The Role of Online Videos in Undergraduate Casual-Leisure Information Behaviors

Nei-Ching Yeh

Abstract—This study describes undergraduate casual-leisure information behaviors relevant to online videos. Diaries and in-depth interviews were used to collect data. Twenty-four undergraduates participated in this study (9 men, 15 women; all were aged 18–22 years). This study presents a model of casual-leisure information behaviors and contributes new insights into user experience in casual-leisure settings, such as online video programs, with implications for other information domains.

Keywords—Casual-leisure information behaviors, information behavior, online videos, role.

I. INTRODUCTION

IN recent years, interest in leisure activities has increased. Watching online videos occupies a large proportion of many people's daily leisure time. According to comScore Video Matrix, personal computer users viewed over 300 billion videos each month. On average, each person watches more than 200 videos each month. In Taiwan, there are 11,842 online video audiences. On average, each audience shares 100 videos and views 216 videos. The average viewer spends 1,214 min watching videos [1].

A user who pursues leisure activities is motivated by the need for pleasure rather than by information needs, even though the user may need to search for information to achieve entertainment goals. Previous studies have focused on task scenarios rather than casual-leisure scenarios. Elsweiler et al. discovered that theories of information behavior are grounded in the context of work and library use [2]. However, few studies have considered casual-leisure information behavior. Case and O'Brien have mentioned that there were blind spots in previous studies [3], [4].

Tague-Sutcliffe suggested that information is pervasive like air, which is essential for life, but is seldom noticed [5]. Information needs often occur in leisure pursuits. Information is required in both work and nonwork situations, but people seldom reflect on its importance. Hartel indicated that information seeking occurs in leisure activities to some degree [6]. McQuail classified four common reasons for media use: information, personal identity, social interaction, and entertainment [7]. Media are often used for more than one purpose; for example, the need for information frequently coincides with the need for entertainment.

Models of information behavior are typically information focused: Information needs and knowledge gaps are emphasized [8], [9]. Some research has focused on models of information seeking and information encountering in everyday life [10], [11]. Despite including non-work scenarios, most models do not adequately address leisure scenarios [12]. Stebbins provided a valuable point for understanding information behaviors in nonwork contexts. He differentiated among three types of leisure: serious leisure, casual leisure, and project-based leisure [13].

This paper describes a qualitative study of undergraduate casual-leisure information behaviors for online videos. This paper addresses the following questions:
1) What are the motivations for online video viewing?
2) What are the information needs for online video viewing?
3) What are the information-seeking behaviors related to online video viewing?
4) How do undergraduates apply information when viewing online videos?

This study proposes a model of user experience for casual-leisure information behaviors; this model has implications for other information domains.

II. RELATED WORK

Stebbins used the term "leisure" to refer to activities that people want to do and can do at either a personally satisfying or a deeply fulfilling level. He classified three categories of leisure [13]:
1) Serious leisure: People pursue amateur, hobby, or volunteer activities systematically, and commonly find conditions to be substantial, interesting, and fulfilling. People engage in serious leisure activities that require and express a combination of skill, knowledge, and experience.
2) Project-based leisure: People pursue short-term, occasional, and creative activities carried out in free time. Such leisure also requires considerable planning, effort, skill, and knowledge, but is neither serious nor intended by the participants to become serious.
3) Casual leisure: People pursue instantly, intrinsically rewarding and relatively short-lived pleasurable activities. People enjoy these activities with little or no special training.

Stebbins differentiated eight types of casual leisure: (a) play; (b) relaxation; (c) passive entertainment; (d) active entertainment; (e) social conversation; (f) sensory stimulation; (g) casual volunteering; and (h) pleasurable aerobic activity. He also identified five types of benefits people expect from or experience through casual leisure: (a) serendipity; (b) edutainment; (c) regeneration or recreation; (d) maintenance of interpersonal relationships; and (e) well-being [14]. As people

Nei-Ching Yeh is with the Department of Information Communications, Shih Hsin University, Taipei, Taiwan (phone: 886-2-22368225; fax: 886-2-22361722; e-mail: ncyeh@ cc.shu.edu.tw).

pursue casual leisure, they may seek two or three benefits. The core characteristic of casual leisure activities is that they are hedonic. That is, participants experience feelings of pleasure and enjoyment.

Elsweiler et al. listed four types of casual leisure situations: (a) the time-wasting scenario; (b) the hedonistic-need scenario; (c) the experience-focused scenario; and (d) the casual-information scenario [2]. Wilson et al. distinguished three differences between tasks and casual-leisure situations [12]:

1) Casual-leisure situations are driven by hedonic needs rather than information needs. There are no explicit information needs in casual-leisure situations.

2) Although there are many casual-leisure situations that do involve information needs, there is no requirement to seek information.

3) People in casual-leisure situations meet their hedonic needs without finding information.

Elsweiler et al. highlighted four characteristics of casual-leisure information behaviors [2]:

1) Casual-leisure information behavior tasks are often motivated by a mood, and the tasks are related to high quality of life and personal health.

2) In casual-leisure situations, the information that is discovered is less important than the experience of discovery.

3) The definitions of casual-leisure needs are unclear and do not include information needs.

4) The success of casual-leisure behavior is not dependent on finding information or on achieving any results.

Elsweiler et al. performed a diary study with 38 heterogeneous participants to understand information needs in the context of television viewing [15]. This study found that people's information needs were elicited by three types of motivations when watching television:

1) User motivation: personal interests, knowledge, lifestyle, and hobbies.

2) Context motivation: individual mood or state, time-related motivation (for example, today is Saturday), social motivation (company of mother), program-related motivation (viewing online game advertisements).

3) Planning motivation: planning Saturday activities.

Elsweiler et al. claimed that information needs for television viewing often relate to situations, such as time, the presence of other people, personal mood, emotional situations, previous events, experience, knowledge, and habits [2]. The design of information systems should reflect the situations that can motivate users to seek information. The indicators of system evaluation should consider both objective factors (such as whether the task is accomplished or how much time is spent) and subjective factors (for example, satisfaction and relative judgment).

Elsweiler et al. suggested that information systems can satisfy casual-leisure information needs if the design reflects that fact that people focus on experiences and states of information in leisure situations [2]. It is more important for an information system to support user interactions and to facilitate engagement with content than to provide rich information.

Users can benefit from systems that support accidental finding of information.

In casual-leisure situations, the information needs associated with tasks are frequently underdefined or entirely absent. The user often describes needs in vague words, such as "interesting," "complicated," or "challenging." A personal or user-oriented search system would function more effectively than a search system that depends on precisely specified search terms [4], [16].

Elsweiler et al. concluded that users often explore information systems to experience novelties rather than to find information [2]. This situation is similar to visiting a place with friends or family members. The aim of such socially motivated exploration is not to find a specific place, but to spend time with family members or friends.

The motivations for television viewing and channel-hopping are multidimensional. The information needs of users can be understood by observing their behaviors. Watching television can satisfy needs such as entertainment, deep knowledge, well-being, high quality of life, health, changed mood, support for claims, relaxation, and escape from chores [15]. The aforementioned studies are similar to studies on how emotions affect information behaviors [17]. Furthermore, watching television can be an instigating factor for information needs. Stebbins and Ross have mentioned that leisure activities constitute a crucial driver of information needs [14], [18].

Elsweiler et al. performed a diary study with 38 participants to research information needs in the context of television viewing. They found the following [15]:

1) Many users searched for television programs to conduct activities in which they were interested, citing being entertained and having fun as motivations.

2) The motivations for television viewing are multidimensional. Many participants considered television to be a source of the latest information on topics such as news, stocks, and weather. Sometimes, television viewers watch television to plan vacations or to find dinner recipes.

3) Any television program can be used as background sound when doing chores, even if the program is not inherently interesting.

4) To watch a specific television program, viewers must know the correct channel and the time at which it will be broadcast.

5) Personal interests, knowledge, and lifestyle habits can motivate people to watch television.

Tsay and Krakowiak noted that television companies design official websites to satisfy viewers' needs. These websites have various features, including the following [19]:

1) Fan-based features: Viewers can create communities of fans.

2) Game-based features: Viewers can interact with program-related content.

3) Information-based features: Viewers can collect additional information about the programs.

4) Programming-based features: The website informs viewers about the details of various programs.

Tsay and Krakowiak found that viewers also like in-depth

information (for example, episode summaries, character profiles, and actors' blogs), games, opinion sharing (for example, polls and quizzes), showcasing (for example, personal photos and videos), interaction (for example, giving commands and chatting), downloads (for example, pictures, ringtones, and desktop background pictures), shopping (for example, CDs and LPs), and subscribing (for example, discussion forums and social communities) [20].

Elsweiler et al. suggested, on the basis of the results of a diary study of television information behaviors, that faceted browsing systems can be considered in the future. The experience of using the system must be appropriate. Simply providing information or content is not sufficient: the system should satisfy the desires of the user [15].

III. RESEARCH METHOD

This exploratory study examined undergraduates' casual-leisure information behaviors in the context of viewing online videos and addressed the following questions: What are the motivations for information seeking? What content is sought? How do the undergraduates apply the information? What are the implications of the research results? This study followed the examples of Wilson et al. and Elsweiler et al. by using both diaries and in-depth interviews; each method remedied the deficiencies of the other [2], [12]. The advantage of diaries is that participants can write down their thoughts and feelings immediately; the disadvantage is that participants may not be good at writing and may neglect to write for several days.

In this study, a purposive sampling methodology, snowball sampling, was employed to identify relevant study participants. A total of 24 undergraduate students (15 women; 9 men) wrote diaries and were interviewed by the researchers.

The researcher designed a form of electronic diary in which the participants recorded their activities related to video viewing. They wrote 3 diaries during 3 weeks. In total, 72 records were collected. Each diary recorded details of information needs, surrounding contextual information, motivating factors, and participant behaviors that satisfied relevant needs. After the participants finished writing their diaries, in-depth and semistructured interviews were conducted to collect data for analysis. Interviews ranged from 30 to 90 min; the average interview lasted approximately 1 hr.

The interview questions were based on literature reviews and designed within a conceptual framework intended to explore undergraduate casual-leisure information behaviors relevant to online videos. The interview data were transcribed and analyzed in Chinese. The data analysis process followed an inductive approach; qualitative data were analyzed through open coding, axial coding, and selective coding. In the open coding process, the interview data were analyzed, compared, conceptualized, and categorized. Axial coding was then applied to group the initial codes produced in open coding and to uncover their relationships. Lastly, selective coding was used to interpret the relationships among the identified concepts and to ensure that the interpretation coherently explained the phenomena observed in the study.

IV. RESULTS

In the collected data, we found that the respondents' favorite types of online videos were movies (63 films), Chinese dramas (14 serials), American dramas (6 serials), and entertainment television shows (1 show). The participants usually watched videos on computers (41 participants/times), at cinemas (14 participants/times), on cell phones (11 participants/times), on video players (6 participants/times), and at second-run theaters (4 participants/times).

A. Time as a Situation of Casual-Leisure Information Behavior

Fig. 1 shows the processes of casual-leisure information behaviors for viewing online videos. This framework emphasizes time as a context for information relevant to video viewing; this framework, with its emphasis on time, resembles Hartel's framework of information behavior for gourmet cooking, which comprises three temporal arcs, namely hobby career, subjects, and episodes [6]. Savolainen mentioned that time is an essential attribute required to contextualize information. It has vital effects on personal and organizational information behaviors. People search for information and assign meaning as time flows [20]. Stebbins indicated that time is a crucial concept when analyzing the essence of leisure activities [21]. This framework consists of three parts: the processes of video viewing, casual-leisure information behaviors, and episodes as stimuli that provoke casual-leisure information behaviors.

People's casual-leisure information behaviors can be understood in relation to three phases: pre-viewing activities, viewing activities, and post-viewing activities. In the pre-viewing phase, people notice the information of videos through two approaches: they active look for information, and they are passively stimulated by information. The motivations for an active approach include relaxing, passing time, assuaging boredom, satisfying curiosity, seeking out interests, enjoying leisure, and endorsing the topics of videos. The motivations for a passive approach include encouragement from peers, information encountering, family gatherings, and free videos.

Different experiences appear as information activities unfold through time. This study analyzed these activities from cognitive, emotional, and behavioral dimensions. Nabi and Kremar conceptualized pleasure as an attitude that has cognitive, emotional, and behavioral dimensions [22]. Episodic content stimulates users to view content over time. These viewers seek information about actors' roles, episodes, issues, commands, music, cinematography, and the meaning of the videos. They search for information to satisfy their cognitive and emotional needs, which are elicited by episodic videos.

On the emotional level, viewers can be stimulated by the episodes to feel profound interest in all matters related to the videos. In this situation, episodes function as an activating mechanism that encourages viewers to seek information related to episodes. Motivated by cognitive needs or emotional needs, viewers satisfy their information needs by seeking information from the Internet. Brookes's equation states that information (I)

changes knowledge (K) to create a new state of knowledge (K') [23]. Dervin and Frenette noted that when confronted with a gap, people may try to bridge it with new information. Such gaps produce curiosity and motivate viewers to explore the unknown [24]. Recently, it has become popular to view videos online, and it has become convenient to use cell phones to search for information on the Internet. Often, viewers discuss the videos they have seen with other people. Discussions with family or friends can motivate viewers to seek more information about the videos.
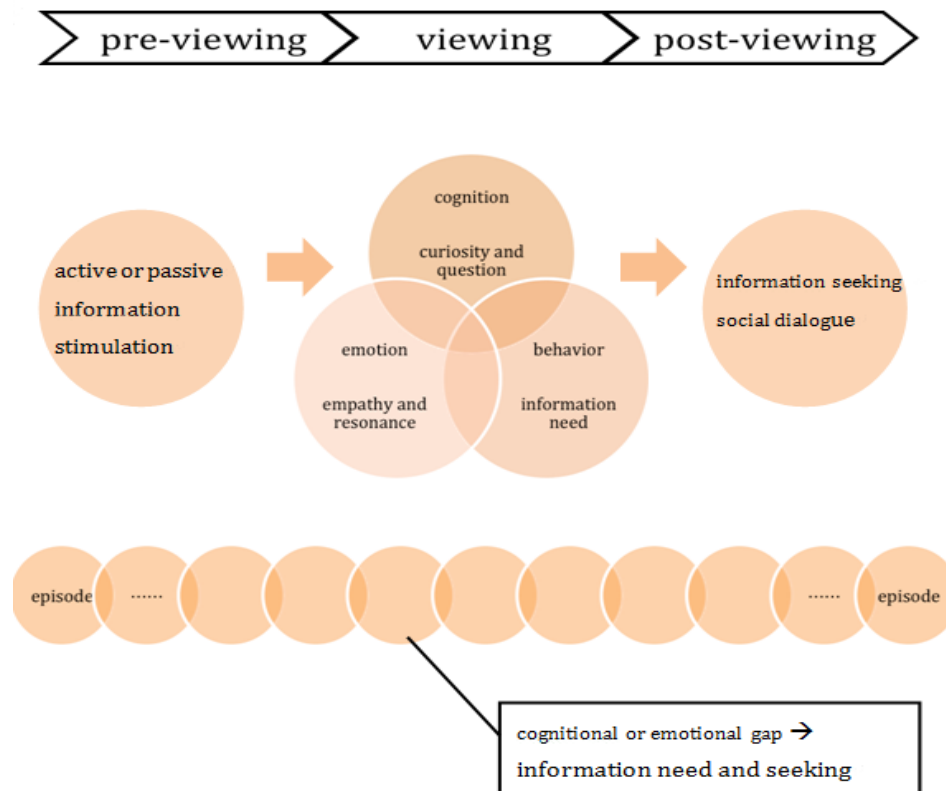

Fig. 1 Framework of video viewing processes and information activities

This study found that the episodic structure of online videos forms the context of viewers' casual-leisure information behaviors from pre-viewing to post-viewing. Viewers experience episodes as stories composed of series of actions or events. Episodes motivate audiences to view videos; episodes motivate audiences to look for information about the videos. Viewers engage with videos, because the episodes are attractive and interesting. They are an activating mechanism. Viewers often search for information on cell phones or desktop computers when viewing videos.

Previous studies have found that casual-leisure information seeking was motivated by avoidance of frustration and by associative links [15]. For example, viewers who could not recall information about actors, songs, or years might avoid frustration by researching such information. Furthermore, viewers who recalled having watched videos might seek information associated with the videos. The present study breaks away from such contentions, finding that the motivation to seek such information is leisure, and that the desire for leisure automatically generates information needs. Furthermore, Elsweiler et al. found that the motivations for leisure had little relevance to information needs [15]. Viewers use television remote control units to select the programs they believe will be interesting to watch. Our study found that the information needs related to video viewing are obvious. The information needs originate from curiosity and emotional identity, and motivate viewers to seek information.

B. Interactions among Cognition, Emotion, and Behavior Elicit Information Needs and Seeking Behaviors

Information needs are present in all three phases: pre-viewing, viewing, and post-viewing. The interactions among cognition, emotion, and behavior form the context of information needs and information-seeking behaviors.

There are two types of motivations for viewing online videos: active and passive. The active motivations include relaxing, enjoying leisure, being entertained, assuaging boredom, and passing time. The participants watched some particular online videos because they had prior interest in the subjects, actors, or film directors of those videos. Passive motivation comes from information encountering. Information encountering occurs in an information-rich environment [25].

Chatting with classmates often encourages people to view online videos. Multiple television channels, convenient Internet connections, and popular mobile devices cause information encountering to occur often.

While viewing videos, the participants were likely to discuss thoughts and feelings at the moment of viewing. At the cognitive level, they understood the video episodes and the spirits of the characters. They made critical judgements while viewing. Sometimes, the videos stimulated the participants to think about the environment or about personal health; some of those thoughts might change their future behaviors. Some participants mentioned that the episodes of videos were not consistent with their expectations. These inconsistencies provoked cognitive conflicts. Some episodes elicited emotional resonance in some participants.

Emotion is a central concept in the analysis of human information behaviors [26]. Savolanien found that daily life information seeking occurs more than work-related and non-work-related information seeking. "Daily life information seeking" refers to the behavior of humans who seek any type of information to resolve problems that occur in daily life [10].

Given explored a "model of the affective information behavior ecology" and indicated that emotions mesh with daily activities and shape human information behaviors [27]. The Information Search Process model identifies three realms of experience: the affective (feelings), the cognitive (thoughts), and the physical (actions). The uncertainty principle asserts the uncertain status of emotions at the beginning of searches for information [28].

The previously cited articles focus on the critical effects of emotions on human information behaviors. Many studies have examined information, but few have investigated emotions. Moshfeghi and Jose attempted to change the research paradigm and suggested that people often seek information even though they have no information needs [29]. For example, in their study, people often used television remote controls to switch channels unconsciously. Moreover, information needs appeared because of the pressure to satisfy emotional needs.

The study of emotion and information behaviors originated in the field of library and information science. Dervin and Dervin and Reinhard have theorized about emotions and their relationships to information seeking and use. In sense-making theory, emotion is explicitly represented as bridging sense-making elements, along with intuition, thoughts, and attitudes [30], [31].

Why does the viewing of online videos cause information needs to appear? What stimulates information needs? Two major reasons are curiosity and identity, both of which can come from characteristics of the videos. Curiosity and information may make people happy (by motivating those people to read books or to seek information). However, curiosity may reflect feelings of uncertainty and nervousness which stimulate information-seeking and problem-solving behaviors. Litman and Jimerson indicated that curiosity is a desire for information. The desire comes from the stimuli of fresh information, complications, and ambition. Curiosity arises from a sense of uncertainty, which makes people

unhappy. To eliminate this feeling, people seek information [32].

After viewing videos, the participants tended to engage in dialogues with others as well as to seek information. They tended to have conversations with people around them, such as family members, partners, and friends. The contents of the dialogues were related to the actors, subjects, episodes, and lines of the videos. Some the participants engaged in role-playing and formulated questions such as, "What would you do if you were the person in this video?" They also tended to seek information about incidental music, film reviews, script writers, and peripheral products.

C. Information Behaviors Extend to the Post-Viewing Phase and Cause Changes

This study found that the participants tended to seek and use information after viewing videos, and information usage tended to change their thoughts, feelings, and behaviors. The participants reported that information changed their cognitive processes and deepened their understanding of the subjects. This is an invisible knowledge construction process. During this process, they tended to develop new interests in some topics. The information provided by the videos and related information discovered by researching the videos were applied in conversations with other people to enrich their verbal communication and human relationships.

V. Conclusions and Suggestions

This study found that the edutainment needs of the participants were satisfied through viewing videos. Although the videos were viewed for leisure, they stimulated the participants to seek additional relevant information. Hartel mentioned that all types of leisure activities include information-seeking behaviors [6]. In this study, the information behaviors of the participants were rich and obvious. Many writers have discussed the concepts of leisure and information as dichotomous, but that dichotomy does not explain the findings of the present study. Leisure and information as revealed in the present study are more akin to yin and yang in the tai chi diagram. This nondichotomous dualism suggests directions for further research on information behaviors.

This study also found that when videos provoke thoughts and feelings in their viewers, the interactions between those thoughts and feelings elicit information needs that promote information-seeking behaviors. Because mobile devices have become common and multiscreen use behavior has become popular, the participants did not need to delay their searches for relevant information; they were able to search for information immediately whenever a video stimulated their curiosity. Search engines constituted the most commonly used information channel.

This study considered time as a context for information relevant to the viewing of videos and examined participants' casual-leisure information behaviors in pre-viewing, viewing, and post-viewing phases. Time is linear and irreversible, but participants could pause or reverse the playback of interesting

episodes and find relevant information. Information behaviors of the participants continued up to and beyond the end of video playback, and changed their cognitive structures. This is consistent with the content of Brookes's equation of information science [23].

The limitation of this study is a lack of understanding about how systems should be designed to satisfy the information needs of video viewers. In particular, now that mobile devices have become popular, more empirical studies about the user experiences and interface design of systems that support users' casual-leisure information behaviors are necessary.

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Nei-Ching Yeh was born in Pingtung Taiwan in 1967. She received the Ph.D. degree in Department of Library and Information Science from National Taiwan University in 2003. She is a professor of the Department of Information and Communications in Shih-Hsin University. Her research focuses on the issue of user study, especially user's information behavior, and takes qualitative approach to explore user's information practice activities in daily life.

In 2005, she was a visiting scholar of University of Tampere in Finland. In 2011-2012 she gets the Fulbright Award. Recent years, studies conducted in the field have focused on Taiwanese aboriginals, senior citizens, foreign brides in Taiwan, and homosexuals' information behavior, with social constructive viewpoint on their information behavior. Besides, she is interested in the following research topics, library and information service, information society, and web studies. Her publications include about three books and 40 articles published in national and international forums and in journals, such as Information Research and Information Seeking in Context (ISIC) conference. She also served on the conference program committee and a reviewer for national journal. She attends and presents paper on international conference actively, such as ISIC, IFLA, ICPE, ALIEP.