

A Systematic Literature Review and Future Research Agenda for the Gratification Discrepancies Approach

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ABSTRACT

Uses and gratifications theory helps in studying the underlying needs for using media that lead to positive behavioral intention and satisfaction. One of its approaches is gratification discrepancies (i.e., the difference between gratifications obtained and gratifications sought [GO-GS]) helps to explore the gratifications of using media and the results obtained after using media. The GO-GS approach provides an opportunity to collect the data two times, both before and after the usage of media. Several researchers have suggested this approach as a suitable method for investigating attitudinal change, beliefs, satisfaction, and behavioral intentions. Despite the importance of the GO-GS approach, there is a lack of systematic literature review to summarize the developments in academic literature related to GO-GS. Therefore, this review addresses this gap by assessing the articles using the GO-GS approach published from 1979–2020. A research string was developed using Boolean operators to search the literature. A total of 4,184 articles were considered for the initial screening, but only 23 articles met the inclusion criteria. These articles were critically analyzed, and seven main realms are proposed, grounded in

developments in the literature, such as research context, regions of research, media, gratifications, consumer behavior, other theories or models, and different conceptualizations to study gratification discrepancies.

Keywords: Gratifications sought and obtained (GO-GS), uses and gratifications theory (U&G), systematic literature review (SLR), theory-based review.

INTRODUCTION

Uses and gratifications (U&G) theory is a widely used theory in consumer technology and media contexts (Kamboj, 2020; Whiting & Williams, 2013), answering the fundamental question of why people use them (Whiting & Williams, 2013). Katz et al. (1974) provided in-depth details regarding the U&G theory, including key concepts, theoretical background, and explained the three main sources of audience gratification: (i) content of media, (ii) exposure to media, and (iii) social context. The reason for introducing U&G theory was the lack of a theory dealing with the social and psychological needs of users for using mass media (Ruggiero, 2000). Hence, Katz et al. (1974) proposed a theory to understand the users' needs and motivations for using mass media. Prior to U&G theory, the literature predominantly focused on the effects of media on users (Katz et al., 1974). Subsequently, researchers started to use U&G theory to understand the influence of different technologies on users, such as television (Palmgreen & Rayburn, 1979), radio (Houghton-Larsen, 1982), printed media (Garramone, 1984), mobile phones (Wang & Tchernev, 2012), social media (Bae, 2018; Gibbs et al., 2014), augmented reality (AR) (Rauschnabel, 2018), and virtual reality (VR) (Kim et al., 2020).

An important approach of the U&G theory is gratification discrepancies (GO-GS), which provide an opportunity to examine the gratifications sought (GS), and gratifications obtained (GO), thus identifying the expectations and fulfillment gained from using media. This discrepancy in GO and GS provides an exact idea about the successful function of media in meeting the user's expectations (Rokito et al., 2019). It is also evident from past research that comparing the results of pre- and post-media usage reflects actual attitudinal change and beliefs (Bhattacharjee & Premkumar, 2004), satisfaction, and continued use intentions (Bae, 2018). Despite the importance of the GO-GS approach in studying consumer behavior, there is a lack of research summarizing the developments in academic literature related to GO-GS. Therefore, the purpose of this systematic literature review paper is to explore the answers to the following research questions:

RQ1- What are the developments in academic literature related to the GO-GS approach in terms of the (i) research context, (ii) regions of research, (iii) media, (iv) gratifications, (v) consumer behavior, (vi) other theories or models, and (vii) different conceptualizations?

RQ2- What are the prospects for the GO-GS approach?

LITERATURE REVIEW

Uses and Gratifications Theory

According to Katz et al. (1974), U&G theory deals with “(1) the social and psychological origins of (2) needs, which generate (3) expectations from (4) the mass media or other sources, which lead to (5) differential patterns of media exposure (or engagement in other activities), resulting in (6) need gratifications and (7) other consequences, perhaps mostly unintended ones” (p. 20). The basic premise of U&G theory is “active audience” technology users select media and interact with it to fulfill their needs, which leads to satisfaction (Palmgreen & Rayburn, 1985). This theory assumes that audience members are not passive consumers of media (Katz et al., 1974; Lariscy et al., 2011). For example, social media can fulfill social needs; hence, people seeking socialisation may prefer to use social media (Basilisco & Jin, 2015; Ha et al., 2015; Korhan & Ersoy, 2016). U&G theory is being studied in relation to different technologies to understand the consumer behavior, such as usage behavior with AR (Lin & Chen, 2017), media migration behaviors in entertainment television (Shade et al., 2015), purchase intentions formed through websites (Ko et al., 2005), satisfaction from e-commerce (Luo, 2002), social media usage behavior (Whiting & Williams, 2013), and behavioral intention with VR (Kim et al., 2020).

Initially, U&G theory was used to measure gratification by collecting data only after media usage, which prevented the comparison of pre- and post-usage gratification (see Katz et al., 1974). To address this gap, Palmgreen and Rayburn (1979) introduced the GO-GS approach. Specifically, the attraction towards reusing a type of media depends on the gratifications obtained against the gratifications sought. The obtained outcome of a technology or media experience must exceed the expectation (i.e., $GO > GS$) in order to engage the user and elicit positive behavior towards the adoption of a technological medium (Ko et al., 2005; Lin & Chen, 2017; Palmgreen & Rayburn, 1979).

GO-GS

Gratifications sought mainly relates to the desire of a person to use a technological medium, and gratifications obtained relates to the outcome received by a person from using the media (Bae, 2018). This GO-GS approach explains that the gratifications sought from using the media is not always the same as that obtained after the use (Palmgreen & Rayburn, 1985). On occasion, the expected gratifications are not obtained, or the obtained gratifications may not have been expected by the user.

A technological medium must fulfill GS (GO=GS), and it is ideal for the medium to over-fulfill GS, meaning GO is higher in comparison to GS (i.e., $GO > GS$; Palmgreen & Rayburn, 1979). Indeed, the over-fulfillment of GS results in the adoption of a medium, frequent usage, and greater dependency (Palmgreen & Rayburn, 1979). Conversely, under-fulfillment occurs when a medium cannot fulfill the GS and performs poorly in comparison to the individual's expectations (Palmgreen & Rayburn, 1979; Wenner, 1986). This discrepancy is also directly linked with the satisfaction from using media (Palmgreen & Rayburn, 1985) and continuance usage behavior (Rokito et al., 2019). Several scholars have suggested that the method of studying pre- and post-media usage is a suitable way to measure attitudinal change, beliefs, continued use intentions, and satisfaction (Bae, 2018; Bhattacharjee & Premkumar, 2004). This approach has been used by researchers with several media, such as radio and magazines (Houghton-Larsen, 1982), written memos (Dobos, 1992), television (Barton, 2009), social media (Bae, 2018), and video games (Palomba, 2018).

METHODOLOGY

There are several ways to conduct a systematic literature review, such as a structured review, framework-based review, bibliometric review, hybrid review, theory-based review, and meta-analysis review (Paul & Criado, 2020). A theory-based review was used in this research by adopting the research methodology from extant research (Gilal et al., 2019; Paul & Rosado-Serrano, 2019) to review a specific theory in order to extend its application to new technologies (Shahab et al., 2021). We searched databases including Emerald, SAGE, Taylor & Francis, Science Direct, Wiley, and also Google Scholar to retrieve all the relevant published articles. There are two ways to search the literature, for instance, through keywords or a research string using Boolean operators (Boland et al., 2017). We adopted Boolean operators in a research string to identify the articles from databases (Boland et al., 2017) that had the following key terms in their title, abstract, or keywords:

(gratificatio* sought) AND (gratificatio* obtained) AND (gratification discrepant*)

In this string, the word “and” indicates that all three terms must be available in the text. In contrast, the symbol “*” denotes that multiple terms can be searched with the same stem, such as “gratification” and “gratifications” or “discrepancy” and “discrepancies”. Palmgreen and Rayburn introduced the GO-GS approach in 1979; hence, the time frame of 1979 to 2020 was selected to search the databases. In order to increase the efficiency of the search process, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework was adopted (Moher et al., 2010), which is presented in figure 1.

The search across all databases provided 4,176 research articles, and a careful search of google scholar presented eight more research articles. Therefore, a total of 4,184 articles were considered for the initial screening. The initial screening of these articles was conducted based on the following criteria:

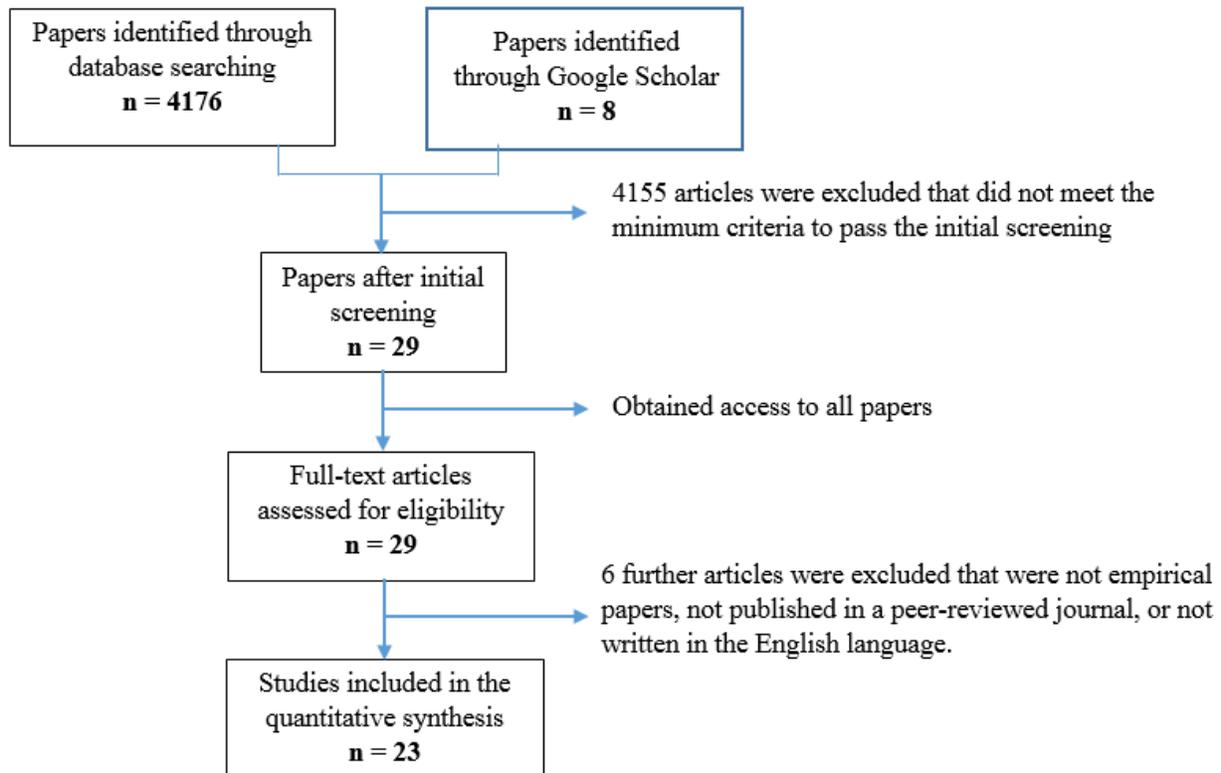
- (i) Articles published in peer-reviewed journals
- (ii) Articles having (gratificatio* sought), (gratificatio* obtained) and (gratification discrepant*) key terms in the article’s title, abstract, or keywords

After an extensive screening of these articles, only 29 met the initial screening criteria, excluding a total of 4,155 articles. The primary reason for exclusion was that most of the articles did not study the GO-GS approach.

The remaining 29 articles were evaluated comprehensively by applying the succeeding criteria:

- (i) Articles published in a peer-reviewed journal
- (ii) Articles written in the English language
- (iii) Articles used the GO-GS approach
- (iv) Articles using a quantitative research design

A total of six articles were further removed, and only 23 research articles met the outlined criteria (see figure 1).

Figure 1 *PRISMA Framework*

OVERVIEW OF ARTICLES

This sub-section discusses the journals that had published these 23 research articles and the research methodologies used in them.

Publication Outlets

The list of all articles published by the journals is given in Table 1. The Communication Research journal published six articles, while Computers in Human Behavior disseminated three articles. Journalism Quarterly and Communication Monographs published two articles each, and the journals that published one article are listed in Table 1. The number of published research documents relating to the GO-GS approach has decreased over time (see Table 2). A total of 13 articles were published from 1979–1999, whereas only 10 articles were published from 2000–2020.

Table 1 Journals disseminating GO-GS research

Journals	#	References
Communication Research	6	Dobos (1992), Levy and Windahl (1984), Palmgreen et al. (1980, 1981), Palmgreen and Rayburn (1979), Wenner (1982)
Computers in Human Behavior	3	Bae (2018), Palomba (2018), Rokito et al. (2019)
Journalism Quarterly	2	McLeod et al. (1982), Rayburn et al. (1984)
Communication Monographs	2	Palmgreen and Rayburn (1985), Wenner (1986)
Journal of Broadcasting & Electronic Media	1	Barton (2009)
Communication Quarterly	1	Barton (2013)
Journalism & Mass Communication Quarterly	1	Garramone (1984)
International Journal of Sport Communication	1	Gibbs et al. (2014)
Canadian Journal of Communication	1	Houghton-Larsen (1982)
Information discovery and delivery	1	Hussain et al. (2020)
Contemporary Educational Technology	1	Karimi et al. (2014)
Human Communication Research	1	Lin (1993)
Journal of Communication	1	Wang and Tchernev (2012)
Communication Theory	1	Yoo (2011)

Table 2 Publishing trends 1979–2020

Year	Number of articles
1979	1
1980	1
1981	1
1982	3
1984	3
1985	1
1986	1
1992	1
1993	1
2009	1
2011	1
2012	1
2013	1
2014	2
2017	1
2018	1
2019	1
2020	1

Research Methodology

The countries surveyed, populations, and data collection methods are presented in Table 3. The data were collected from eight different countries; 18 out of 23 articles were published using data from the USA, followed by Canada with two articles. The data for the remaining articles were collected from Pakistan and Sweden, except for the study by Karimi et al. (2014), which was conducted in Iran, Malaysia, the United Kingdom, and South Africa.

We have categorized the study populations into two general groups: students and others (e.g., users, voters, and employees). Most of the studies were conducted with users, voters, and employees, whereas very few studies collected data from students. All the articles used a survey design, except Levy and Windahl (1984) and Gibbs et al. (2014), which used interviews and surveys together.

Table 3 *Country of research, study population, and data collection methods*

Surveyed countries	# ^a	Selected Population ^a	Methodology ^a	References ^a
USA	18	Others ^b : 13 Students: 6	Survey: 18	Bae (2018), Barton (2009), Barton (2013), Dobos (1992), Garramone (1984), Lin (1993), McLeod et al. (1982), Palmgreen and Rayburn (1979), Palmgreen et al. (1980, 1981), Palmgreen and Rayburn (1985), Palomba (2018), Rayburn et al. (1984), Rokito et al. (2019), Wang (2012), Wenner (1982), Wenner (1986), Yoo (2011)
Canada	2	Others: 1 Students: 1	Survey: 1 Interview & survey: 1	Gibbs et al. (2014), Houghton-Larsen (1982)
Pakistan	1	Others: 1	Survey: 1	Hussain et al. (2020)
Sweden	1	Others: 1	Interview & survey: 1	Levy and Windahl (1984)
Iran	1	Students: 1	Survey: 1	Karimi et al. (2014)
Malaysia	1	Students: 1	Survey: 1	Karimi et al. (2014)
United Kingdom	1	Students: 1	Survey: 1	Karimi et al. (2014)
South Africa	1	Students: 1	Survey: 1	Karimi et al. (2014)

^a The totals exceed the actual number because some researchers have collected data from more than one country and population.

^b Others = users, voters, and employees.

Discussion and Suggestions for Future Research

This sub-section is written based on the systematic literature review (Paul & Benito, 2018; Shahab et al., 2021), discussing the reviewed articles to develop a future research agenda. Seven main realms can be identified that are grounded in the literature developments: (i) research context, (ii) regions of research, (iii) media, (iv) gratifications, (v) consumer behavior, (vi) other theories or models, and (vii) different conceptualizations to study gratification discrepancies.

Research Context

These 23 articles have contributed overwhelmingly to the academic literature in terms of psychology, communication, and sports (see Table 4). However, several other important research contexts have been overlooked by researchers, such as education, entrepreneurship, environment, health, marketing, public administration, and tourism. Therefore, future research involving the GO-GS approach should also focus on diverse research contexts.

Table 4 *Research contexts of the reviewed articles*

Research context	#	References
Role of the media in user's behavioral intentions, satisfaction, recurring usage, and exposure	7	Bae (2018), Levy and Windahl (1984), Lin (1993), Palmgreen and Rayburn (1985), Rokito et al. (2019), Wang and Tchernev (2012), Yoo (2011)
GS and GO from different television programs	6	Barton (2009, 2013), Palmgreen et al. (1980, 1981), Wenner (1982, 1986)
Differences in GS and GO based on different demographic characteristics, and personality traits	5	Houghton-Larsen (1982), Hussain et al. (2020), Karimi et al. (2014), Palmgreen and Rayburn (1979), Rayburn et al. (1984)
Role of the different media in voting	2	Garramone (1984), McLeod et al. (1982)
Employee's satisfaction from different media: electronic media, written memos, and face-to-face conversation	1	Dobos (1992)
Satisfaction from media for getting updates on football	1	Gibbs et al. (2014)
Media consumption experience for video games	1	Palomba (2018)

Regions of Research

North America was the most surveyed region, with 20 out of the 23 identified articles, whereas two articles were published from Europe and Asia. Karimi et al. (2014) took their data from Asia, Europe, and Africa. Therefore, the regions of Oceania and South America have been overlooked by researchers. Additionally, other countries with strong research contributions have not published any research articles on the GO-GS approach, such as China (2nd highest contributor), Germany (3rd), Japan (5th), France (6th), Switzerland (8th), South Korea (9th) and Australia (10th; Crew, 2019). Therefore, there is a need to conduct research on the GO-GS approach in these countries to understand user behavior better.

Types of Media

The reviewed articles have made breakthrough contributions by studying the impact of diverse communication media on users. For example, television, printed media, social media, computer-related media, radio, mobile phones, phonographs, and face-to-face conversations have been studied (see Table 5). New technologies such as AR, chatbots, location-based services (LBS), smartphone applications, smartwatches, and VR have been under-researched by scholars. These technologies, especially AR and VR, have a great potential to be considered the main media in the future (Rauschnabel et al., 2022). Therefore, a research gap exists in studying the GO-GS approach with new technologies.

Table 5 *Communication medium in the identified studies*

General Category	Sub-Category	# ^a	References ^a
Television	<ul style="list-style-type: none"> • Reality programs: The Apprentice, The Bachelor, Survivor, American Idol, Dancing with the Stars, America's Got Talent • News programs: World News Tonight, evening news, nightly news, network evening news, 60 minutes • General news • Advertisements 	15	Barton (2009, 2013), Garramone (1984), Houghton-Larsen (1982), Levy and Windahl (1984), Lin (1993), McLeod et al. (1982), Palmgreen et al. (1981, 1980), Palmgreen and Rayburn (1979, 1985), Rayburn et al. (1984), Wang and Tchernev (2012), Wenner (1982, 1986)
Social media	<ul style="list-style-type: none"> • Social networking sites • Facebook • Twitter 	5	Bae (2018), Gibbs et al. (2014), Hussain et al. (2020), Karimi et al. (2014), Rokito et al. (2019)
Printed media	<ul style="list-style-type: none"> • Newspaper • Magazines • Books • Written memos 	5	Dobos (1992), Garramone (1984), Houghton-Larsen (1982), McLeod et al. (1982), Wang and Tchernev (2012)
Computer-related mediums	<ul style="list-style-type: none"> • Video games • Online newspaper • Electronic media 	4	Dobos (1992), Palomba (2018), Wang and Tchernev (2012), Yoo (2011)
Radio	<ul style="list-style-type: none"> • N/A 	2	Houghton-Larsen (1982), Wang and Tchernev (2012)
Mobile phones	<ul style="list-style-type: none"> • N/A 	1	Wang and Tchernev (2012)
Phonographs	<ul style="list-style-type: none"> • N/A 	1	Houghton-Larsen (1982)
Face-to-face conversation	<ul style="list-style-type: none"> • N/A 	1	Dobos (1992)

^a The totals exceed the actual number because several articles used more than one media

N/A = Not applicable

Gratifications

Table 6 presents the diverse types of gratification studied by the researchers that are according to the nature of the communication medium. For example, social media provides socialization; hence, Bae (2018) studied a “social support” gratification. In the same way, “information seeking” has been widely studied in the context of television and “seeking

fantasy” in relation to video games. Several other gratifications are given in Table 6. Sundar and Limperos (2013) extended the usage of U&G theory by proposing its 2.0 version for new technologies, as *“noting that studies on the uses of the Internet have generated a list of gratifications that are remarkably similar to those obtained from older media...gratifications are conceptualized and operationalized too broadly (e.g., information-seeking), thus missing the nuanced gratifications obtained from newer media”* (p. 504). U&G theory 2.0 version provides variables for measuring gratifications such as novelty, being there (telepresence), realism, dynamic control, coolness, agency enhancement, community-building, interaction, activity, responsiveness, browsing, and navigation aids (Sundar & Limperos, 2013).

In order to provide a rigorous future research agenda, we also searched “uses & gratifications” key terms in google scholar to obtain articles published using U&G theory. Table 6 explicitly presents the gratifications studied using the GO-GS approach. Additionally, Table 7 provides an extensive list of the gratifications and media studied in the literature using U&G theory. By comparing these two tables, we have developed a triangle figure (see figure 2) to summarize the contributions of the GO-GS approach in the extant literature and future research agenda for GO-GS. Through this, we propose new gratifications that should be studied with new media elements. For example, these include novelty, realism, coolness, activity, responsiveness, achievement, challenge, and telepresence.

1 **Table 6** *Other theories, gratifications, and outcomes studied using the GO-GS approach*

References	Other theories or models	Gratifications	Outcome
Bae (2018)	-	Information, entertainment, escapism, social support, convenience	Satisfaction, continuance intention
Barton (2009)	-	Personal utility, social utility, pass time, perceived reality, vicarious participation	<i>Groupings based on three programs</i>
Barton (2013)	-	Schadenfreude, personal utility, social utility, TV personalities, vicarious participation, perceived reality, pass time	<i>Groupings based on three programs</i>
Dobos (1992)	-	Production, maintenance, innovation	Satisfaction and channel choice
Garramone (1984)	Drive reduction model, Exposure learning model	Surveillance-vote guidance	<i>Groupings based on three media</i>
Gibbs et al. (2014)	Expectancy value theory, SERVQUAL	Interaction, promotion, live game updates, news	Satisfaction
Houghton-Larsen (1982)	-	Relaxation, entertainment, information, companionship, forget loneliness, enjoyment, excitement, local information, information on international events, detailed information on national events, information on movies, detailed information on international events and weather, time, music	<i>Analysis based on gender, income, watching habits, and age brackets</i>
Hussain et al. (2020)	-	Cognitive	<i>Groupings based on gender and profession</i>
Karimi et al. (2014)	-	Interpersonal utility, pass time, entertainment, information seeking, convenience	<i>Groupings based on different countries</i>
Levy and Windahl (1984)	-	Entertainment, parasocial interaction, interpersonal utility, surveillance	Inattentive behavior, exposure
Lin (1993)	-	Informational guidance, interpersonal communication, parasocial interaction, entertainment, diversion	Viewing satisfaction

References	Other theories or models	Gratifications	Outcome
McLeod et al. (1982)	Drive reduction model, Exposure learning model	Surveillance-vote guidance, contest-excitement, communication utility	<i>Groupings based on age and time of decision</i>
Palmgreen and Rayburn (1979)	-	Relaxation, learning about things, communicatory utility, forget, pass time, companionship, entertainment	<i>Analysis based on viewers vs. non-viewers, education, income, number of children, number of TV sets, and perceptions of public television</i>
Palmgreen et al. (1980)	-	General information seeking, decisional utility, entertainment, interpersonal utility, parasocial interaction	<i>Groupings based on three programs</i>
Palmgreen et al. (1981)	-	General information seeking, decisional utility, entertainment, interpersonal utility, parasocial interaction	<i>Analysis based on discrepancies between the programs, viewership, interest in politics, discussion of politics, radio news exposure, newspaper readership, family income, age, and education</i>
Palmgreen and Rayburn (1985)	Gratifications obtained model, Modified gratifications obtained model, Expectancy value model, Absolute value discrepancy model, Simplified discrepancy model, Expectancy value discrepancy model	General information seeking, decisional utility, entertainment, interpersonal utility, parasocial interaction	Media satisfaction
Palomba (2018)	Expectancy value model	Seeking fantasy, seeking information and reflection, positive virtual engagement, virtual distractions	Media consumption experience, gratifications obtained

References	Other theories or models	Gratifications	Outcome
Rayburn et al. (1984)	-	General information seeking, decisional utility, entertainment, interpersonal utility, parasocial interaction, current affairs	<i>Analysis based on anchor-persons discrepancies, program style discrepancy, program quality discrepancy, GO-GS discrepancy, education, and income</i>
Rokito et al. (2019)	-	Social information, pass time, sociability, self-relief, self-affirmation	Recurring Facebook use
Wang and Tchernev (2012)	-	Emotional, cognitive, social, habitual	Multi-tasking behavior
Wenner (1982)	-	Surveillance, entertainment, interpersonal utility, parasocial interaction	<i>Analysis based on GO-GS discrepancies, obtained gratification from two programs, dependency, attention, habit, education, income, age, and gender</i>
Wenner (1986)	-	Surveillance, entertainment, interpersonal utility, parasocial interaction	Frequency of viewing and dependency on programs
Yoo (2011)	-	Socialization, entertainment, information seeking, pastime	Attitude towards the online newspaper, repeat visit intention

2 **Note.** Outcomes mentioned in italic depicts analysis based on groups, for instance, age, gender, country, and programs etc.

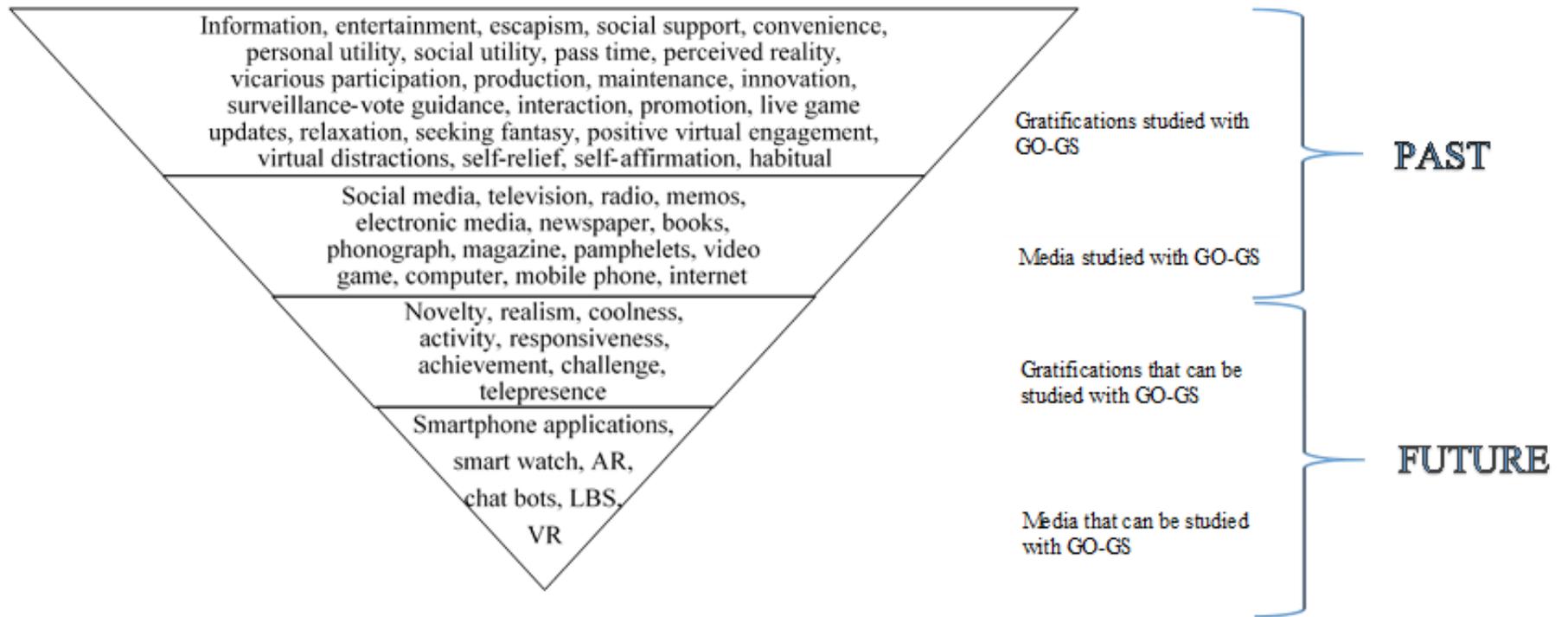
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4 **Table 7** *Focus of articles published using the U&G theory*

Media	Gratifications	References
Print media	Surveillance, diversion, interaction, entertainment, pastime, relaxation, information, personal identity, social interaction, transformation, guidance, inspiration, retrospection, social prestige, respite, occupation, ritual, security, companionship, forget loneliness, contest-excitement, communication utility, habitual, follow celebrities, loving sports	Carter (2013), de Bock (1980), Garramone (1984), Houghton-Larsen (1982), Kim et al. (2015), McLeod et al. (1982), Payne et al. (1988), Payne et al. (2003), Randle (2003), Van Reijmersdal et al. (2005), Wang and Tchernev (2012), Wei (2009)
Radio	Relaxation, entertainment, information, companionship, forget loneliness, habitual, pastime, variety-seeking, education, communication, diversion, surveillance, habit, follow celebrities, loving sports	Albarran et al. (2007), Houghton-Larsen (1982), Lin (2006), Safi and Iqbal (2015), Wang and Tchernev (2012), Wei (2009)
Television	Information, social prestige, respite, occupation, ritual, security, Personal utility, social utility, pass time, perceived reality, vicarious participation, schadenfreude, surveillance, relaxation, entertainment, diversion, contest-excitement, communication utility, decisional utility, habitual, follow celebrities, loving sports	Barton (2009, 2013), de Bock (1980), Garramone (1984), Houghton-Larsen (1982), Levy and Windahl (1984), Lin (1993), McLeod et al. (1982), Palmgreen et al. (1980, 1981), Palmgreen and Rayburn (1979, 1985), Rayburn et al. (1984), Wang and Tchernev (2012), Wei (2009), Wenner (1982, 1986)
Internet	Surveillance, diversion, interaction, entertainment, pastime, relaxation, information seeking, socialization, follow celebrities, loving sports, self-expression, extrinsic rewards, convenience, access to information, escape, intertext, anonymity, process, pleasing visuals, self-development, wide exposure, user-friendly, career opportunities	Chou and Hsiao (2000), Cuillier and Piotrowski (2009), Khang et al. (2013), Ko et al. (2005), Larose et al. (2001), Liu et al. (2020), Payne et al. (2003), Randle (2003), Roy (2009), Stafford et al. (2004), Wei (2009), Yoo (2011)

Media	Gratifications	References
Video game	Action, companionship, passing time, solitude, substitute for friends, seeking fantasy, seeking information and reflection, positive virtual engagement, virtual distractions, emotional, competition, challenge, tension release	Chang et al. (2006), Ferguson and Olson (2013), Ghazali et al. (2019a, 2019b), Granic et al. (2014), Greenberg et al. (2010), Jang and Liu (2019), Jansz and Martens (2005), Khang et al. (2013), Lucas and Sherry (2004), Palomba (2018), Rauschnabel et al. (2017), Sherry et al. (2006), Sjöblom and Hamari (2017)
Smartphone or tablet	Relaxation, personal influence, social influence, global influence, sexually explicit content, emotional, cognitive, habitual, pass time, accessibility, following the trend, caring for others, escapism, entertainment, instant messaging, email, internet/websites, games, music/podcasts/radio, taking pictures/videos, watching videos/TV/movies, reading books/magazines, maps navigation	Ahad and Anshari (2017), Elhai et al. (2017, 2018), Harun et al. (2015), Joo and Sang (2013), Khang et al. (2013), Kim (2017), Kim and Shin (2013), Leung and Zhang (2016), Park and Lee (2012), Reychav and Wu (2014), Sutanto et al. (2013), Wang and Tchernev (2012), Wolniewicz et al. (2018)
Social media	Seeking friends, social support, entertainment, information, convenience, escapism, interaction, promotion, pastime, sociability, self-relief, self-affirmation, organizing, designing, conforming, trendgaging, inspiring, reaching, summarizing, endorsing, maintain relationships, meet new people, realism, high-tech, social events, status-seeking, sharing photos and videos	Bae (2018), Basilisco and Jin (2015), Dolan et al. (2016), Ezumah (2013), Froget et al. (2013), Gibbs et al. (2014), Korhan and Ersoy (2016), Lee and Ma (2012), Rauschnabel et al. (2019), Rokito et al. (2019), Sheldon (2008), Wang et al. (2012)
Virtual or augmented reality	Hedonic, emotional, social, sensual, symbolic, utilitarian, achievement, escapism, challenge	Ghazali et al. (2019a, 2019b), Jang and Liu (2019), Kim et al. (2020), Rauschnabel (2018), Rauschnabel et al. (2017)

7 **Figure 2** *Gratifications and media for future research*



8
9

10 *Note.* AR=augmented reality, LBS=location-based services, VR=virtual reality

11 In this sub-section, we have only discussed those gratifications that can be studied
12 with new media in future. *Novelty* is defined as a situation that has not been previously
13 encountered or experienced by a person (Barto et al., 2013). Sundar and Limperos (2013)
14 explained novelty as an unusual experience of a new technology that has a different
15 interface. Empirically studying novelty gratification may enhance the U&G theory by
16 deepening the understanding of users' nuanced gratifications. *Realism* is a user's
17 perception of reality in which visual-related stimuli generate a sense of a more realistic
18 virtual environment than non-visual forms (Meijer et al., 2009). For example, video
19 conference is considered more realistic than audio conference or text (Sundar & Limperos,
20 2013). *Coolness* relates to a user's perceptions of liking and approving of new ideas,
21 services, or products, which are generally positive (Kerner & Pressman, 2007). Individuals
22 prefer to use new technology that makes them look cool (Liu & Mattila, 2019), and that is
23 also unique, distinctive, and stylish (Sundar & Limperos, 2013). *Activity* is a user's active
24 interaction with a technology through which a user can perform many tasks (Sundar &
25 Limperos, 2013). The perfect example of this gratification is the *AR Pokémon GO* game,
26 in which users actively participate in catching Pokémon.

27 *Responsiveness* is a technological characteristic that enables users to obtain a quick
28 response from the technology in order to fulfill their need for active interaction (Sundar &
29 Limperos, 2013). *Achievement* and *challenge* are gratifications that have recently been
30 studied in relation to the *AR Pokémon GO game* (Ghazali et al., 2019a), but there exists a
31 gap in the literature to study these gratifications using the GO-GS approach. Specifically,
32 *achievement* is a user's motivation to advance rapidly and attain a significant goal, and it
33 can be applied to achieving knowledge, a promising career, or success in video games
34 (Salvador & Carmen, 2001; Wu et al., 2010). Conversely, *challenge* is gratification that
35 has primarily been studied in the context of video games, and Liu and Shiue (2014) defined
36 it as "the overcoming of perceived difficulties, including competition from other
37 players...which provides a sense of accomplishment" (p. 127).

38 Sundar and Limperos (2013) explained "*being there*" as the immersive feeling of
39 being in a 360-degree interactive panoramic view shown through the technology. In the
40 literature on new technologies, the phenomenon of being there is mainly referred to as
41 *telepresence*. Specifically, telepresence is the characteristic of a technology replicating a
42 real scenario in a computer-mediated environment, with users being deeply involved in
43 that environment (Suh & Chang, 2006). The gratifications mentioned above can be adopted
44 in different scenarios; for example, novelty, realism, coolness, activity, responsiveness, and

45 telepresence are suitable for tourism-related multi-sensory VR, whereas novelty, coolness,
46 activity, achievement, and challenge can be used with AR games. These two cases are
47 examples, but researchers can use these gratifications according to their problem statement
48 and course of study.

49

50 **Outcomes**

51 Table 6 demonstrates that some articles have explored consumer-related factors,
52 such as attitude, intention, or behavior (Bae, 2018; Levy & Windahl, 1984; Rokito et al.,
53 2019; Wang & Tchernev, 2012; Yoo, 2011), and satisfaction (Bae, 2018; Dobos, 1992;
54 Gibbs et al., 2014; Lin, 1993; Palmgreen & Rayburn, 1985), thus neglecting the study of
55 loyalty and decision-making. The study of loyalty and decision-making is considered a key
56 factor in the literature on consumer behavior; therefore, future research should explore the
57 role of the GO-GS approach in under-researched areas of consumer behavior.

58

59 **Other Theories or Models**

60 The theories or models studied with the GO-GS approach are provided in Table 6.
61 For example, these include the drive reduction model, exposure learning model,
62 expectancy-value theory, SERVQUAL, gratifications obtained model, modified
63 gratifications obtained model, absolute value discrepancy model, simplified discrepancy
64 model, and expectancy-value discrepancy model. These theories or models have been
65 successfully adopted in the GO-GS approach, but the literature is unable to highlight the
66 best model for measuring the consequences of media consumption by comparing all
67 models. Palmgreen and Rayburn (1985) attempted to compare eight models using
68 hierarchical regression analysis, such as (1) $\sum GO$, (2) $\sum eGO$, (3) $\sum be$, (4) $\sum |GS-GO|$,
69 (5) $\sum (GO-GS)$, (6) $\sum e(GO-GS)$, (7) $\sum (GS+GO)$, and (8) $\sum e(GS+GO)$. Their results
70 overall showed that models 3 and 4 did not perform well also, “introducing the respondent's
71 affective evaluation of gratification-related attributes did not result in the consistent
72 superiority of model 2 ($\sum eGO$) and model 6 ($\sum e[GO-GS]$) over their non-evaluative
73 counterparts [models 1 and 5, respectively]” (Palmgreen & Rayburn, 1985, p. 343).

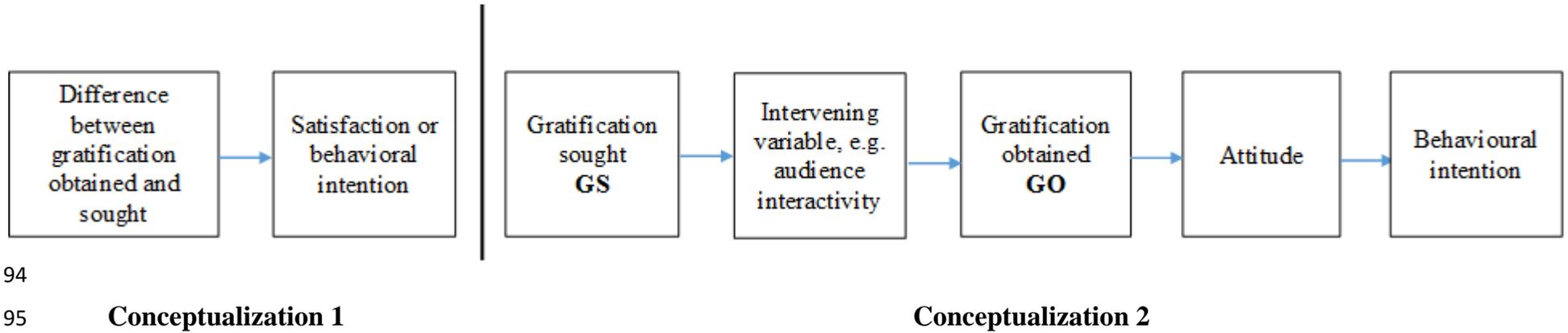
74 Despite the importance of their research, Palmgreen and Rayburn (1985) neglected
75 the use of models dealing with the gratifications sought and the user's personal importance.
76 Therefore, due to scant research in this context, there is a need to compare models by
77 considering the gratifications sought and the user's personal importance through strong
78 statistical analysis, including structural equation modeling.

79 **Different Conceptualizations of Gratification Discrepancies in a Theoretical**
80 **Framework**

81 Two different methods have been used to conceptualize the gratifications sought
82 and obtained in a theoretical framework. The first method involves subtracting the values
83 of gratifications sought from gratifications obtained (GO-GS) and using the discrepancy
84 scores as an independent variable (see Bae, 2018, and Palmgreen & Rayburn, 1985). Indeed,
85 this type of conceptualization is the most popular and widely used in the literature.
86 However, another unique conceptualization is to use GS as an independent variable,
87 followed by an intervening variable that leads to GO, with the resulting GO subsequently
88 leading to attitude and intention (see Yoo, 2011). This second type of conceptualization
89 provides a more complex model. The visual depiction of both conceptualizations is given
90 in figure 3. The second conceptualization requires the researcher to explore the underlying
91 mechanisms existing between gratifications sought and obtained.

92 **Figure 3** *Different conceptualizations of gratifications sought and obtained*

93



96

CONCLUSION

For the first time, this theory-based systematic literature review analyzes the existing research on the GO-GS approach for recommending a future research agenda. Previously, researchers have used this approach with several communication media and diverse gratifications, such as information seeking, entertainment, escapism, social utility, promotion, and surveillance-vote guidance, among others. However, the extant literature has not adopted the GO-GS approach with new media nor highlighted the impact of nuanced gratifications, such as novelty, realism, coolness, activity, responsiveness, achievement, challenge, and telepresence. This review proposes seven realms that can be considered grounded in the current literature developments, including research contexts, regions of research, media, gratifications, consumer behavior, other theories or models, and different conceptualizations to study gratification discrepancies. As well as the theoretical implications, empirically studying these research agendas may also help manufacturers and content creators to improve their technology, as the GO-GS approach compares the expectations for using a media and the fulfillment of those expectations after usage.

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