Advertising, Fear of Missing Out.*

1. INTRODUCTION

Artificial Intelligence (AI) driven retargeting techniques can facilitate aggressive repeated exposure of advertisements to consumers. The personalisation factor may further increase the efficacy of AI optimised advertisement targeting. But can repeated exposure to highly personalised advertisements increase social anxiety by amplifying FoMO? Given that young people are the largest segment accessing the Internet and the most susceptible, this study investigates the relationship between retargeting advertisements and FoMO among young people. The culmination of the study is the development and creation of a FoMO scale in a retargeted advertisement context, spread on two phases. This study was based on two SLRs, followed by focus group discussions. The first SLR focused on the factors that affect the attitude of young people towards retargeting, and the other had its lens on FoMO and young people.

Using repeated online display advertising or ‘retargeting’ techniques, marketers can aggressively target audiences who have shown interest in their products by visiting a specific page or searching for keywords related to the product (Lambrecht and Tucker, 2013). According to Goldfarb (2013), retargeting is the exposure of an advertisement to an online user which contains the content of something that was searched by the user online or seen on a formerly visited website. Retargeting advertisements is a cookie-based technology that allows marketers to invest most of their budgets on individuals that have the highest probability of converting into purchasing the product. This would be easy for marketers as individuals would have already visited the website, but left without purchasing (Lambrecht and Tucker, 2013). According to Cramer-Flood (2020), digital advertising spending will grow by 2.4 per cent in 2020; although registering an increase, it is still the lowest in the last decade, due to the COVID-19 pandemic. Online advertising spend is expected to be almost \$333 billion in 2020 and increasing by 17 per cent in 2021 (Cramer-Flood, 2020).

FoMO has been widely studied in the online social networking context. Przybylski *et al.* (2013) defined FoMO as “a pervasive apprehension that others might be having rewarding experiences from which one is absent” (p. 1841). Many studies have linked FoMO with smartphone dependency (e.g. Upreti and Musalay, 2018), social anxiety (e.g. Wang *et al.*, 2018), and lack of sleeping (e.g. Gezgin, 2018), among others. Academic studies resonated the negative attributes that FoMO can have on individuals. However, while the emerging marketing use of FoMO in advertisements and messages is steadily increasing, where companies are applying FoMO messages to expand their sales, relatively few studies have explored this concept (e.g. Hodkinson, 2019).

In this light, investigating FoMO effects of retargeted advertisements on young people is essential because according to the UN's ITU Agency (2017), they are the leading Internet users around the world. In September 2020, more than 4.9 billion individuals accessed the Internet worldwide, with 63.2 per cent penetration rate (Internet World Stats, 2020). Males are leading the Internet usage by 17 per cent, with 47 per cent of females surfing the Internet globally (ITU Agency, 2019). Today, young people aggregate to more than 1.8 billion or 23 per cent of the world's population. Almost 94 per cent of young people in Europe access Internet daily (Eurostat, 2020). In the US alone, 90 per cent of young people are reported to go online daily using YouTube, and an approximate 75 per cent access Facebook and Instagram (Perrin and Anderson, 2019). Hence, as Bitner and Albinsson (2016) state, young people are becoming a significant segment for marketers to creatively and coherently produce and position online advertisements. Nonetheless, young people are more vulnerable in a social networking environment when compared to adults (Aral and Walker, 2012). These authors suggest that there is also a divergence between males and females influence.

In the remaining sections of this paper, we review the five themes extrapolated from the SLRs. Following this, we present the research method used in the first phase of the study and establish the initial battery of 30 items generated from the SLR findings, while highlighting the main methods that will be employed during the second research phase to reach the full development of this scale. We then analyse and discuss the focus groups' findings. Finally, we conclude by including implications, limitations, possible future research, and conclusive arguments.

2. LITERATURE REVIEW

2.1. Fear and Lost Opportunities

In the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (APA, 2013), fear is defined as “the emotional response to real or perceived imminent threat”. In contrast, anxiety is the “anticipation of future threat” (p. 189). The emotion of anxiety is related to tension, troubled feelings, and can also influence the physiological component of an individual. Therefore, under a disorder, the anxiety and fear that are intrinsically together can result in comorbidity, overlap, or otherwise vary (APA, 2013).

In another section of their study, Przybylski *et al.* (2013) described FoMO as “the fears, worries, and anxieties people may have in relation to being out of touch with the events, experiences, and conversations happening across their extended social circles” (p. 1842). These

researchers and many others that followed focused on the social networking sites aspect. They analysed the concept of fear in a social environment. Studies concentrated mostly on individuals that they feel like they need to remain in the loop and involved, afraid of missing out something from the going-on and not to distance themselves from what others are doing and from what it is keeping them merry. According to Hodkinson (2019), this occurrence is defined as “self-initiated” (p. 65). It transpires when individuals initiate an action by themselves, as, the constant check of messages or other information on a smartphone, or the continued access to social networking sites. Przybylski *et al.* (2013) refer to the self-determination theory in this context, as it helps to understand why individuals adjust and modify their behaviours based on fear and anxiety. This theory explains the vital influence of the exogenous factors – the cultural and social factors - on individuals, by either enabling or hindering their psychological needs, self-control, and well-being (Legault, 2017). Nonetheless, this is only one facet of FoMO.

A recent study by Zhang, Jiménez and Cicala (2020) focused on the self-concept perspective of users, and based upon Przybylski *et al.* (2013) scale, formulated a FoMO instrument to help marketers to assess how FoMO consumers sense a particular brand. Hence, this study tapped on another facet of FoMO, which is much less studied. Hodkinson (2019) describe this facet as “externally initiated” (p. 67). In this facet, FoMO is triggered externally, in the case of this study, by advertisers. The externally initiated FoMO may therefore be created by the messages carried by advertisements and the persuasion factor sought by marketers. Hodkinson (2019) defines the externally initiated occurrence as a FoMO initiated by marketing messages, in the form of an appeal, which implicitly or explicitly suggest that individuals who do not obtain the advertised product or service, would be ‘missing out’. In this instance, fear is not the one instilled by the appeal of the message itself, as discussed by Jovanović, Vlastelica and Cicvarić Kostić (2016), but by informing the individual that there are few items left in stock or else, the offer would be expiring soon. Not acquiring the product or service will result in a lost opportunity that a marketer would be offering today and not necessarily extending it after a stipulated date. It may become unavailable or out-of-stock. The inaction inertia can reverberate and influence future purchases by casting an adverse shadow that affects individuals and inhibits them from considering another product (Ford *et al.*, 2019). Kover (1995) argues that emotions are a significant piece of this process, as the efficacy of advertising messages can affect the individual’s perception and thoughts. Beike, Markman and Karadogan (2009) posit that perceptions of lost opportunities may initiate “feelings of regret” (p. 385); individuals that regret outcomes which could have been different, if a decision was taken promptly in the past,

and can no longer be modified. Advertisements can allow this feeling to foster in individuals, particularly when repetition is involved, and when inaction prevails.

2.2. Retargeted Advertisements

In recent years, the advertising model has changed from a stochastic online presence to a more nuanced personalised advertisement that ‘follows’ the actions of individuals, based on their past interaction with the advertiser’s website (Stříteský *et al.*, 2016). This repeated exposure to online advertising, or retargeting, is revolutionising online advertising (Lambrecht and Tucker, 2013). When an individual exhibits interest by visiting a website and leaves it without purchasing or not revisiting, a monitoring cookie is embedded in the browser of the computer being used, where it monitors the individual’s actions, and the pages visited afterwards (Lambrecht and Tucker, 2013). Generic and dynamic retargeting occurs when the individual previously visited the organisation’s website, and display advertising start appearing on other websites. A generic or static retargeted advertising approach consists of multiple impressions of the same advertisement that appears on screen. Dynamic retargeting comprises of exclusive and customised advertisements aimed for individuals. A powerful online advertising tool is display advertising, which is employed in retargeting. Using text, logos, photographs, music, graphics, photography and other visuals, this form of advertisement conveys a promotional message (Booth and Koberg, 2012).

However, while advertisers personalise advertising by utilising the retargeting model and guide it to the relevant individuals that are more likely to convert, some can find this irritable or invasive (Bleier and Eisenbeiss, 2015). Retargeting is still developing in uncharted territories.

Cho and Cheon (2004) claim that when an individual is exposed to repeated advertising, advertisers can transmit the correct message to the right individual at the right time. They believe that individuals perceive it as more essential and compatible with their objectives and desires. Retargeted advertisement can provide information and suggest personalised products timely, rendering the method of searching for information more effective while enhancing buying intentions (van Doorn and Hoekstra, 2013). Adversely, the exposure to repeated ‘mobile’ advertisements, for example, can negatively affect the consumer’s attitude towards advertising (Han *et al.*, 2014). Over-repetition of advertisements can initiate fatigue as the individuals searching for a product or service would be inundated with repeated generic advertisements. After ten exposures to an advertisement, the optimum individual’s attitude would be attained (Schmidt and Eisend, 2015). Excessive repetition may be more harmful than

useful. Nevertheless, messages carried by retargeted advertisements can be more effective as they can initiate scarcity and urgency among individuals to purchase a product or acquire a service.

2.3. Scarcity and Urgency

Internet advertisements and the information that they carry could be focused on the premise that the goods and services being advertised are rare and less available. When the availability of a product or time-limit offers are included in an advertisement, it may give rise to the expectation that the offer may be expired prematurely or products would become unavailable or out-of-stock, leading to the customer missing the chance to own it. Brock (1968) focused on this concept in his research on commodity theory, where scarcity is characterised as lack of goods or bound by limited time to acquire. Worchel, Lee and Adewole (1975) used Brock's study as a platform and performed experiments to explain how the scarcity of goods could influence the individual's perception of products. They noticed that there are products that individuals will appreciate more when they think they are scarce. This notion has been defined as the Scarcity Principle. Scarcity is one of the six pillars of control that Cialdini (1984) identified in his thesis. He believed that scarcity produces a sense of beauty in items with minimal supply. Lynn (1991) stated that scarcity heightens the attractiveness and value of products and services and links this concept with marketing. He argues that marketers can enhance the perceived value and attractiveness of products by exploiting their perceived scarcity.

Messages in advertisements can create the idea of scarcity; products may be due to finish up or have a limited edition (Gierl and Huettl, 2010) or a sense of urgency; products tied to a special offer that would expire in a limited bracket. Cremer (2018) states that the scarcity of commodities has long been accepted as a central driver of markets, price-battles, and revenues. Hodkinson (2019) refers to scarcity as the "insufficiency or a shortness of supply" (p. 77). He argues that "perceived scarcity is more common than genuine scarcity" (p. 77).

Based on Cialdini's (1984) study, Jang *et al.* (2015) focus their study on scarcity messages in marketing and how these effects consumer behaviour. They concluded that there are two types of scarcity messages; limited-time scarcity and limited-quantity scarcity.

The limited-time scarcity arises as advertisers encourage individuals to purchase and tie them to a time-limited offer (Jang *et al.*, 2015). This time-based approach creates an immediate desire to buy, and it conveys a message of urgency among individuals to act immediately, or

else, will lose the opportunity to grab an offer. Hodkinson (2019) states that this apprehension stimulates individuals to click on an advertisement and initiate sales.

Limited-quantity scarcity occurs when advertisers use internet advertisements to convey a warning that few products of a given commodity exist (Jang *et al.*, 2015). This generates a sense of urgency to purchase, like what occurs with a limited-time scarcity advertisement. It may trigger the want to purchase, which contributes to the fear of losing an opportunity when another individual can snatch the product before. This technique allows an individual to shift from a wish-to-have to call-to-action (Hodkinson, 2019). However, this method may initiate anger in an individual due to the perceived idea that an object is not available to fulfil a need (Kristofferson *et al.*, 2016)

Compulsive buying and FoMO have a significant relationship between them (Aydın *et al.*, 2019). Advertisements that are intended to send impulsive messages are created to trigger FoMO among individuals and essential in generating compulsive buying behaviour. Online advertisements can inspire individuals and shift them from mere prospects to buyers. Besides, individuals who are unaware of the availability of products and services can depend on other people's actions to act (Castro, Morales and Nowlis, 2013). Hence, they feel that they are missing out on products that others have an advantage on them, due to the awareness of their availability.

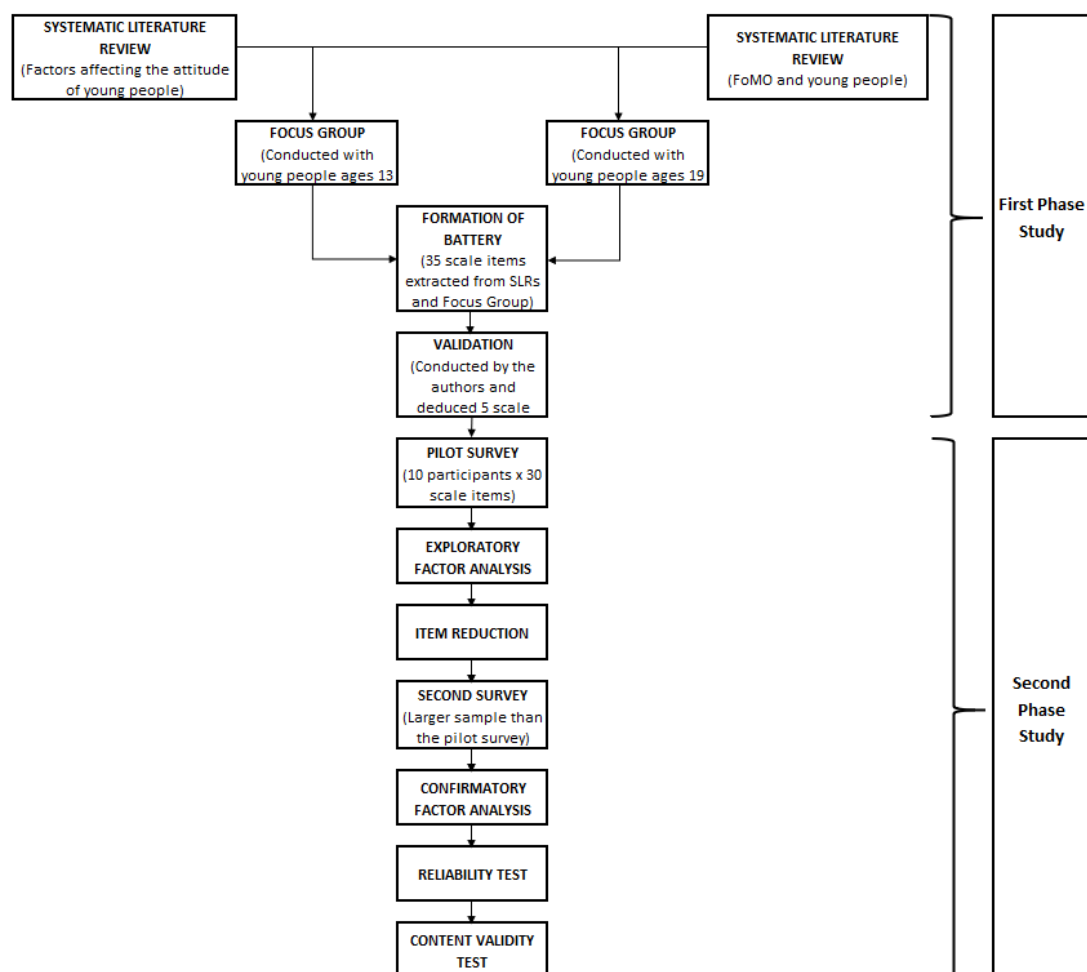


Figure 1: The two-phase study for the scale development

3. RESEARCH METHOD

In their study, Aydın *et al.* (2019) implore for further studies on advertising, FoMO and the connection these have with consumer behaviour. In our study, two-phases were proposed with different stages per phase to develop and create a rigorous scale, with the item development conducted during the first phase. During the second phase, a pilot survey, where exploratory factor analysis and item reduction will be performed. Then, a second extensive sampled survey will be conducted, and the extrapolated data is tested for dimensionality, reliability, and validity (Fig. 1). Boateng *et al.* (2018) split the item development stage into two parts: (1) the prior identification of all the domains that will be proposed for study; and (2) the initial content validation. In this first phase, the domains were defined, and their dimensions were specified by conducting two SLRs. Then, to generate a relevant battery of questions that suits the defined domains, two formal focus groups were held.

A focus group is a crucial research tool that is often utilised for item generation in a scale development study (Nassar-McMillan *et al.*, 2010). This qualitative instrument was employed

in preparation for subsequent larger quantitative samples that are envisaged to be collected during the second phase of this study. The focus groups were held in Malta during the end of October using Microsoft Teams with two groups. An online approach was adopted due to the COVID-19 situation and the restrictions that are imposed on group sessions. The first group of six students, ages 13 to 15 years were chosen impartially by the head of an independent secondary school, where five participants were Maltese, and one was a foreigner. Gender was equally split. The second focus group was held with another group of six students, comprised of three Maltese participants and three foreigners. These students are all currently undergoing a degree course, with ages ranging from 19 to 21 years. Four of the participants were female. The focus group sessions were recorded with all the necessary GDPR requirements in place, for transcription purposes. In this study, the groups are referred to as the young and older group. The multi-cultural and gender mix was an essential aspect for the study to acquire a more holistic view of the attitudes and feelings of young people. Five guiding questions, along with introductory and concluding questions were pre-set for the focus groups, and the same set of questions were used with both groups. Probing was exercised in the sessions to acquire more information from the participants, particularly on feelings and emotional approaches. The duration of the focus group sessions was 90 minutes each.

After transcribing the recorded focus group sessions, the discussions were assessed and analysed rigorously using NVivo 12, resulting in compiling a list of 35 statements. These statements were reviewed based upon their representativeness and accuracy by the authors. Five items were excluded from the list as they were repetitive and out of scope, leaving an initial battery of 30 items, as shown in Table 1.

Table 1. - The initial battery of items

1)	I feel sad when I miss an opportunity
2)	I feel sad when my friends buy a product in which there are no products left
3)	I feel encouraged to click on a retargeted advertisement when it shows that others are buying
4)	I feel anxious when I do not experience the opportunity of buying a product
5)	I feel encouraged to click on a retargeted advertisement that is shown repeatedly on the internet
6)	I would not feel part of the trend if I do not buy the products that are advertised on retargeted advertising
7)	It annoys me if I miss out on the hype that goes around me
8)	I worry when I come across a retargeted advertisement stating that few products that interest me are left
9)	I worry when I come across a retargeted advertisement stating that a special offer will last in a few hours
10)	I feel disappointed when I miss out on a special offer and find that the price has increased
11)	I feel disappointed when I miss out on a product and find out that it is not available anymore
12)	I feel anxious when a retargeted advertisement create a sense of urgency
13)	I feel anxious when a retargeted advertisement shows that a product is scarce
14)	I feel anxious when a retargeted advertisement shows that many people are buying
15)	It bothers me when I read in the reviews of a retargeted advertisement that my friends bought and I lost the opportunity to buy
16)	I fear others will buy the product advertised in the retargeted advertisement before me
17)	I fear others will gain from a special offer advertised on a retargeted advertisement before me
18)	I feel myself falling behind when others buy a product advertised on a retargeted advertisement, and there are no products left
19)	It bothers me when I miss an opportunity to buy a product advertised on a retargeted advertisement
20)	It annoys me when I receive retargeted advertisements that pressure me to buy instantly
21)	I act immediately when I come across a special offer shown on a retargeted advertisement
22)	I act immediately when I come across a retargeted advertisement stating that few products are available
23)	I feel stressed when I miss on a product that is advertised in a retargeted advertisement
24)	I keep thinking when I miss an opportunity offered in a retargeted advertisement
25)	I fear others will enjoy themselves in my loss of an opportunity
26)	I fear left out of a group if I do not buy the products bought by my friend/s
27)	I try to hide the fact that I lost an opportunity from others
28)	I feel jealous of my friends who bought a product for which the offer has expired and then show off with it
29)	I feel jealous of my friends who bought a product which is not available anymore and then show off with it
30)	I feel motivated to make sure not to lose an opportunity next time

5. RESULTS AND DISCUSSION

The scope of this study is to establish a battery of items in preparation for a second phase of the study where we develop and validate a scale to measure the fear of missing out (FoMO) employed in retargeted advertisements intended predominantly to young people. The starting point was the use of Przybylski *et al.* (2013) ten-item scale. Nevertheless, like Zhang, Jiménez and Cicala (2020) 26-item scale, where they reconstructed an entire new list of scale items, we embarked on the same concept of using the backbone of both these scales but constructing different items from scratch as this is the only known study that is investigating the influence of FoMO in a retargeted advertisement context, and the influence that exerts on young people. From the original list of 30 items extracted from the collected data, five items were adopted from the initial scale of items produced by Zhang, Jiménez and Cicala (2020) list. These researchers evolved their preliminary items, and part of the final battery of items was grouped under the “consumer susceptibility to interpersonal influence” section (Zhang, Jiménez and Cicala, 2020, p. 10). This section was the most relevant for our study, although it only highlighted the feelings of individuals based on the peer’s social acceptance and perceptions. Their study was predominantly based on social networking sites and the COVID-19 tangent.

In our study, the focus is the feeling of fear among individuals when they miss out on opportunities presented to them by retargeted advertisements. These opportunities can be posed in two different forms; either presented as a limited offer or as a last-item available. The guiding questions used in these focus groups focused on: (1) the personalisation of advertisements; (2) if young people are encouraged to click on repeated personalised advertisements; (3) their feelings towards scarcity and urgency messages in advertisements; and (4) their reactions when products are purchased by their friends before they do, and when their friends boast about the purchase. During the focus groups, participants reported that the feeling of losing opportunities centralised on the idea of receiving personalised advertisements which they felt were mostly related to them. It occurs because they were either longing to purchase the product beforehand, but for different reasons, it did not materialise, or they waited for the price of an item to be further reduced. In both cases, the majority expressed that although the feeling of missing out would have been initially felt if they lose an opportunity, it was not as intended by the advertisement. Participants were aware that some of these advertisements are not always true in what they state, and although it may seem like a lost opportunity, they would still find the product somewhere else. In the case of the younger group of participants, the idea of FoMO appears to be more enticed with. Both genders admitted that they feel anxious when they miss an opportunity of acquiring products which are personalised and according to their likings. Males were more into sports and gaming related products, while females were more into fashion, clothing, and beauty products. Upon missing an opportunity, a female participant admitted that she would feel ‘not part of the trend and left out of her group’. Other participants agreed, with a male participant adding that with retargeted advertisements, ‘he would keep on track of what is new’. The younger group declared the FoMO on the hype that goes around them, and this may be triggered by advertisements that pop up on their screens while focusing on something else. Almost all the older participants admitted that sometimes the special offer and last item availability annoy them to the point that they would ignore them. It only depends on the product being marketed and how much personal and in need is at that time. The younger group were more lenient. A male participant stated that he ‘would click if the advertisement is repeated and annoys me’.

All participants knew the idea of deceit and click-bait notion in advertisements. Three participants from the older group argued about the irritant and sometimes invasive approach that is employed by advertisers to promote their products. Two participants from the different groups mentioned the ‘creepy factor’ that these advertisements sometimes create. Nonetheless,

the 'personalisation' element of retargeted advertisements helps to connect with young people and makes it easier for them to click to seek more information. Both scarcity and urgency methods work mostly on the younger group; only when it is appealing or highly needed. Nonetheless, the technique of using retargeted advertisements to attract customers to purchase when they can find the product somewhere else would render this marketing tool futile. Other substitute products might present similar prices or offers which individuals would opt for without falling for a retargeted advertisement. FoMO depends highly on the needs, going trends and hype, and keeping on track with what others are doing. This was accentuated by both groups, with the younger group highlighting it more. Not being part of a trend affects mostly the younger group. Three participants from this group admitted that they would opt for the limited offers or new product offers to be the first to get hold of these products, with one female participant declaring that she would 'show off with friends'. Moreover, both groups agreed that retargeted advertisements marketing preferred personalised products would encourage them to click to acquire more information about the product, but not necessarily to purchase. Hence, to contain the disappointment of missing out on a special offer or missing out on a last-in-stock product, participants stated that they would click and act immediately. Else, all participants declared that they would feel disappointed and upset momentarily, but then it would pass swiftly. The younger participants will feel more dismayed if they miss an opportunity, and even more when their friends show off with their product.

Although not within the main scope of this study, a critical element that rose during the sessions backed our study. The younger group unanimously agreed that they might be influenced by reviews that other customers write about a product or an offer. They argued that they would make an informed decision about the last item available or a limited time offer based upon other peoples' assessments. A young female participant admitted that she encountered FoMO, 'whenever coming across different and interesting reviews'. Another interesting element worth mentioning was the various factors that make up a retargeted advertisement. Participants from both focus groups mentioned credibility as being a significant factor that makes retargeted advertising useful and appealing. Others highlighted the message and information that the advertisement disseminate as the main attribute that attracts them to click to know more. Participants also mentioned personalisation, with a young male participant mentioning interactivity as being contributory to make a retargeted advertising even more approachable.

The findings provide a steady background for acquiring a healthy instrument that would eventually help us to determine the effects of retargeted advertisements on young people and how these advertisements can be improved to be more effective and cost worthy.

5. CONCLUSION

Although the use of FoMO in marketing campaigns is being frequently used, the study of its impact on young people and its effects is still scarce. Hence, the main scope of this study was to commence a full process to establish a scale to understand the impact of the FoMO factor on young people when this is employed in retargeted advertisements. It is envisaged that this instrument would be a contribution to methodology, as to our knowledge, to date, no scale exists in this area of study. The creation of this scale is not only relevant to the academic field but also for managerial and marketing decisions. This scale is intended for marketers to analyse their target market - young people and to understand the influence that FoMO in retargeted advertisements might exert. Hence, it will help them to use scarcity and urgency messages effectively and coherently. Moreover, it will provide them with an accurate picture of what are the attitudes of young people towards retargeted advertisements in a cultural and social dimension. Eventually, this study will offer a significant advance to the current literature and the integration of the usage of FoMO in a marketing context and the influence it exposes on young people.

Another significant opportunity for the development of this scale is to measure and examine if there is any difference that exists between genders' perspectives and the two different segments of young people: the younger and older groups. The final battery of items is intended to identify any major disparity when it comes to fear and anxiety in a marketing context. Moreover, this scale will put to the test the study that Aral and Walker (2012) conducted on the susceptibility and influence of young people when surfing social networking sites. It will also help us to understand the challenges and constraints that these retargeted advertisements are employing in the online domain on genders and different age brackets.

No study is accomplished without its limitations. First, apart from acquiring insight from different literature, the development of the scale was based on mixed data obtained from studies that included older ages, i.e. young adults. The mitigation to limit this factor was the focus groups that we have conducted. Future research could consist of the adults' segment once again, by employing and adapting this scale and use it as a foundation, to explore if there are any significant changes tied with age. Second, two focus groups of six participants each were held. Nonetheless, this was a follow-up of two strong SLRs and in preparation for a larger sample,

scale study. Finally, the scale development is explicitly focused on retargeted advertisements. This was the initial scope of the study. Future research could broaden the study to understand if other types of advertisements amplify FoMO in the audience and to what extent.

The second phase of this study will involve a quantitative pilot survey where we intend to collect more 10 responses for each scale item generated. The collected data will be exposed to different tests, including exploratory factor analysis and item reduction, where the items resulting from these tests will be used in another survey with a larger sample, for dimensionality, reliability and validity testing which are all expected to drive towards the development of a robust instrument.

In conclusion, the findings of the first phase of the study presented four important factors which are: (1) FoMO is more sensed by the younger group than the older group; (2) scarcity and urgency work on the younger group, when the advertisement is appealing or product highly needed; (3) retargeted advertisements would encourage them to click to acquire more information about the product, but not necessarily to purchase; and (4) FoMO can be triggered in young participants by other people's reviews. Hence, we posit that this scale will help us to evaluate all these factors and drive us to assess FoMO in the context of retargeted advertisements among young people.

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