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## 11 Media Theories and the Facebook Influence Model

**Abstract:** Social media are immensely popular among, and influential upon today's youth. Previous media theories including Uses and Gratifications, Cultivation Analysis, and Media Ecology Theory have proposed ways in which media are used and can be influential. The rise of social media presents new challenges to existing behavioral and media theories. Recently, a new concept map called the Facebook Influence Model was developed to provide a conceptual approach to Facebook using primary data. This mixed-methods study applied concept mapping methodology, a validated five-step method to visually represent complex topics. The five steps include preparation, brainstorming, sort and rank, analysis, and interpretation. College student participants were identified using purposeful sampling. A total of 169 statements were generated during brainstorming and sorted into between 6 and 22 groups. The final concept map included 13 clusters. Interpretation of the data led to grouping of clusters into four final domains including: connection, comparison, identification, and Facebook as an experience. The Facebook Influence Concept Map illustrates key constructs that contribute to influence, incorporating perspectives of older adolescent Facebook users. While Facebook provides a novel lens through which to consider behavioral influence, it can best be considered in the context of existing behavioral theory. The concept map may be used towards development of potential future intervention efforts.

### 11.1 Media Theories and the Facebook Influence Model

Over the past decade, media has undergone a fundamental shift. Traditional media such as television and radio provided content in a one-directional manner, disseminating content created by a company or corporation to be consumed by passive viewers. Alternatively, new media - often called social media or interactive media - provide endless opportunities for users to act as both consumers and creators of media. Examples of interactivity on social media may include posting a new photo to Instagram, commenting on a YouTube video, or "downvoting" content on Reddit. New media are digital, and often have the characteristics of being manipulatable, networkable, dense, compressible, and interactive (Flew & Smith, 2011). The emergence of new, digital technologies "signals a potentially radical shift of who is in control of information, experience and resources" (Shapiro, 1999). In this setting of dramatic change and rapid advancement, this chapter will consider social media and health behavior theory.

## 11.2 Previous Media Theory

Media scholars have long debated the idea of *audience agency* in media consumption. While the study of film and television lend themselves to the concept of an audience of ‘viewers’ or ‘consumers’, new media content leans towards the idea of an audience of ‘users’ (Livingston, 2004). Historically, media has been created and supplied by a small number of media producers and content was highly controlled through exclusive and often political professional industries (Cha, Kwak, Rodriguez, Ahn, & Moon, 2007). With the shift into Web 2.0 applications, the media industry experienced a large paradigm shift in both media production and circulation: “Audiences, empowered by these new technologies, occupying a space at the intersection between new and old media, are demanding the right to participate within culture” (Jenkins, 2006). The outcome of this desire for involvement is room for regular people to create and distribute media content themselves, opening the door for diverse opinions and perspectives, or user-generated content (Deuze, 2007).

In order to understand the dynamics of online participation today, we must conceptualize areas where traditional media theory aligns with new media practices. The ability to apply traditional media theory to the new media landscape is best understood by the observation that there is an “underlying consistency of the content of the messages we consume and the nature of the symbolic environment in which we live” even if the delivery technology of the media changes (Shanahan & Morgan, 1999). This idea suggests that even though the media we consume may change, the inherent content and intentions behind our media use are somewhat consistent over time and through different media. This occurred historically as films took message content from literature and again when television did the same by repackaging radio programming. Previous scholars have suggested that a change in media is merely “new bottles for old wine” (McLuhan, 1964).

### 11.2.1 Uses and Gratifications

Uses and Gratifications Theory (UGT) discusses how people actively seek out specific media content for particular purposes and intentional goals (Katz, Blumler, & Gurevitch, 1974). UGT establishes an active, rather than passive, audience member who has the ability to consciously examine and evaluate media in order to accomplish specific outcomes (Wang, Fine, & Cai, 2008). UGT embodied a functional shift of communications scholarship, from examining not what media did to people, but to what people could do with media.

UGT initially grew out of the needs and motivation theory, which suggests that people act in line with a specific personal hierarchy of needs (Maslow, 1970). Communications scholars quickly caught on to this notion and sought to determine typologies of needs for media consumption. Many versions of these typologies exist,

and suggest a variety of categories of purposeful media consumption that people may engage in.

UGT “provides a framework for understanding when and how individual media consumers become more or less active and the consequences of that increased or decreased involvement” (West & Turner, 2007). The theory has five main assumptions: (1) an audience is active and goal-oriented in their media consumption, (2) media are used for gratifications, (3) media are in competition with other means of need satisfaction, (4) people understand their personal media use, interests, and motives enough to communicate with researchers about their choices, (5) the audience members are the only people who can make judgments regarding the value of the media content.

The first assumption says that people bring both their own activity and goals to media. Four goals involved have been defined as diversion, or an escape from daily routines or problems, personal relationships, or when media acts as a substitute for friendship, surveillance, or information seeking for media to assist in an end-goal, and personal identity, or the ways one can reinforce his or her individual values (McQuail, Blumler, & Brown, 1972).

The second assumption points to the agency of the audience in making a media choice. As UGT views audience members as active, they take initiative in seeking out media. The third assumption is the idea that media must compete with other sources to fulfill an audience’s needs, which indicates that the audience and media do not exist in isolation but as a part of a larger society. This society influences both media, and audiences, in different ways.

A fourth assumption, that people are self-aware of their media use, discusses one of the perceived limitations of the theory. Some researchers feel that self-report data are insufficient for understanding media use and that individuals may be unable to communicate their thought processes or habits for purposes of research. However, this thought is rooted in scholarship that views audience members as inactive. Another concern is that media use is not always active so accidental exposure and influence can occur.

The fifth and final assumption of UGT requests that researchers make a concerted effort to remove their personal value judgments from the study of media content. As UGT discusses how an audience member fills his or her needs through the use of media, only an audience member should be able to evaluate the value of the given media content.

### 11.2.2 Cultivation Analysis

Cultivation Analysis grew as a response to the pervasive television culture that was already well established in the 1970s. As a part of a larger study, regular examinations of television programming and the “conceptions of social reality that viewing cultivates

in audiences” were assessed (Gerbner & Gross, 1976). Their initial idea was that mass communication cultivates certain beliefs about reality that are shared and held in common among mass communication viewers. Later, the same investigator noted, “most of what we know, or think we know, we have never personally experienced,” suggesting that we “know” things due to the stories seen and heard in the media (Gerbner, 1998).

Cultivation research in the internet era requires the consideration of cable and satellite networks, the use of digital video recording devices, and the internet. While the packaging of the content may change, the fundamental frameworks around television consumption remain. Cultivation Analysis sees media as a transmissional process in which media are sending messages across time and space, with a ritual perspective media are seen as representative of society’s shared beliefs. This process is further understood through the assumptions of Cultivation Analysis.

Cultivation Analysis says that the mediated reality depicted in mass communication functions as a foundation from which consumers cultivate their own social reality. All assumptions of this theory were developed with television specifically in mind, highlighting it as a unique medium. Due to the ubiquity of the technology, a lack of literacy necessary for consumption (unlike print media), free access (unlike the movies), combined pictures and sound, no mobility required, and its ageless nature for all demographics. The three assumptions for Cultivation Analysis, based on the relationship between television and culture, are: (1) television as essentially and fundamentally different from all other forms of mass media, (2) television as shaping our society’s ways of thinking and relating, (3) the effects of television is limited.

### 11.2.3 Media Ecology Theory

Media Ecology Theory (MET) aims to understand the social impact of technology and communication (McLuhan, 1964). MET claims that media act directly to shape and organize culture. Media ecology, or the study of how media and communication processes influence human perception, feeling, understanding, and value, is focused around communication studies (Parameswaran, 2008).

Marshall McLuhan (1964) understood the influence of technologies including clocks, radios, television, movies, and games. He focused on defining the relationship between technology and members of a specific culture. He noted that electronic media have revolutionized society, and society quickly become reliant on these communication technologies. McLuhan felt that it was almost impossible to find a society unaffected by electronic media.

As society has evolved, its technology has also evolved. From the first books published to the internet, society has both been affected by, and in turn affected, media. The rules of media set forth by MET – enhancement, obsolescence, retrieval and reversal – show how technology affects communication through the development

of new technology. MET focuses on the idea that society cannot escape the influence of technology and that technology will forever remain central to almost every action in modern life.

The influence of media technology on society is the main concept of MET, upheld by three main assumptions: media is infused into every act and action in society, media fixes our perceptions and organizes our experiences, and media tie the world together. We cannot escape the media presence in our lives as it is ubiquitous in our realities of day-to-day life. Media directly influences us, as they are powerful in our view of the world. Media connects the world into a “global village,” where media can tie anyone around the globe into a single social, cultural, political, and economic system (Parameswaran, 2008). As a result, we have the ability to receive information instantaneously.

### 11.3 Theory applied to New Media

While the aforementioned theories are rooted in traditional communication theory, it is important to understand where they fit or misalign among new media phenomenon.

Media Ecology can help us to understand why people continue to interact online, despite somewhat of a loss of control over their public and private boundaries. As noted by McLuhan (1964), society quickly became reliant on electronic media – such as social networking sites – for many reasons such as efficiency and ease. Technology has continually progressed overtime – forcing people to adapt – and social networking sites are no different.

As society becomes increasingly comfortable and reliant on new media forms for communication, researchers seek to understand how other offline elements of traditional communication theory and daily life may translate online.

Traditional communication theories have been applied to many new technologies, such as video games and internet use (Papacharissi & Rubin, 2000). One study found that while newspapers were the predominant written news source pre-internet, people now seek out news on the internet for the same reasons that they did before – the need for orientation (Dimmick, Chen, & Li, 2004). Another study evaluating early cell phone use utilized UGT for understanding how consumers utilized mobile phones and landlines differently. Although these early mobile phones were contextually different than landlines, many of the same intentions of use were found between the two (Leung & Wei, 2000).

Research shows many ties between traditional media motives and new media motives. Evidence suggests similar motives in using television or the internet for specific means (Kaye, 2004). A recent study showed that 78% of consumers trust peer recommendations online, while only 14% trust advertisements (Advertising, 2009). Social networking sites, however, provide a unique form of peer recommendation.

While UGT has been applied to show that people seek out communication online for similar reasons as offline, CA provides insight into why social networking sites are potentially influential due to the recent push towards decision-making based on online influences. As CA claims that media functions as an overarching transmitter of society's shared beliefs, peer creation, and dissemination of lifestyle choices through the use of rich, personal media are an extension of this. The reality communicated through social networking sites is no longer edited and packaged by media professionals, but by users themselves, allowing others to cultivate their own version of reality. If UGT tells us that users are going online for social comparison, or to survey and learn from their peers, CA suggests that social networking sites function as reinforcement of user perceptions of societal ideals.

## 11.4 Need for Theory to Extend to Health Behaviors

Against the backdrop of these theories, most of them based on the Communication field, researchers have called for theory to be more specific to understand influence or behavior change in the setting of a type of media in which users were both creators and consumers. A 2010 Rand report stated “existing theories do not easily account for the likely effects of users new roles in creating and distributing content, as well as consuming it” (Collins, Martino, & Shaw, 2011). The report called for the development of new theory that accounted for factors that were considered moderators of new media effects, such as interactivity, privatization of use, portability, and the social aspects of new media. The authors argued that existing theories of media and behavior may be able to “stretch to cover these factors under broad conceptual labels”, but the development of new theory may also be warranted. However, the perspective of how social media may be perceived as influential to its users remains a gap in our understanding. Further, the representation of users' views in the development of theory was also missing. Thus, investigators sought to develop a new theory specific to social networking site platforms such as Facebook.

## 11.5 Concept Mapping Towards Developing New Theory

The Facebook Influence Model study utilized concept mapping methodology to develop a conceptual model of Facebook influence (Moreno, Kota, Schoohs, & Whitehill, 2013). It was anticipated that a conceptual framework to describe Facebook influence would be complex; thus investigators sought an analytical approach that would accommodate this complexity. Concept mapping methodology is frequently used towards developing conceptual frameworks to describe complex topics (Jones & Johnston; W. Trochim & Kane, 2005; W. M. K. Trochim, 1989a, 1989b; W. M. K. Trochim, Cook, & Setze, 1994). Further, this approach allows the conceptual framework to be

built from the “bottom up” based entirely on the views of key stakeholders. Given that young adults are among the most avid social media users, the model was meant to be based on the views and experiences of these particular Facebook users. The concept mapping approach also provides a method to go beyond qualitative analysis to allow more complex statistical modeling to ensure that the process was systematic.

Concept mapping integrates open-ended qualitative data collection methods and quantitative analytical tools in a standardized and replicable process (W. Trochim & Kane, 2005; W. M. K. Trochim, 1989b). The outcome of this process is a concept map or a visual representation of the key concepts and their inter-relationships. While this map does not dictate cause and effect between an exposure and outcome, it can be applied to explore relationships with pertinent variables in different contexts. The final map that is created is entirely in the language of the participants and produces a visual representation of core Facebook domains that is easy to interpret. This method has been used in previous health research to provide insights into complex phenomena such as sexual behavior or mental illness (Nunnally & Bernstein, 1994; Shern, Trochim, & Lacombe, 1995; Strahan & Gerbasi, 1972; W. M. K. Trochim, et al., 1994).

Concept mapping directly involves participants and balances group consensus with individual contributions as some steps are done individually while others require group participation. Concept mapping studies generally use sample sizes typical of qualitative research. Usually between 20 and 75 participants are involved in some or all of the data collection steps. There are five steps involved with the concept map creation process: preparation, generation, structuring, representation, and interpretation (W. M. K. Trochim, 1989b). The goal of preparation is to develop a focus prompt used to generate brainstorming statements from participants in the generation step. The goal of the brainstorming step is to generate a large list of participant-generated items with sufficient breadth and depth to represent the full spectrum of ideas related to Facebook influence. The brainstorming step was conducted using a semi-structured focus group format. The goal of the structuring step is to sort and rank the statements that were generated in the brainstorming step. This process provides insights into how individual ideas are related to form overarching constructs. The goal of representation is to apply quantitative approaches to analyze the sorted and ranked statement data into a visual point map representing individual items. Analyses were conducted using the Concept Systems Core software version 4 (Concept Systems, Inc, NY) and SAS software version 9.3 (SAS, Cary, NC). The goal of these sessions was to allow participants to view, discuss and interpret the concept map. Full details on the methods involved are provided in the published paper (Moreno, et al., 2013).

## 11.6 The Facebook Influence Model study

### 11.6.1 Brainstorming

The initial focus prompt was “*What makes Facebook influential is...*” A total of 187 statements were produced during the generation step of data collection in response to this prompt. Refining the statement list led to removal of duplicate statements and merging similar statements. The final list of brainstorming statements included 169 unique aspects of Facebook that were perceived to be influential.

### 11.6.2 Sorting

During the sorting procedure, participants sorted the statements into between 6 and 22 groups (Mean=13, Median=12). During the rating procedure, the mean item influence rating was 3.2 (Standard Deviation=0.5). Cluster analysis indicated that the 13 cluster solution presented in Figure 1 was found to represent the best fit for the data after assessing between 6 and 20 clusters.

### 11.6.3 Representation

The 13 clusters depicted on the Facebook Influence Concept Map (Figure 1) included: connection to people, far reaching, fast communication, curiosity about others, business and promotion, accessible and adaptable, data and information, Facebook establishing social norms, identity expression, influence on identity, positive experiences, negative experiences, and distractions. The concept map provides a visual representation of both key constructs and their relationship in proximity to each other. These 13 clusters embody unique aspects of Facebook that represent perceived sources of influence.

### 11.6.4 Interpretation

After reviewing this map during the participant interpretation step and discussions with our experts, there were no recommendations to delete or add clusters to the map. Participants often commented on the sheer number of clusters within the map and that it took some time to process the clusters and their relationships to each other. Recommendations emerged to subcategorize the map by further sorting the 13 clusters into 4 domains which included: connection, comparison, identification, and Facebook as an experience. These constructs can be considered within domains based on their proximity on the map and the overlap in concepts within each cluster.

Table 2 provides the cluster groups, clusters within them, and example items from each cluster.

Participants frequently commented on the most centrally located cluster of *Facebook establishing social norms*. Many participants felt that this cluster's central location was because many of the items in this cluster were related to the surrounding clusters, but also represented unique ways in which Facebook does not only represent social norms, but has "*become the new social norm.*" Participants described how Facebook has contributed new standards for online behavior and even new language terms, such as "status update," and "Facebook stalking." Participants often discussed whether or not people's Facebook behaviors were volitional attempts to influence social norms. One participant described, "*uploading photos contributes to setting the social norm. I don't think we upload photos to set social norms, we upload photos to share and connect with other people and a byproduct of that is setting social norms.*"

## 11.7 Application of the Facebook Influence Model

Previous work has illustrated the influence of media on adolescent and young adult behavior. Facebook provides a venue for peer interaction and social networking; both are recognized as contributors to behavior (Boyd, 2007). While Facebook provides a novel lens through which to consider behavioral influence, its influence can best be considered in the context of robust behavioral theory. Thus, each of the 4 domains can be considered alongside the framework of previous supporting work. In some cases the concept map is synergistic with previous models and in others it provides expanded applications of the initial framework or entirely novel contributions.

### 11.7.1 Connection

The 6 clusters that comprise the "connecting" domain on the concept map illustrate ways in which Facebook provides and enhances peer communication, networking and connection. These items dovetail well with decades of previous work that emphasizes the role of peers as a major focus of adolescence, including the older adolescent/young adult years that comprise college. Further, UGT argues that a fundamental goal of media use is to develop personal relationships. Facebook expands the ability to connect with those known and new to people with great frequency and accessibility. Facebook allows this connection to take place across long distances and in real-time at any time of day or night. The influence of items in this cluster has synergy with the Homophily Model which explains that media role models are more likely to be mimicked when the media model is viewed as someone like you (Eyal & Rubin, 2003). Facebook provides an accessible platform to identify and connect with these like-minded peers without the traditional limits of geography. Via social networking,

adolescents can have direct or indirect human contact, so virtual communication can occur in a way that is similar to face-to-face communication (Sher & Rutledge, 2007). This can positively impact college students who are seeking peers with similar unusual hobbies such as bagpipes, or negatively influence college students who are seeking peers to engage in risk-taking such as drug use.

### **11.7.2 Comparison**

Comparison among peers has long been part of adolescence and young adulthood; social norms play a large role in perceptions of attitudes and behaviors that are acceptable and desirable. For example, previous studies have shown that adolescents who perceive their peers as sexually active are more likely to voice intention to become sexually active themselves (Kinsman, Romer, Furstenberg, & Schwarz, 1998). This is supported by UGT which claims that people use Facebook as a tool (use) for connection and comparison (gratification). Further, Cultivation Analysis contributes to media as a transmissional process in which messages are sent and media are seen as representative of society's shared beliefs. Facebook allows this comparison to take place using tangible "evidence" such as photos, stated behaviors, and the ability to note peer feedback via comments on this information. The concept of 'creep culture' began with Facebook, and describes how Facebook allows for passive investigation into peers' lives using the lens of Facebook.

### **11.7.3 Identification**

This group describes the clusters regarding exploring and reflecting on one's identity using Facebook. Identity development is an essential part of older adolescent development, and Facebook provides a novel platform on which these efforts can take place (Neinstein & Anderson, 2002). The Media Practice Model explains that users choose and interact with media based on who they are, and who they want to be at that moment (Brown, 2000). Facebook allows a profile owner to develop an online identity through a profile. Profile owners can then reflect and revise that identity via feedback from peers' comments and "likes," or by personal browsing through the Facebook "timeline." The ability to develop one's identity in real-time provides a unique multimedia view of the self.

### **11.7.4 Immersive Experience of Facebook**

Both negative and positive experiences are described in these grouped clusters, experiences that can even alter the experience of a given day, including mood and

decisions. This cluster may represent the most intriguing set up of items to consider, as it suggests that today's college students' are well aware that these sites present immersive experiences including positive, negative, distracting, and tool-based features, yet still are willing to make substantial commitments to their involvement in these online environments. This construct is supported by Media Ecology Theory, which argues that media is infused into every art and action in society, be it good or bad.

## 11.8 Conclusions

In considering the intersection between The Facebook Influence Model and existing media theory and behavioral models, it seems reasonable to expect that Facebook would not provide an entirely new mechanism by which behaviors are influenced. The rich set of constructs included in the Facebook Influence Model are clearly tied to previous theory. The unique combination of these constructs to represent aspects of Facebook that are influential to behavior provide a comprehensive base for theoretical consideration to inform future work and the potential for intervention development using Facebook.

The Rand report from 2010 argued that “interventions based in new media or incorporating new media components should be developed and tested.” The report also recognized that these interventions must be informed by sound theory either existing or newly developed. Only by understanding the theoretical grounding can future efforts avoid the pitfalls that many mass media interventions encounter by assuming that any accurate message, broadly distributed, will be effective. The concept map may contribute to the development of future interventions using Facebook. For example, the model supports the importance of *comparison* among Facebook users. At present, Facebook provides prompts that incorporate peer comparison to try to influence user behavior, such as “22 of your friends have already switched to Timeline.” Future work could consider providing such prompts to promote positive health behaviors linked to keywords present on profiles, such as “12 of your friends exercised this week.” As another example, the model illustrates the role of Facebook as a place in which *identity development* takes place. Researchers could consider providing prompts as Facebook advertisements that trigger users to consider whether they want certain behaviors as part of their online identity. For example, an advertisement could be triggered by keywords related to tobacco use on a profile, and could include a message such as “Do you want your tobacco use to be part of your public online identity?” These are only a few of the myriad of ideas that future researchers may consider. Investigators interested in targeting a specific construct could also consider that construct in light of previous theory. For example, investigators interested in studying the *comparison* construct could also consider Cultivation Theory as part of their theoretical basis. Through the application of the

Facebook Influence Model and its grounding in previous media communication and health behavior theory, these models may inform both future research and clinical practice efforts to further understand and address this immersive and influential new tool.

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