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The Design Study of High-Quality Resource Shared Classes in China: A Case Study of the Abnormal Psychology Course

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Abstract: The construction of High-Quality resource shared classes in China is an important part to develop open education around the world. It helps spread of High-Quality resources and foster education equality. As resources construction have become increasingly popular, how to construct High-Quality resource shared classes, how to design the curriculum resources, have become urgent problems for both researchers and educators. In this paper, we took the example of a Chinese national High-Quality course "abnormal psychology", as a study case, and conducted a survey of High-Quality resource shared classes from the aspects of application status, existing problems and improvements. Based on the results, we proposed a system framework on curriculum structure design, concept design and teaching design, aiming to improve the quality of High-Quality resource shared class, and provide a guideline for the construction of future open courses.

Keywords: High-quality resource shared class, Design, Case study

1. Introduction

With the increasingly popularity of internet interaction platform, High-Quality resource shared classes (referred to as shared classes) based on the concept of "open and sharing", has become one of the most effective way to promote and realize online learning. The construction of shared classes is an important method to promote High-Quality course resources sharing among universities, deepen the reform of higher education, and build a learning society. From 2011 to 2015, there will be 5000 shared class to the public in China, and now 1033 shared classes have been launched on the website of "E-course", covering 28 provinces, cities, and autonomous regions. But with the rapid growth of "MOOCs", many new learning styles emerged, such as "Small Private Online Courses (SPOC), Distributed Open Collaborative Course (DOCC), and Massive Open Online Research (MOOR)", which bring new insights to the construction of shared classes (Zhu, Yan, & Wei, 2013).Therefore, how to design the shared classes, how to ensure the advancement and demonstration of High-Quality resource, have become the focus and hot issue in this area of research.

Shared classes includes all kinds of network courses, based on the requirement of complete curriculum resources, taken the college teachers, students and social learners as service main body, changed education teaching idea, updated teaching contents, and reformed teaching methods. From the previous literature, we know existing research on shared classes mainly focuses on following aspects, such as learning activities design (Y. Liu, 2014), technical analysis (Yin, 2014), the enlightenment from flip classroom, micro lesson, and MOOCs (Yu, 2013; Zhen & Lin, 2014), construction strategy (Hu, 2013), platform application (M. Chen & Yu, 2013), and etc. The design study on shared classes is little, especially the design of course resources and course structure is less. This study will fill the research blank of shared lessons, from the application status to system design.

So in this paper, we will focus on students learn shared class, and their satisfaction about the courses, and put forward the corresponding design plan to develop courses, aiming to optimize curriculum quality, makes High-Quality resource, and provide guidelines for the construction of open courses. We aimed at exploring the following research questions:

- What are the application status and existing problems of shared class?
- What is the ideal curriculum structure of shared class?
- How to help teachers/designers design shared class?

2. Methods

2.1 Design

This research adopts the methods of case study and survey research. According to principle of "purposeful sampling" in qualitative research (X. Chen, 2004), a national High-Quality course "Abnormal Psychology" taught at one of highly ranked universities in Shanghai was selected as research object. The factors such as course institutions, production team, teachers and curriculum content were taken into consideration when sampling. The choice reasons of sample are as follows.

Initially, the university selected is a top university in China, and the course teacher is "the most popular with the students". Additionally, the curriculum content is closely related to our life, work, and study, it is practical, so learners' interest is higher. Furthermore, the course followed the rule of network education, especially in light of the characteristics of distance learning. Moreover, the course is a professional course of psychology subject and the second minor courses in east China normal university. It has a reasonable audience population both inside and outside the university.

A mixed method with both quantitative and qualitative analysis was used in the study aiming to investigate the effects of the implementation of online course, problems existed and the ways to improve the shared class. An online survey and interviews over the phone were used.

2.2 Data collection and analysis

The study period spanned over 4 months. All survey data are obtained from junior students of the Network Institute from east China normal university. All students' age are between 24 and 30, who are learning the national High-Quality course "Abnormal Psychology". The research is divided into two stages.

In the first stage, we conduct a survey and it was performed through questionnaire survey and telephone interview. As questionnaire survey, its compile is completed with the help of course production personnel, the compiling time lasted two weeks. After the completion of initial questionnaire, we make a test of part learners, and according to the results, we revised and form the final questionnaire. Distance learning is online learning and teaching. So the research is done by online questionnaire. The effective sample volume of survey is 72 (52 girls and 20 boys). Survey questions were semi-structured, and focusing on the issues such as "Do you often use shared course", "What are the problems of shared

course" and "How to design shared course" etc. As for telephone interview, 14 students (7 girls and 7 boys) were interviewed and each interview is about 15-20 minutes. The interview questions were focusing on the issues such as "Are you satisfied with shared course", "How to improve the design of shared course" and "What is the ideal curriculum structure of shared class". When selecting the interview sample, we chose the learners of good learning attitudes. Before the interview, we gave an email to every sample to make an appointment time.

After the design completion of shared class, we called the second stage. We performed an evaluation on the concept of curriculum design, style, and etc. Namely we make a survey on course satisfaction from teachers, content, page style, interactive media, activity design, and feedback. We received 50 effective questionnaires, which the responders are learning the designed shared class of "Abnormal Psychology".

We summarize and sort out each survey sample into the four aspects: application, problems, ideal structure, and improvements.

Descriptive analysis was run on the survey data. Interview data were transcribed and analyzed using bottom method. For curriculum design, we combined the description on curriculum design concept, design style, and design module (Lanzilotti, Ardito, Costabile, & De Angeli, 2011), from Chinese and foreign scholars, then we make an analysis and classification of ideal curriculum structure and design.

3. Results and Discussion

3.1 Application

From the questionnaire survey, we know, the use frequency of shared class is low. The learners often use the shared classes accounts for 33.3%, occasional use accounts for 50%, never use accounts for 16.7%. Some learners only use the shared class before an exam, and they only use once or twice. Very few learners use frequently.

3.2 Problems

3.2.1 The System Design of Shared Classes Is Poor

From the questionnaire analysis, we discover the shared course has many following problems: namely, the navigation structure is unclear, the users cannot find the resources needed, the video quality is low, teacher lecture is too theoretical, less interaction unreasonable teaching evaluation and less interaction and teachers' teaching style is the most prominent problem.

And 66.6% of the learners think "electronic notes, teacher lecture and exercises" are the important navigation section, and 77.8% of the learners think "teachers lecture, case analysis, electronic materials, situational experience" are the indispensable navigation section, and they hope to increase case analysis, online testing, interactions between teachers and students, perfect curriculum evaluation and learning process monitoring, provide resource shared platform, and the resource size should be easy to split and restructuring to facilitate mobile learning.

3.2.2 The Design Style of Shared Classes Is Not Good

At present, some researchers according to the design induction of China national High-Quality courses, developed seven online instructional design styles, based on "content design, technical design, problems design, situation design, case design, explore design and experimental design". From the survey, we found 75.2% learners hope the design of shared class should follow a certain teaching style. Because the "Abnormal Psychology" course pays attention to the knowledge system and inherent logic structure, so essentially it belongs to the teaching style based on "content design", and this teaching style is well accepted by the learners.

3.3 Ideal structure

3.3.1 The Resources Structure of "Atomic Unit - Knowledge (Activities)" Is more Reasonable

Shared courses mainly consist of three layers, course/module, atomic unit and knowledge (Zhu & Liu, 2011). Atom is in the bottom of knowledge system, it is knowledge or skills characterized through technology, and it can adopt the way of learning organization. Atomic unit means a small particle size, including content, activity, practice, interaction and research method, and it has teaching properties such as activity, test and evaluation. At least one unit contains a knowledge atom and a course, or a course module should contain at least one unit. Course can be directly composed of unit, and can be composed of different levels of curriculum modules, polymerized by learn units (as shown in Figure 1). This kind of structure design is easy to arouse the enthusiasm of learners and freedom degrees, and improve the sharing and reuse effect of resources.
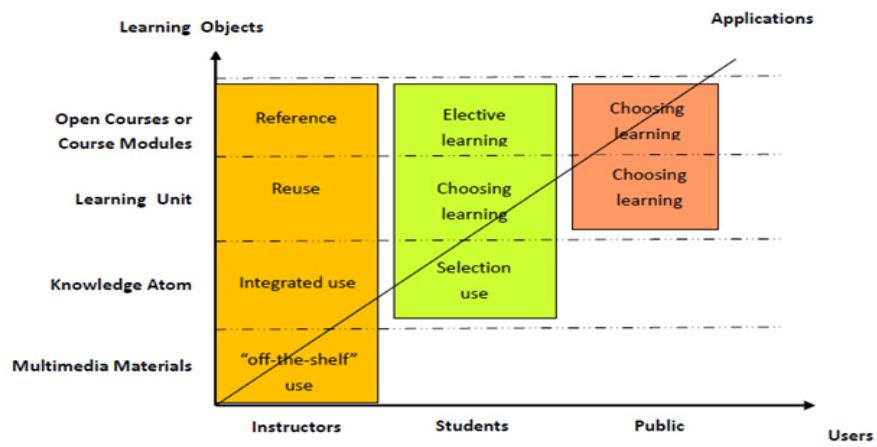
Figure 1. Components of course and sharing for different type of users

3.3.2 The Framework Structure of "Teaching Style" Is Easier for Learning

Teaching style belongs to the teaching design at the medium level, its essence is to provide a successful paradigm and methods of teaching practice, it has strong operability. How to promote fast and efficient online learning of learners, how to sort the learning resources and unit activities, shared class in pursuit of personal degree should be moderate. Therefore, the research put forward the information framework of shared class, and its teaching style is based on "content design" (M. Liu & Zhao, 2013).

Table 1 shows that the total module (level 1) of the course: Homepage, teachers, course learning, introduction, characteristic resources, operation test, interactive and learning evaluation. Learning module is to present learn target, the difficult and key words. Unit adopts 5-7 link, such as "study guides, problem introduced, teaching lecture, electronic notes, case analysis, expansion resources, and self-test". This layer structure is optional. Unit mainly shows course content and related resources. This structure is more clear, and easy to learn.

Table 1. The information architecture diagram of shared class

Home page	teachers	guidance	induction	learning	features resources	homework test	interactive	learning evaluation
This chapter/learning modules								
This chapter overview/modules		Learning goals		Key and difficult		keywords		
learning guidance								
Problem introduced								
Teacher lecture								
Electronic notes								
Case discussion								
Expanded resources								
Self-test problem								
This chapter/operation module								
case store	Examination database		Expanded resources		Topic discuss		FAQ	homework
This chapter/learning support module								
answer questions	search		bookmarks		notes		... ...	
Courses users	Version information		operating environment		other		... ...	

The organizational structure of sharing course — *Chapter \ module structure* — *The organizational structure of learning unit*

3.4 Improvements

From the interview, we found, as the design of shared class, we should make a system framework of curriculum structure on the aspects of curriculum resources, navigation, content module, knowledge, video, and interaction. And teaching design systematically helps to improve the sharing effect of the course.

Teaching system design includes teaching content, learning navigation, interaction, teaching environment and evaluation (Zhang, 2008). Through modular curriculum content, diversity important knowledge, clear navigation and open organization structure, the whole style of course is unified, text is refining and accurate, color layout is reasonable and harmonious, page volume is moderate, all conform to learners' cognitive habits (as shown in Figure 2).

At present, the course of "Abnormal psychology" has been incorporated into Shanghai public library, completely open to learners of different colleges and universities, such as Shanghai Jiaotong University, Tongji University, Donghua University, China university of Political Science and Law, China's public security university, Capital Normal University, Sun Yat-Sen University, and etc, and even high school teachers can also take the course if they have interests, the sharing effect of the course inside and outside the campus is perfect.
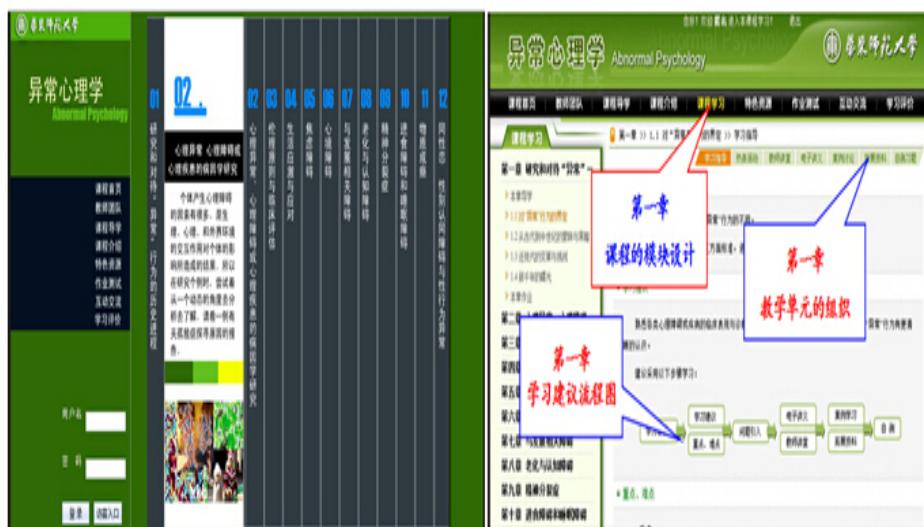

Figure 2. The webpage of "abnormal psychology" course

3.5 Future Work

This study based on system design of shared classes. In terms of interactivity, it provides online FAQ, interactive communication, and E-mail, the feedback is timely. In terms of learning support, it provides many personalized learning support tools, such as learning behavior records, learning notes, and learning content retrieval. As curriculum evaluation, it uses formative evaluation and summative evaluation. The deficiency of the study is the limit of time length, and the lack of survey research on course sharing.

In the next few years, we will track the sharing and application of the courses, and apply the course style and design concept into 3-5 open courses, and optimize the curriculum design (Wang, 2013), according to learners' feedback, eventually create real superior resources, and construct effective an online learning environment for majority of learners.

3.6 Support

In recent years, Chinese ministry of education has provided a lot of supports on the construction of shared class. For example, policy support, fund, platform, and etc. Now Chinese ministry of education issues the documents on shared class regularly, and provide financial support for every course. This work is supported by Young Fund on social science from Chinese ministry of education , named "The development research of National High-Quality Course under the perspective of information dissemination" (project approval No: 12YJC880101).

As the teachers of universities, including managers, instructors and technical personnel, they all support the construction of shared class, and actively provide the supports of technology and resources.

In this study, the shared class is supported and developed by a third production company, namely E-learning, it provide platform and management service, complete course release, user management, rights management, and statistics and evaluation. The developed resources, according to the SCORM standard, can be deployed to any standard learning platform.

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How do Media Shape Perceptions of Social Reality? A Review on Cultivation Theory

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Abstract: While the cultivation theory seems to be outdated and less influential due to the rise of the Internet and the increasing education level of citizens, numerous scholarly journals' investigations indicate that the strong cultivation effect on audiences still exists. This paper studies how mass media and television viewership place influence on viewers in shaping concepts of social reality, as well as their beliefs, behavior and mindset. A search of the literature was performed across EBSCO: Academic Search Complete database. A total of 18 articles were selected and reviewed. Results show that different media like video games and music videos also exert influence on individuals' perceptions of real world. Possible factors other than television viewing, such as individual differences like gender, age or race are observed.

Keywords: Cultivation theory, Mass communication, Television viewing

1. Introduction

Cultivation theory is a mass communication theory developed by George Gerbner and Larry Gross (1976) to examine the media effects. The main idea is that heavy television viewers see the real world as more dangerous and are more fearful of the real world. It implies that television shapes concepts of social reality.

Despite a rapidly changing media environment, cultivation researchers still argue for the importance of television as a medium affecting perception of social reality (e.g. Reizer & Hestsroni, 2014). And some scholars even explore the cultivation effects of different media other than television (e.g. Beullens, Roe, & Van den Bulck, 2011a; 2012) in view of the rise of different media. There is also a heuristic processing model proposed by Shrum (2002) investigating the cognitive process which underlies cultivation effect. Mounting evidence is found to suggest the exposure to media messages increases the accessibility of related images in memory. With respect to these studies concerning the existing

influence of cultivation theory, media still play an important role in shaping individuals' views on real world.

The purpose of this study is to examine the existing determination of cultivation theory, with the quick advancement of online technology. To inscribe the issue already outlined, the present study was designed to address the following research questions:

1) Does cultivation theory still apply today to address how people form social reality?
2) What are the factors which determine how people perceive the real world?

This paper is organized as follows. It begins with a brief explanation of literature review and the strategy used for identifying relevant source of materials. The section on the analysis of research findings follows. Then, the last sections provide discussion and conclusion.

2. Methodology

2.1 Source of Data

This search of study was done within the online database EBSCO: Academic Search Complete database. Academic Search Complete is widely utilized by different universities. It offers more than 10,100 article abstracts and indexing in total. This database was searched for articles published from 2005 to 2014, the last ten years. The search terms exploited for examining the database are listed as in Table 1. Eighteen relevant articles were selected and further reviewed. Selected articles were analysed into the factors of how the cultivation theory affected social reality.

2.2 Filtering Process

During the research process, 26 articles were selected in the basic research where 8 articles were removed after a filtering procedure. The reasons of their removal are as follows:

Abstracts of the articles were reviewed. Articles of Cheung & Chan (1996), Kwak et al. (2002), Van Mierlo & Van den Bulck (2004) were removed for their early finished date. While this paper focus to review the authority of cultivation theory in today's society, the articles of Cheung & Chan, Kwan et al. and Van Mierlo & Van den Bulck are outside the last ten years' range and were excluded from further review. Hestroni's article (2012) was excluded as well because the paper did not show a significant association between television viewing and with Storge, Mania and Agape love styles. As for Phang and Schaefer's studies (2009), although the theory was applied to show awareness of media literacy, the technology used to conduct the research was not specified. Similar reason goes with Prieler and Centeno's report (2013). Even though it provided a detail research findings reflecting heavy stereotypical gender portrayals in Philippine's television advertisements, it did not come up with a result of whether they manifested the change in citizens' perceptions or beliefs. Whereas in Hammermeister et al.'s article (2005), there was no sampling data displayed, which made the paper less persuasive and credible. Ultimately, Nabi's article (2009) was removed as it only focus on the media use factor and television technology. Since it duplicates with other articles and provide relatively less insights, removal of the article is decided.

Table 1. Searching strategy for the EBSCO: Academic search complete

Sequence	Keyword	Search Results
1	Cultivation Theory (AB)	335
2	Cultivation Theory (SU)	53
3	Cultivation Theory (AB) and Gender (AB)	11
4	Cultivation Theory (AB) and Games (AB)	7
5	Cultivation Theory (AB) and Children (AB)	23

3. Findings

According to the articles reviewed, four types of factors on what and how media consumption affects people are being identified.

3.1 Media Use

Media use is undoubtedly the most fundamental factor in the cultivation theory, and its means and technological development is evolving in a rapid pace. There are different media affecting the concepts of real world. For examples, television, video game, music video, etc.

One study by Reizer and Hestsroni (2014) examined the impact of media consumption measured by assessing the time dedicated to TV viewing in general, watching specific genres, using Internet, and reading newspaper. They surveyed 188 college students who were engaged in romantic relationships to predict their relationship quality. The respondents assessed their commitment, satisfaction and tendency to have in conflicts within the relationship. The result has shown that the total television consumption predicted a lower commitment to the relationship. Viewing of programming mainly focuses on romantic relationships predicted lower satisfaction and greater chances to engage in conflicts. Comparatively, consumption of other media besides television and the control factors did not show any indicator of relationship quality.

Television viewing also causes one's poor habit. A study by Gutschoven and Van den Bulck (2005) indicated that heavier television viewing will result in earlier start of smoking behavior. 909 students who had ever smoked participated in the research. The research found that there is positive relationship between television viewing and smoking commencement, which means higher level of television viewing results in earlier onset of smoking behavior. When applied to cultivation theory, the result explained that television viewing might give positive messages to smoking and thus affect smoking attitude of the viewers.

Custers and Van den Bulck (2013) pointed out that there is an association between television viewing and fear of sexual violence. 546 Flemish women involved in the research process. In speculating the perceived risk, control and seriousness, the level of fear towards sexual violence is predicted. Results found that if one watched more crime drama, he or she would have a higher level of perceived risk. News viewing, however, causes a lower level of perceived risk.

Apart from traditional medium such as television broadcasting, video game is also a medium rising in popularity in recent years. With its unique characteristics, video game is indeed the most influential medium among teenagers. Studies and researches reveal how video games, such as software artefacts, are cultivating teenagers' mindset over the real world.

Tanes and Cemalcilar (2010) suggested that through playing video games, one's mindset and expectation over the real world could be altered. The study surveyed 248 13-year-old Turkish adolescents attending 7th grade, in order to examine whether playing SimCity would change their expectations of an ideal city. The results showed by playing such settlements building video games, students' expectation of an ideal city changed according to SimCity. Those students started to question and expected city authorities to pay more attention to current city issues. Moreover, higher level of distrust to city authorities was reported after the test among those students. Their study argued that playing video game, in some sense, is not necessarily a bad thing. But in some other cases, playing video games could impose a negative effect on one's mind and beliefs.

Beullens, Roe and Van den Bulck (2011a) examined 354 adolescent boys and girls and found strong connections between video game playing in adolescence and risky driving behavior in the later age. Although this relationship varies according to game contents, the strong correlation is still in existence and could be an adversity to public traffic.

The result presented that video game playing in adolescence will contribute to a higher intentions to exhibit risky driving in the future, which means drivers tend to be reckless and dangerous on the road if they played car racing video games in their young age. The study clearly expressed worries about children playing video games that involve illegal car races, car chases and other sorts of reckless driving behavior will drive them to be a reckless driver in the future and cause more car accidents. Besides, their study also analysed video games shape one's mind to what degree. It revealed through examining video game playing patterns in the young age, we can highly predict one's behavior in the later age, which means that video game plays a crucial role in cultivating one's mind in the young age.

Except from altering one's mindset and behavior, video games should also take the blame of preserving an unrealistic ideal of thin body as femininity and attractiveness. The way video games portray women is now perpetuating the long-existing eating disorder and internationalizing the idea of unhealthy body shape of women.

Martins et al. (2009) examined female body imagery in 150 top-selling video games sold in the U.S. across nine platforms to identify differences in females' portrayal in video games in terms of differing levels of photorealism and game rating and compare them to 3,000 samples of women in the United States. They found that in video games, female had smaller waists, hips and chest sizes than the average American woman. His finding supported the idea that video games are presenting female body shapes and conform to thin ideals.

While Martins et al. confirmed that the prevalence of the thin ideal is being reinforced by modern video games, the recent rise of video game play among females has also aggravated the problem. The effect of reinforced thin ideal could be devastating as the issue of future body dissatisfaction may be larger due to the rising popularity of video games. Martins et al. even suggested that parents should pay more attention to children in order not to let them fall victim to the thin ideal.

Television and video games are not the only factors affecting people's view to the real world. Music video, as one of the most viewed media, can also shape the concepts to the real world and change people's behavior.

Beullens, Roe and Van den Bulck (2012) examined the impact of music video. The study had two main purposes. First, to find is there a relationship between the frequent exposure to music video and driving after alcohol consumption. Second, to examine which theoretical framework, a combination of cultivation theory and the theory of planned behavior or the problem behavior theory, is the best to explain the relationship. Beullens et al. surveyed 426 Flemish teenagers. They took part in a two-wave panel survey about media use, risk-taking standpoints, intention, and action. The results has shown that music video viewing of teenagers is a significant evidence of later risky driving behavior and this relationship is settled through their attitudes and intentions under the cultivation theory and the theory of planned behavior.

Riddle (2010) investigated the association of construction accessibility and social reality beliefs. 213 students took part in the research experiment and it is found that higher vividness of brutal media, higher commonness of crime and police unethical in the social reality is resulted.

3.2 Programme Type

To inculcate specific beliefs or values in targeted or general citizens, programme type too has a significant ascendancy. Different themes of television programmes are available to fabricate perceptions on citizens that might not parallel to the real world situation in actual.

In response to the existence of the "CSI effect", Mancini (2013) examined the impact of heavy forensic television programmes to real jurors on their decision making. Mancini surveyed 79 actual jurors after watching an episode which was the summary of an actual murder trial and beyond measure of forensic television programmes with verdict preferences and reasons, and the understanding of presented evidence that were similar to the real world . It was found that the fiction and even the

documentary-style crime shows were related to the decision making of jurors. Heavy fiction viewers tended more acquittals. Moreover, they were no more likely to talk about DNA evidence as verdict logic or report a highest preference for either the prosecution's or defense's evidence.

Beullens, Roe and Van den Bulck (2011b) analysed the influence of television news and action movies on adolescents' risky driving behavior. They conducted a survey among 426 adolescents aged 17 to 19. Results showed that young adults' action movie viewing predicted later joyriding and speeding behavior, since action movie viewing was associated with positive attitudes towards risk-taking behavior. However, when it comes to television news viewing, the opposite occurred. In view of the overemphasis on teenagers involving in traffic collisions in news media, it was suggested that frequent exposure to television news would result in more negative feelings towards joyriding and speeding. Therefore, a positive relationship can be seen between action movie viewing and adolescents' risky driving behavior, while a negative relationship was found between television news viewing and adolescents' dangerous driving behavior.

Another study by Osborn (2012) collected data from 392 married individual. Osborn thought the past studies on the relationship between television consumption and romantic relationships are not clear enough because of the differences in theoretical grounding, methodology and findings. Also, previous research has been directed mainly toward general relational attitudes and hypothetical relational action neglecting the potential effects of viewing on existing, long-term relationship. In Osborn's study, he tried to use the theoretical traditions of cultivation, uses and gratifications and social exchange theory to analyse the link among relationship variables and measures of television viewing and television portrayals' belief.

The result of Osborn's study showed that both heavier viewing of romantic dramas and greater belief in television's portrayals of romantic relationships were link with lower commitment of marriage, higher expected and perceived marriage costs, and more favorable understanding of choices to one's existing relationship.

Vu and Lee (2013) also look into the association between the South Korean soap opera consumption and Vietnamese women's behavior. The article exemplified the linkage by conducting a survey based on 439 female viewers. From the outcome displayed, there is a positive relationship between soap operas consumption and transnational marriage. As Vietnamese women avail themselves of more South Korean soap operas, surging of transnational marriage between Vietnamese women and South Korean men is observed. This result signifies a powerful real world implication of the cultivation theory, that programme type affects people's perceptions and even actual performances.

Fictional television programmes are sometimes deceptive and able to adjust views over the real world. Appel (2008) suggested even false fictional information can change our perceptions of the real world. The study surveyed 128 German and 387 Austrian. It aimed to find out whether televised fictional narratives tend to portray the world as a just world. The study found that self-reported frequency of watching fiction on television was positively related to the belief in a just world. The study also showed that the belief of a just world could be compatible with television use stated in cultivation theory. The work clearly demonstrated that the idea of cultivation theory changes over time, depending on the social context of a certain group of people. The complexity of modern society challenges some of the ideas in traditional mass media theories, but the claim of reality cultivation is still valid.

In the study of Igartua et al. (2012), it analysed the impact of fictional television programmes on the image of immigration. The study investigated 88 prime-time programmes from the six television channels broadcasting nationwide in Spain. Results found that immigrants are underrepresented. Compared to the native characters, foreigner-immigrant characters were defined as having a lower educational level and a more unstable job situation. The study also observed differences in psycho-social configuration between native and immigrant characters. Foreigner-immigrants were showing more violent behavior and being less effective. It was proposed that the negative stereotypes of immigrants in television programmes would increase prejudice against them.

3.3 Individual Differences

A number of factors may affect the formation of social reality identification while individual difference is one of them. The following lists out some individual differences that possibly alter perceptions and values of the citizens through the cultivation theory, they might be gender, age or race.

One study by Martins & Harrison (2012) found that gender and race are the factors affecting self-esteem. They surveyed 396 Black and White teenagers to find the chronic effects of TV viewing. The result showed that watching television makes the self-esteem of both White and Black girls and also the Black boys decrease. Only the self-esteem of White boys has increased. It meant that no matter which race the girls are, their self-esteem decreases after a long-term television exposure. Different races of the boys have different results. While the relationship between TV consumption and the self-esteem of Black boys is negative, that of White boys is positive.

Gender role portrayal is common as well in the application of the cultivation analysis, and its influence to different sexes vary at times. A study from Gerding and Signorielli (2014) demonstrated how television programmes explore and establish teenagers' gender identity. The piece analysed 49 episodes of 40 distinct United States television programmes designed for teens aired in 2011. He discovered while teen scene reflected the sex ratio distribution in the United States, females were marginalized in the action adventure genre. In general, females are more charismatic and more concerned about their image and obtain more comments about their appearances when compared to male. The result gives us evidence that through the application of the cultivation analysis, teenage audiences could possibly construct narrow inceptions about their horizons to feasibility to the world.

Riddle et al. (2011) examined how violent television shows and movies affect individuals' prevalence estimates real-world crime and violence. Based on a survey administered to 207 undergraduate students in the United States, Riddle's study demonstrated gender, age, and race differences in terms of memory vividness of media violence. It was suggested that females had more vivid memories for prior media violence and higher estimates of crime and violence than males. And the study also provided evidence that violent media exerted a stronger influence on youngsters. Media violence was highly memorable among the youth as most of the participants had autobiographical memories for violent television programmes and movies. Apart from these, ethnicity was related to prevalence estimates. Higher estimates of crime and violence were given by non-Whites than Whites.

In the study of Hetsroni and Lowenstein (2013), it is found that religiosity may also affect one's perception of social reality, apart from television viewing. A sample size of 778 respondents is applied in the research. Results found that people who are non-religious would predict a higher estimation of commonness of crime shown on television after having longer time of television viewing. Meanwhile, those religious participants would have less estimation of commonness of crime shown even they had extended time of television viewing.

3.4 Social Reality

In the review, we also found that the consequences reflecting the social reality was threefold, interpersonal relationships, harmful personal behavior, and other consequences that single out but also being influential.

Relationship: Watch more soap operas increases the chance of engaging in transnational marriage in Vietnamese women and South Korean men (Vu & Lee, 2013), a high focus in TV programme contributes to low satisfaction and high tendency to conflicts within a relationship (Reizer & Hestsroni, 2014).

Harmful Personal Behavior: Playing more video games (Beullens et al., 2011a) and music videos (Beullens et al., 2012) as well as action movies (Beullens et al., 2011b) increased risky driving behavior; watching more forensic TV programmes affects the decision making of jurors (Mancini,

2013), heavy television viewing will result in earlier start of smoking behavior (Gutschoven & Van den Bulck, 2005).

Other factors: Playing more video game increases the distrust of authorities and more attention to city issues (Tanes & Cemalcilarl, 2010), more portrayal of thin women in video game increases the body dissatisfaction among females (Martins et al., 2009).

4. Discussion

4.1 Summary Review of Research Findings

With the rise of the Internet and online technology, the importance of cultivation theory appears to be decreasing in today's society. The aim of this study is to examine the existing determination of cultivation theory through the review of prior literature. The theory originally kept focus on television viewing. The present study suggests extending the boundary of cultivation theory to a wider spectrum. The findings from the present study shed light on application of cultivation theory to different media other than television, such as video game and music video. In other words, the results of this study provide support for the existing influence and effectiveness of cultivation theory in today's society.

The current study has taken a crucial step forward by examining different elements of cultivation effects to build on existing theory. Based on the reviews of 18 articles, the following conclusions are reported.

First, different media play an important role in shaping individuals' views on real world. Not only television viewing but also the use of video game and music video are related to the formation of social reality beliefs. Our findings reveal that media portrayals affect people in long term - causing some harmful personal behavior and affecting interpersonal relationship. Media also cultivate individuals' mindset over the real world, and media users may see their city as more dangerous or create dissatisfaction towards city authorities. This study suggests that vivid media contents become encoded into long-term memory, and may be used when forming social reality beliefs. It is worth exploring how television, movies and video games might result in different cultivation outcomes. Future research should continue to examine channel differences in cultivation effects.

Second, the findings from the current study provide support for proving different genres of media contents might have differential effects. For example, forensic television programmes have an influence on real jurors' decision making, and romantic dramas affect one's perceptions of marriage and relationship. Television news and action movies differ widely about their influence on adolescents' risky driving behavior, as movie viewing is a predictor for risky driving behavior while the opposite occurs in news viewing. Our findings demonstrate that the direction of relationship concerning media's influence is different for different programme types. This indicates that the content of these media may associate with the occurrence of the relationship. However, further research is necessary to confirm this assumption.

Prior studies have also stressed some individual differences affecting the formation of social reality identification, for example, gender, age and race. For instance, females' self-esteem tends to decrease after a long-term television exposure, while there are different results for males of different races (self-esteem of Black boys decreases while that of White boys increases). In addition, females have more vivid memories for prior media violence and higher estimates of crime and violence than males. And higher estimation of commonness of crime is given by young adults. These effects on individuals' perceptions of real world would provide additional insights to study cultivation theory. Future studies could explore the possibility of individual differences in long-term memory for media contents which form social reality judgments. Clearly, additional research is needed to investigate the potential mechanisms through which such individual differences might occur.

Moreover, the studies in the past suggest that the consequences caused by media exposure are threefold (behavior, relationship, and perception). Consumption of different media cultivates individuals' mindset, which in turn affects people's real life. Both personal behavior and interpersonal relationship are under the influence of media portrayals. Some typical examples of these consequences are increased risky driving behavior and a lower commitment to the relationship. Besides, media consumption shapes individuals' perceptions of social reality, such as estimation of prevalence of crime and pursuit of thin ideal. However, the consequences are not necessarily negative; some positive results like people pay more attention to social issues are observed. The current study provides support for proving the unimaginably strong power of media in influencing social reality. Future research should examine how different aspects of people's real life like political and technological aspects might be affected by media exposure.

In order to move forward our understanding of cultivation effects, a thorough examination of influence of cultivation theory should be conducted. The original key element of cultivation theory, television, is now facing the challenge from developing digital media like the Internet and online technology. Without doubt, television consumption appears to be decreasing, and there is a growing trend of using digital media in today's society. However, research on application of cultivation theory to the Internet is limited. Therefore, further studies should continue to explore the possibility of applying this theory to the Internet. This may not only increase our understanding of cultivation theory, but also help make this theory more applicable to the developing digital media landscape in today's society.

4.2 Limitations of the Study

This study has several limitations. As the findings of the research are limited to the recently published studies, this seriously limits the variation of the important points of cultivation theory. Also, the current study has focused on proving the prevalence of cultivation effects in the modern world, which means the elements of the theory explored may not be comprehensive.

5. Conclusion

In conclusion, the present study acknowledges the existing influence and effectiveness of cultivation theory in today's society. Since the prior studies found were carried out within the recent 10 years (the decade when the Internet prevails), it is suggested that the influence of television on one's mindset still exists. The review of literature not only supports prior cultivation research, but also explores different elements of cultivation effects. Television is not the only medium affecting one's social reality beliefs, movies, video games and even music videos also contribute. Besides, it cannot be ignored that media use alone is not comprehensive to explain cultivation effects. Programme types of media as well as individual differences like gender, age and race also exert influence on perceptions of media users. Future studies are suggested to examine more different elements of cultivation theory and the possibility of applying this theory to the Internet.

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A Review of the Impacts of Agenda-setting

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Abstract: Agendas of media have been affecting their audience, especially by shaping the political reality. In the era of the Internet, the distribution of news is no longer limited to a single area. The rapid growth of technology enhances the speed of information exchange and the distribution of news. The influence of agenda-setting becomes more significant. To explore the impacts of agenda-setting, we reviewed 17 articles on agenda-setting within 2009 to 2014. The research question is: What are the impacts of agenda-setting?

Keywords: Agenda-setting, Media, Determinants, Political reality

1. Introduction

For a long period even until now, many criticize media made polarized coverage to different news sources. Average audiences tend to associate media coverage of news with the importance of news.

Media corporations then set an agenda and altered the coverage of news in order to "create" the importance of news. Journalist Walter Lippmann (1946) originated the idea of "Agenda Setting Theory" in 1922 but in 1972, two scholars Maxwell McCombs and Donald Shaw (1972) developed the more concrete concept of agenda setting. They thought media organizations may filter news issues and shape the political reality by modifying space or coverage volume. It built a perception in audience's mind of which news is important.

McCombs and Shaw (1972) analyzed the presidential election in 1968, known as "Chapel Hill Study". They wondered if media coverage would affect audience's choice of voting. Then, they surveyed 100 residents of Chapel Hill, North Carolina on what they thought were the most important issues of the election campaign and checked whether voters' agenda related to media news coverage. Two scholars summarized that media coordinators such as editors, newsroom staff, and broadcasters shaped a political reality over reality. Audience received not only about a given issue, but also how important that issue from a mount of news stories. Media have the power to determine and shape candidates' speech as important by altering coverage volume and this is a process of setting an "agenda" to a campaign.

General public gain filtered information from newspapers. Nowadays, the top media are owned by a few international enterprises. Taking News Corp (Wikipedia: News Corp, 2014) as an example, it was founded by media giant Rupert Murdoch who owned global vertically integrated media company. Before its spin-off in 2013, its final properties included 2 book publishing house, 6 printed media subsidiary companies in Australia, England, USA and Fiji which totally have over 60 newspapers and magazines. Besides printed media, News Corp owned 9 satellites TV channels, countless in whole or partly owned cable TV channels throughout Latin America, India, Taiwan, Australia and locally in USA. It was the top three largest entertainment corporations in 2009, audience will easily receive information conveyed by them. Undoubtedly, News Corp has its own agenda setting. Those media which were then under News Corp's control should have had set agenda by then.

In 1983, 90% of American media was owned by 50 companies. However, in 2011, 90% of American media is controlled by 6 companies (Lutz, 2012). People think that these media giants are more credible, reliable and trustworthy and people tend to choose these media giants to watch, to read and to listen to. Hence, the general public gain information from these limited media.

Although there have been a lot of studies of agenda-setting in recent years, where a simple search in EBSCO: Academic Search Complete of the last five years (2009-2014) on agenda setting theory and media resulted in 176 studies. Among these results, very rare reviews were conducted, only 2-3 reviews were found in this period. Hence, we aimed in this study to review past literature in order to have a more in-depth understanding of the impact of agenda setting on political reality.

In the methodology section, we will outline the step choosing the article. In the finding section, we are going to list the major factors. In the discussion section, we are going to analyze why there are such findings.

2. Methodology

Online database, EBSCO: Academic Search Complete, was used to search for relevant articles. Two keywords, 'agenda setting theory' and 'media', were searched in abstract. The published date was limited to a six-year period, from 2009 to 2014. The search result was also limited to scholarly journals only. Finally, twenty-five articles were listed. However, after a preliminary review of the article, irrelevant articles were removed and 17 articles were further analyzed. The search results were summarized in Table 1 below. We intensively analyzed the findings of the selected articles and came up with 4 major consequences resulted from agenda-setting, including, coverage, government, choice/attitude and economic. They were summarized in Table 2 below.

Table 1. Summary of search results of online database EBSCO in recent years (2009-2014)

Keywords	Search Results (articles)
Agenda setting theory	484
Agenda setting theory and media	176
Agenda setting theory and media and review	2-3

3. Findings

3.1 Coverage

Many researches were done by researchers in last six years about the relevance between agenda setting and the coverage of media on certain issue, and how effective they were. Media selected certain issues to publish and broadcast to tell the public what to think about. The coverage of certain issues significantly affected the public. Based on the findings described below, it was proven that agenda setting still existed in our society.

In the study by Zeng, Go & Kolmer (2011), it explained the China's image in 9 foreign countries and the media coverage of it. Although the coverage of China had increased after 2008 Beijing Olympics, China's image had not been improved in foreign countries. However, the coverage raised awareness of China and framed its image indirectly, shown significant effect of agenda setting.

In the study by Yang & Liu (2012), there was another interesting topic about coverage on "China threat", coverage of the news focus on difference things about China when reporting in different eras, like in the early 1990s, the media focused on reported China's economic growth rates, media coverage focused on China's economy peaks, changing people's perception of China, that the study found significant effect on agenda setting.

The more the coverage in an issue, the greater the impact on government policy. For example, from the study of Kiss (2013), it examined the existence of adverse health effected attributable to in the Regulation of Bisphenol A in the U.S, which some stated legislatures considered or adopted legislative bans on products made from BPA. This example showed that because of the media coverage of the issue on the medicine, government tended to be aware of the problems and took necessary measure in dealing with the issue. With not such media coverage, probably there would not be enough pressure to the government. It revealed that there was a significant relevance of the routine and high-impact health coverage with the chance that a state legislature considered legislation banning products made with BPA.

According to Ragas & Tran (2013), there were findings showing that volume and valence of media coverage affected searching habits of internet users. By examining news coverage and search interest among the internet users in the first two administration years of Obama (2009-2010), the volume of news coverage significantly affected people's searching trends, showing a significant effect of agenda setting in the U.S. The news coverage was also caused by the searching trends according to the report, which the two criteria were inter-related and affecting each other.

3.2 Government

Agenda setting affects the government policies and influences the public's trust and support for the government policies.

On the part of the government influence, Delshad (2012) examined that the president, and Congress, and the effect of these variables were exogenous agenda-setting variables that would affect the agenda-setting model.

Table 2. A summary of prior studies on agenda-setting and its possible effects

Author (Year)	Coverage	Government	Choice/attitude	Economics
Abida (2012)		✓		
Aruguete (2009)			✓	
Boydstun, Glazier & Phillips (2013)		✓		
Delshad (2012)		✓		✓
Dreser et al.(2012)		✓		
Kiss (2013)	✓			
Krystin (2014)		✓		
Lancaste (2011)			✓	
Lei, Tien & McCombs. (2012)		✓		
McCombs (2012)		✓		
Mulligan & Habel (2011)		✓		
Ragas & Tran (2013)	✓			
Rodríguez & Antonio (2009)		✓		
Oakley (2009)		✓		
Olmos & Garrido (2011)			✓	
Yang & Liu (2012)	✓			✓
Zeng, Go & Kolmer (2011)	✓			

Delshad (2012) stated in the study that in the election year, the election year politics would affect the agendas' of the media, for example, the president and Congress, would drowned out the influence that they had on one another. And in study of Boydstun and the colleagues' (2013), it was found that in the president election in 2008 on Obama and McCain, three agenda control methods, including agenda setting, issue framing and tone were used in their debates. Moreover, the study found a positive relationship between agenda-control behaviors in debates and the elections.

Moreover, Abida (2012) analyzed that there were three types of relationships between media and foreign policy (manipulative and monolithic and advocative, adversarial and indifferent). The example could be found in Pakistani. For media of Pakistani, which were under strict government control, they had remained indifferent towards foreign policy for most of the time.

On the part of how people view the government, Lei and the colleagues (2012) found that there were significant network relationships between the media object agenda and the public object agenda. Furthermore, Rodríguez and Antonio (2009) also found that there were significant relationships between the media agenda and the public opinion orientation. The studies showed that the media agenda setting would affect the public's opinion towards the government.

Dreser, Vázquez-Vélez, Treviño, and Wirtz (2012) found that the amount of message which was the media coverage of an issue would help produce the political reality in the eyes of public. McCombs (2012) also proved that political attitudes would be affected by the agenda setting in media such as television, news, and social media. These two studies stated that the view points of the public could then be changed with agenda setting. In addition, according to Mulligan and Habe (2011), the fictional media could also affect the viewers' political attitudes.

Krystin (2014) analyzed the effect of crime news on the government. In the study, it was found the crime news would lower the citizen trust in government institutions as the crime news would influence

the support for authoritarian crime control, thus the degree of trust of the public towards the government would be lowered. What's more, according to the same studies, Krystin suggested that the exposure to crime news would also affect the degree of support for a presidential candidate who promotes the "iron fist policies", which is a hard-kill active protective system in Israel.

Moreover, in the study done by Rodríguez and Antonio (2009), it was found that the legalization of the action of the government, which was judged by the National Court, would be affected by the public opinion. Oakley (2009) also analyzed that the agenda-setting variables such as media attention and decisions made by the courts, would also affect the state's policy.

3.3 Choice/Attitude

Through agenda setting, media has shaped people's attitude towards certain issues, sometimes creating political discussions. Aruguete (2009) analyzes the news covering the privatization process of a telephone company and points out that mass media have a large influence on audiences by their choice of what stories to consider newsworthy.

Olmos & Garrido (2011) also stresses out the role of the media in constructing the public opinions and attitudes on immigration. The media has shaped people's perception of immigration as a threat with news framing negative profile of immigration like crimes and social integration policies.

Lancaster, et al. (2011) identified media's influence on individual and community attitudes towards risk by investigating media coverage of escalating heroin-related problems and proposed solutions. They found out that news covering escalating heroin-related problems generated interest in heroin overdose and brought out discussion on health and crime issues, affecting political debates.

3.4 Economic

Agenda setting on economic issues is influential to shape public opinion and draw government attention. Yang & Liu (2012) suggest that media shapes US public opinion and US foreign policy, promoting China as a threat economically, militarily and politically. Instead of reflecting China's steady growth, US media focus on China's economic peak to portray its increasing economic capabilities and influences to US, reinforcing the public opinion of "China threat".

It should be noted that exogenous variables of economic indicators may be understated. Delshad (2012) examines agenda settings on bio-fuel which in a certain extent influence media, the Congress, and presidential election, to illustrate the importance of exogenous agenda-setting variables. He suggests corn prices being an economic indicator of general food prices as well as bio-fuels addressed in the president's agenda with broad public appeal.

4. Discussion

4.1 Key Findings

There are three major findings in this research paper that are worthy to be highlighted.

1. Media set the agenda and shaped the importance of certain news, not only affecting governments' decisions and policies, it also guide people's attitude and trust towards government.
2. Media agenda setting would shape people's perceptions and interest towards certain social issues that media set them as "important".
3. Government and people's attentions would be drawn by agenda setting of specific sides of economic news, and their attitudes might be altered after then.

4.2 Effect and Strength Media Convey through Agenda Setting

Independent variables refer to variables that will affect the result of the dependent variable. In this research paper, the independent variable is the effect and strength media convey through agenda setting. We identified four dependent variables through our research work, that is effect on people's trust toward government, people's choices and attitude towards social issues and their choices of what story to consider newsworthy, how a country's economic status was being sculptured and described, together with the variable of media coverage. We seek to find out whether media's agenda setting affect these four dependent variables, and try to figure out how agenda setting affect them.

4.3 Theoretical contribution

Compared with prior literature and prior model, this study extends agenda setting model with two new angels. First, unlike the past, people always think that only government uses agenda setting tactics as tools to shape people's opinions towards certain issues, this paper states that, agenda setting also make government aware of what the public thinks is the major opinions, thus affect government's actions when they make decisions. Apart from that, this paper also stated that, indeed not only highlighting the importance of political news can affect people's attitude, shaping importance of specific sides of economic news can also alter people's point of view

4.4 Further Studies

Since social media like Facebook or Twitter gained popularity in the entire world and become one of the major media and cultural diffusion platform, it is essential that we put our focus on their effect on public. It is worthy to investigate issues like, whether the massive use of social media indeed weaken the traditional agenda setting effect of media, since news and information were coming from different channels instead of some traditional leading media enterprises; and somehow audiences "get used to" the "habitat" of Internet world, that the trustworthiness of information on Internet are lower. People knew that they cannot simply believe all things that media told them, they learned to choose in the Social Media World.

4.5 Limitations

Though we found out the independent variable, that is the effect and strength media convey through agenda setting might affect the dependent variables, that is government policies and people's attitudes and choices, we realized that in real life, media is totally not the only variable that affect the dependent variables, for example the governments' judgments and decisions. Therefore, we can only state that there might be correlations between IV and DV, yet we cannot prove the degree of correlations between them, and not to mention proving whether they are causally related.

4.6 Conclusion

By reviewing previous studies in recent years, this study is important in summarizing the factors affecting the agenda setting theory. Through this research, we identified the following factors that affect agenda setting: media coverage, government, choice and economy, that, in turn, affect people in shaping their political reality.

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Media and Information Literacy among Macau University Students: An Initial Study

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Abstract: Recent research has emphasized the importance of media and information literacy among university undergraduate and graduate students with respect to the high demand on these critical thinking skills. The current study extended three scales for measuring these two literacies, including the Media Literacy Self-assessment Scale, the Competence Information Literacy Questionnaire, and the UNESCO Information Literacy Lifecycle, into Chinese culture with a Macau sample. The aims were to investigate the self-perception of these literacies of students from University of Macau, and the factors that may influence these self-perceptions. Result revealed that: first, gender has no effect on the level of media and information literacy; second, participants who own digital devices tended to have higher self-perceived score on media literacy; and third, participants at Master's Year 2 level showed significantly higher self-perceived scores on the UNESCO information literacy lifecycle. Findings from this study help educators and school policy makers to gain insights on the way to enhance students' media and information literacy in the 21st century and therefore, in the future.

Keywords: media literacy, information literacy, Macau students

1. Introduction

Information and communication technology (ICT) has made great amount of changes on the ways people obtain, perceive, analyze and evaluate information and knowledge since the last few decades. Rafique (2014) suggested a continuous power of ICT in influencing future learning processes. These processes can be either explicit or implicit, for example, students may actively and spontaneously search through searching engine; or they passively and unconsciously gain through social media, advertisement, and others. Information and media technologies have their advantages in integrating knowledge as well as crafting knowledge platform. Problems arise, however, when these technologies were not adopted appropriately, which would cause disadvantages (Chang, Liu, Lee, Chen, Hu, & Lin, 2011). As a result, academics and practitioners emphasized the ability to have relevant literacies (i.e. information literacy), simultaneously when students are searching for information they need (Aharony & Bronstein, 2014; Chang et al., 2011; Sidekli, 2013). Through these processes of searching for information, students are able to relate newly obtained knowledge with their existing knowledge, and

further use it to achieve desired consequences. Students utilize information properly as they understand and appreciate it, such that they would avoid plagiarism and violating copyrights (Aharony & Bronstein, 2014). Moreover, students with information literacy are capable of judging the reliability of the sources of knowledge and the information in itself (Rafique, 2014). In short, information literacy is essential to be alongside with the process of seeking information and knowledge through information technology and media technology. In this vein, researchers have identified the ability to inspect, judge, and comprehend information and content (Covington, 2004).

Information literacy was identified as students' ability to distinguish, locate, assess, arrange, generate, utilize, and transfer information efficiently so as to resolve the identified problems or concerns (Aharony & Bronstein, 2014). Information literacy is essential as individual takes part effectively in the information rich society today, and it forms the bases for lifelong learning process (United Nations Educational, Scientific and Cultural Organization, UNESCO, 2005, as cite in Rafique, 2014). Media literacy is a branch subordinate to information literacy, and is defined as the ability to uncover, to choose, interpret, determine, and convey through different types of media (Kuiper, Volman, & Terwel, 2009).

The importance of information literacy and media literacy has been identified and stressed by educational researchers in many different countries. Among these researches, a great amount of them were from Western and developed society (Dorner & Gorman, 2006). Consequently, the condition in Eastern and developing society worth to gain more attention, so as to uncover the present stage of development for Eastern students' information literacy and media literacy, their self-perception, and the like. Hence, the current study aimed to examine these issues based on the condition in Macau, with Eastern and Western cultural elements merged together. In addition, Macau is currently placing a lot of emphases on research development, so as to integrate into the global communities. Data and evidence are highly treasurable as it helps to reveal, recognize, and evaluate the strengths and weaknesses of the current education system. Noticing these issues, University of Macau is the major higher educational institution that intents to groom future researchers and educators. Regarding this, the perceptions of students in the University of Macau in terms of information literacy and media literacy are significant and important. Besides, stepping into the new century that technology has been embedded into every life in education, media literacy, and thus information literacy as its superordinate component, has been recognized by Partnership for 21st century skills as one of the indispensable skills required for gaining and transmitting knowledge in the 21st century (Jenkins, 2009).

There are several purposes for the current study: first, to validate the three scales using sample from the University of Macau, and extend it to the Macau University student population; second, to assess the level of self-perception of students in University of Macau toward media and information literacy; third, to examine the effect of different demographic data of students on media and information literacy; and forth, to examine the extent to which the differences on media and information literacy self-perception scores between graduate students and undergraduate students.

2. Literature Review

In the past few years, a number of research has been conducted with respect to the gender difference of information, communication, media literacies, and the like. Notwithstanding that some of these research concluded significant gender differences in terms of the computer self-efficacy and other ICT related attitudes, some more recent research suggested that the gender effect does not exist.

Usluel (2007) and Volman (1997) have conducted research and suggested the gender differences in terms of information and computer literacy. Usluel (2007) examined student teacher's grade level and length of using ICT, and how these variables account for information literacy self-efficacy. Self-efficacy, as a construct that measures self-perceived competence, was defined as the extent to which individuals evaluate their own capacities necessary for arranging and implementing actions for the purpose of accomplishing a desired behavior as a goal (Bandura, 1977). Self-efficacy has been

studied and associated to students' academic achievement, motivation, and many other important outcomes (Anderson, Greene, & Loewen, 1988; Ross, 1992; Woolfolk & Hoy, 1990). In her study, Usluel (2007) found significant gender difference regarding males' and females' ICT attitudes and competence. Female participants have indicated higher level of technical skills with ICTs, such as analyzing and evaluating, crediting sources, and obtaining information; while male indicated higher competence in building necessary techniques to reach and obtain those information. Similarly, Volman (1997) has found that male participants showed higher level of enjoyment, relevance, and competence with regard to computer and information literacies; whereas female participants have indicated higher level of anxiety.

Previously, researchers who found the significant difference between male and female in terms of their ICT literacies self-perceived proficiencies tend to attribute it to the differences in terms of the purposes among male and female. Male, in the old days, insert more effort to expert ICT, such that they explore computer use, write codes, and so on. Female, on the other hand, tend to use ICT when they have to; most of them in the old days perceived it was just a tool (Volman, 1997). Yet, things have changed ever since. Male and female tended to choose occupation with different natures in the old days; but for now, they have almost equal chances to obtain ICT literacies, so as to enter the same kinds of occupations. These moves result in changes in terms of self-perceived competence of male and female in information, computer, and media literacies. Male and female now tends to show no difference with respect to their ICT literacies and relative literacies, such as information and media literacy.

More recent research, however, suggested non-significant gender difference in terms of computer attitudes and ICT literacies. Shapka and Ferrari (2003) investigated the relationship between pre-service teachers' computer related attitudes and literacies and tasks performance. Computer related attitudes can be referred to teachers' self-beliefs and self-efficacy. Tasks performance, on the other hand, referred to teachers' search behaviors and actions. They found the results showing non-significant gender difference. In the same vein, Teo (2006; 2008a; 2008b) has found no gender differences in terms of these attitudes. Teo has conducted study to investigate Asian students' and pre-service teachers' computer related attitudes, such as perceived control, perceived usefulness, computer enjoyment, computer anxiety, and so on. All results from these three studies revealed that there were no significant differences between male and female in terms of these variables (Teo, 2006; 2008a; 2008b). As media and information literacy can be regarded as the subordinate elements of computer attitudes, it was hypothesized in the current study that gender will have no effect on self-perceived media and information literacy.

> H1: Students with different gender will show no statistical differences in terms of their self-perceived score on media and information literacy.

Other than gender differences, pervious research suggested that student participants with advanced ICT usage, compared to the beginner level, showed higher level of information literacy self-efficacy. In addition, degree of information literacy self-efficacy also rises alongside with the longer duration of ICT use (Usluel, 2007). As students own technological devices, they will have more chances to access to media and ICT. As a result, they may perceive themselves as being more skillful and proficient in media and information literacy. As such, it was hypothesized that students with various kinds of digital devices will, compared to those who do not own, show higher level of self-perceived competence with respect to their media and information literacy.

> H2: Students who own difference kinds of technological devices (i.e. desktop and laptop computer, cellphone, and digital device) will have higher self-perceived score on media and information literacy.

Further, as Kurbanoglu (2003) and Usluel (2007) claimed, self-beliefs about information and computer literacy increase as students step into higher study grade. Kurbanoglu (2003) studied undergraduate students in their second, third, and final-year. Result showed that final-year students demonstrated higher perceived score for information literacy self-efficacy. Usluel (2007) has found results in a similar way. She found that students showed significant increases in their self-perception about building

ICT strategies and crediting ICT sources as their study levels rise. It is possible that students tend to have more actual use of ICT as their study level increase. This tendency may be even steeper as students step into the graduate study levels, which provide students with more chances to access literatures and conduct researches. Graduate students tend to have more chances to work on gathering information and academic resources; consequently, they also have more chances to access media and internet, resulting in higher self-perceived score. Thus, the third hypothesis in the current study was as following:

> H3:   Students who are studying in the graduate level will have higher self-perceived scores on media and information literacy.

3. Method

3.1 Sample

The current study was conducted by surveying students from the University of Macau, about their perceptions of information and media literacy. A total number of 250 students, including undergraduate and Master students who were studying in the University of Macau during the academic year 2014/2015, were involved in the data collection process. Students were from Bachelor degree program and Master program in 26 different majors: Psychology, Education, Engineering, and etc. Among the participants, 185 (74.6%) were female while 63 (25.4%) were male. These students, except those who refused to declare (N = 3), have age ranged from 17 to 39. All undergraduate students and part of the Master students were born as the Digital Natives, which means they were born after the year of 1985, and were born and grown up with the exposure of technology in their everyday life (Selwyn, 2009). As a result, participants in the current study were expected to frequently access information through internet, media, and other sources as well. They were expected to have well developed ICT skills. Besides, as students graduated and enroll into graduate programme (i.e. Master and PhD programme), they would have more chances to search and gather information from various sources compared to undergraduate students. As such, graduate students tend to have more skilful and proficient media and information literacy when compared to undergraduate students. Among all participants, 5 within the 250 cases were excluded concerning the outlier detection problem.

3.2 Procedure

Paper-based and web-based surveys were adopted for the data collection process of this study. Respondents were students enrolled in 12 different Educational courses given by the Faculty of Education. The students were invited to voluntarily participate in the study by finishing a 10 minutes survey under the administration of the research assistant. All of these processes were conducted during the end of the classes. Students who reserved to fill in the survey in front of the research assistant were invited to finish the web-based version of the survey. For both paper-based and web-based survey, research assistant has provided clear instructions, including the nature and purposes of the study, the estimated responses time, the confidentiality of the data collected, the voluntary nature of the participation, respondents' right of refusing to answer reluctant questions, and their right to withdrawn from the study at any moment. Respondents were also informed about the fact that the current study was totally separated from the courses they were taking, so that their refusing to participant would not result in any deduction of their course grade.

3.3 Measures

Survey research method was employed for the data collection in the current study. The first section was demographic data. Respondents were asked to self-report their gender, age, study level, major, and whether they have ever owned typical types kinds of ICT devices. For the second, third, and forth section, instruments from previous studies were modified and translated to be reasonable for respondents in the current study so as to ensure the instruments were appropriate for the current research setting. All survey questions were translated into traditional Chinese, while presented parallel in

English. Expert in technological educational research were employed to check the appropriateness and accuracy of the translated items. Finally, suggestions and improvements were made, and the questionnaires were revised and refined before starting the survey process.

Three instruments were adopted, including the Media Literacy Self-assessment Scale (MLSS) from Chang et al. (2011) for measuring students' self-perceived media literacy; the Competence Information Literacy Questionnaire (CILQ) from Aharony and Bronstein (2014), and the scale that was used in Rafique's (2014) study which was designed in a way to capture the eleven stages of the UNESCO Information Literacy Lifecycle (UNESCO-ILL) for measuring students' self-perceived information literacy. Among the three instruments, some items were modified so as to present participants with definite questions or items. All questions were presented in both Chinese and English.

The MLSS were developed by Chang et al. (2011) with 13 items. Example items include "I can understand how to operate media". The alpha value reported by Chang et al. (2011) was 0.9, and all the factor loadings in each factor were from 0.5 and above.

The CILQ was developed by Aharony and Bronstein (2014) with 10 items in total. An example items is "Recognize their information needs". Cronbach's alpha value reported by Aharony and Bronstein (2014) was 0.85. In order to present subjects in the current study with clearer concept and understanding, the item "understand the issues of plagiarism and copyrights" was separated into two individual items.

The third scale was developed by Rafique (2014), in which the aim is to capture the eleven stages of the UNESCO-ILL. There are totally 13 items in the scale, including "I am able to organize, analyze, interpret and evaluate information". For this scale, neither specific factor loadings nor alpha value was reported by Rafique (2014). In order to ensure that the participants in the present study understand the questions well, two items, namely, "I am able to organize, analyze, interpret and evaluate information", and "I am able to preserve, store, reuse, record and archive information" were separated into 8 individual items.

All three scales in the current study were measured in a 7-point likert scale, from 1 "strongly disagree" to 7 "strongly agree".

4. Result

The descriptive statistics for each of the three scales were shown in Table 1. The means for all three scales were moderate to high, which has shown that participants perceived themselves as having fair to good media literacy and information literacy. In addition, SDs for all three scales were low, which indicated that the spread of the participants' responses in the current study were not scatted. The three scales were highly correlated, in which the MLSS was highly correlated with the CILQ, r = 0.70, and was highly correlated with the UNESCO- ILL, r = 0.72; the CILQ, on the other hand, was also highly correlated with the UNESCO-ILL, r = 0.80. Internal consistency for the three scales were assessed using Cronbach's alpha coefficient reliability analysis, and the results have shown that all these three scales were highly reliable, with α equal to 0.91, 0.90, and 0.95 for MLSS, CILQ, and UNESCO-ILL, respectively. Overall skewness and kurtosis indexes for the three scales and individual items were also in the acceptable ranges, meaning that it ranged from -0.33 to -0.09 for skewness, and from -0.37 to -0.16 for kurtosis. Items within each scale also result in acceptable skewness and kurtosis indexes. For MLSS, skewness indexes for all items fall within the range of -0.78 to -0.31; kurtosis indexes fall within -0.54 to 0.43. For CILQ, skewness indexes for all items fall within the range of -0.66 to -0.14; kurtosis indexes fall within -0.49 to 0.89. For UNESCO-ILL, skewness indexes for all items fall within the range of -0.58 to 0.08; kurtosis indexes fall within -0.53 to 0.38. All SDs of skewness and kurtosis are low, ranged from 0.16 to 0.31. These values indicated that data of the current study can be regarded as distributing in an acceptable distribution; as skewness and kurtosis indices should fall within ⌊3⌋ and ⌊10⌋ in order to ensure that the data are distributing normally for further analyses (Kline, 2005).

4.1 Factor Analysis

Exploratory factor analysis (EFA) was conducted using principal axis factoring and promax rotation with the sample in the current study (N = 246). In order to run an EFA, a sample of 200 or more cases was suggested (Hair, Black, Babin, Anderson, & Tatham, 2006). Therefore, the sample size for the present study was acceptable for conducting an EFA. The Kaiser-Meyer-Olkin (KMO) value ranged from 0.91 to 0.93, revealing an adequate level of common variance within each of the three scales. For MLSS, two factors had eigenvalues greater than 1, and they accounted for 47.64% and 6.11% of the total variance. All factor loadings for the items were higher than 0.51 except item 6 "I can discuss with others the content that media display. Different from findings of Chang and colleagues' (2011) study, the present study found a different two-factor structure. One of the items (i.e. item 3) that was previously suggested to load on the factor "media communication and ethics", was loading on another factor according to the present result. Accordingly, the first factor was named as "understanding and learning with media", and the second factor was "media communication and ethics" (See Table 2).

The factor structures of CILQ and UNESCO-ILL have not been examined by previous studies conducted by Aharony and Bronstein (2014) and Rafique (2014). For CILQ, two factors had eigenvalues greater than 1, and they have accounted for 47.47% and 6.49% of the total variance. Accordingly, the first factor was named as "learning and interpreting information" and the second factor was named as "respecting information ethics". All factor loadings for the items were higher than or equal to 0.50 except item 4, "form specific queries concerning my information needs", with factor loading of 0.41 (See Table 3). For UNESCO-ILL, four factors had eigenvalues greater than 1, accounted for 51.10%, 6.50%, 4.98%, and 3.57% of the total variance. The four factors were identified as "accessing and utilizing information", "storing information", "handling information", and "disposing information". All items have factor loadings higher than or equal to 0.50, except 3 items, "I am able to determine the existence of needed information or not", "I am able to evaluate reliability of information and its resources", and "I am able to realize that a need or problem exists that requires information", with factor loading of 0.44, 0.41, and 0.43, respectively (See Table 4).

4.2 Participants' Ownership of Technological Devices

Among 246 valid cases, 190 participants have even own desktop computers, 223 of them have even own laptop computers, all of them own cellphones, and 182 of them own digital devices, such as iPad or Galaxy Tab. Result of the Pearson Chi-Square test revealed that gender differences have no effect on the technological devices ownership except for laptop ownership, $\chi^2(1) = 7.46$, $p = .006$ (See Table 5).

4.3 Gender and Devices Ownership in Relation to Media and Information Literacy

Independent sample T-tests were conducted and results showed that among all the categorical variables, namely gender, desktop, laptop, handphone, and digital device ownership, only digital device owndership has significant association with the mean score of MLSS, but not CILQ and UNESCO-ILL. The first hypothesis was, therefore, supported. For the third hypothesis, participants who owned a digital device (M = 5.15, SE = 0.06) showed significantly higher self-perceived media literacy score than those who did not (M = 4.88, SE = 0.11), t (243) = 2.34, p = .01 (one-tailed). The third hypothesis was partly supported, in the way that students who own digital devices showed significant higher media literacy self-perception score compared to those who do not.

4.4 Study Level in Relation to Media and Information Literacy

One-way ANOVA were conducted and the result showed that study level was associated with the mean score of UNESCO-ILL. Result showed a significant effect of study level on the score of UNESCO-ILL of participants, F (5, 238) = 2.42, p = 0.04. Follow-up planned contrast comparisons were conducted to compare between the scores from Master students and students of other levels. Result revealed that information literacy self-perceived scores were significantly higher for the Master's Year 2 students ($M6 = 5.49$, $SE6 = 0.20$) than for any other groups ($M1 = 4.80$, $SE1 = 0.16$; $M2 = 5.23$, $SE2 = 0.17$; M3

=4.98, SE3 =0.08; M4 =4.90, SE4 = 0.11; M5 =5.16, SE5 = 0.10), t (238) = 2.37, p = .009 (one-tailed). Furthermore, Master's Year 2 students also have significantly higher self-perceived information literacy scores (M6 = 5.49, SE6 = 0.20) than for Undergraduate Year 1 students (M1 =4.80, SE1 =0.16), t (238) = 2.71, p = .004 (one-tailed). In addition to this, Furthermore, Master's Year 2 students also have significantly higher self-perceived information literacy scores (M6 = 5.49, SE6 = 0.20) than for Undergraduate Year 4 students (M4 =4.90, SE4 =0.11), t (238) = 2.58, p = .006 (one-tailed). Thus, the second hypothesis was also supported.

5. Discussion and Conclusion

Three major findings were concluded from the current study. First, gender created no difference in terms of participants' self-perceived media and information literacy; second, ownership of digital devices has a strong association with the self-perceived media literacy of participants; and third, Master's Year 2 students perceived significantly higher information literacy compared to those at the undergraduate level.

Despite the fact that some researchers claimed the differences of ICT attitude in relation to gender (Houtz & Gupta, 2001; Markauskaite, 2006), pervious literatures have provided evidence to show that there is no gender difference in these computer attitudes (Teo, 2006; 2008a; 2008b). The results of the current study arrived in the same conclusion. Among three scales that measured media and information literacy, no gender differences was found in terms of the mean scores. This can be due to the condition that male and female students have equal degree of chances to access and utilize ICT, information, and media, so as to obtain any kinds of information they are interested in. Given these equal chances, it was expected that there would be no gender difference.

In addition to this finding, this research has also provided evidences to prove that ownership of digital devices, such as iPad and Galaxy Tab, may result in higher self-perceived media literacy. Reasons can be due to fact that digital devices are special mediator to collect information from media sources, such as YouTube; or that digital devices per se can already been perceived as a kind of multi-media devices. Last but not least, another important finding of the present study is that Master's Year 2 students perceived themselves as more proficient in terms of the eleven stages of information literacy proposed by UNESCO. Most of the Master students are preparing and conducting their Master's Thesis starting from the second year, leading to the condition that Master's Year 2 students will have far more chances to gather and collect information from ICT sources. Besides, they will also be more familiar with the way to analyze, organize, and to interpret information, as they tend to be more aware of these issues alongside with their work on the Master's Thesis. However, these also revealed that schools and Universities may need to put more emphases on cultivating students at the other levels, such as students from the undergraduate level, with these abilities.

6. Limitations and Future Directions

One limitation of the present study is that the results and conclusions were largely based on self-report information and media literacy. This limitation, however, is common and inevitable in almost every research which involves investigation of self-beliefs and self-perceived proficiencies. As Chan (2009) suggested, self-beliefs as latent constructs may not convert into indicators that are observable. Asking participants for their perceived proficiencies, on the other hand, is one of the aims of the current study. Although judgments based on self-report could be sometimes unreliable, Ciarrochi, Deane, and Anderson (2002) claimed that people evaluate their own abilities during the process of filling in self-report surveys. This would, in turn, require participants to consciously recall the cognitive process through which they experienced. Self-perceived proficiencies were thus revealed through the evaluation of these cognitive processes of information and media literacy. Future research may consider developing instruments that can objectively assess individuals' level of information and media literacy, such that these instruments may require participants to performance some kind of actions or behaviors.

Another potential limitation is that the participants may practically reflect various levels of features that digital datives may have. As was mentioned at the beginning of the article, digital natives are expected to have higher level of readiness in terms of ICT skills. However, it should not be taken for granted that every person who born after 1985 was "born digital" (Teo, 2013). People would have different levels of exposure towards technology or even ICT, which might also have an effect of people's self-perceived proficiencies of information and media literacy. This warrants future research.

Information and media literacy are significant and important skills that all university students and academics are required to have for their academic works, such that they are able to search for various resources, design and conduct researches, invent and explore new knowledge. Educational and technological researchers have identified the disadvantages of internet and media, in a way that students may have obtained false information from different channels and types of sources, therefore critical thinking skills involving in these processes are necessary (Chang et al., 2011). With the findings from the current study, educational, technological researchers, and policy makers can gain better insights with respect to students' self-perceived proficiencies and other factors that may influence these self-perceived proficiencies. In sum, the ways of transforming knowledge have made huge progresses compared to decades ago. These progresses will continuously grow and improve in the next few years. Education, technology, and informational communication will squarely play a role that cannot be neglect in the 21st century. The demand of technology in education will complement with the traditional teaching methods, and the utilization of educational technology will be more widespread as one generation pass and then the next.

Appendix

Table 1. Descriptive statistics of the three scales
MLSS, media literacy self-assessment scale; CILQ, competence information literacy questionnaire; UNESCO-ILL, UNESCO-information literacy lifecycle.

Instrument	No. of items	Mean	Standard deviation	Skewness	Kurtosis
MLSS	13	5.08	0.82	-0.33	-0.16
CILQ	11	5.07	0.78	-0.20	-0.37
UNESCI-ILL	20	5.05	0.77	-0.09	-0.25

Table 2. Factor Loadings for the MLSS

No.	Item	Understanding and Learning with Technology	Media Communication and Ethics
1	I can understand different types of media (e.g. visual media, audio media) and their principles.	0.77	
2	I can understand how to operate media.	0.99	
3	I can understand the content that media convey.	0.67	
4	I can be familiar with the operational functions of media equipment to broadcast the learning content.	0.81	
5	I can use different media technologies to store/backup the content.	0.59	
6	I can discuss with others the content that media display.	0.47	
7	I can select appropriate media to edit the messages that I want to convey.	0.55	
8	I can use media to carry out daily learning.		0.64
9	I can use media appropriately to convey ideas (e.g. use a camera to record events).		0.87
10	I discuss the displayed contents of media with others.		0.68
11	I possess the accurate understanding of media use.		0.61
12	I can cherish and conserve media equipment.		0.56
13	I can comply with the intellectual property rights of media use.		0.58
		Eigenvalue	Cumulative %
Factor 1		6.61	50.85
Factor 2		1.32	60.98

Table 3. Factor Loadings for the CILQ

No.	Item	Learning and Interpreting Info.	Respecting Info. Ethics
1	Recognize my information needs.	0.54	
5	Develop and improve my written and oral communication skills.	0.45	
6	Recognize a variety of information resources.	0.71	
7	Apply high ordinary skills in my workplace and in my private life.	0.80.	
8	Compare different sources of information such as textbooks, databases, Internet . . .	0.76	
9	Relate between new information and existing knowledge.	0.69	
10	Judge information based on internal and external criteria.	0.65	
11	Choose the best strategies and techniques for my information needs.	0.75	
2	Understand the issues of copyrights.		0.91
3	Understand the issues of plagiarism.		0.82
4	Form specific queries concerning my information needs.		0.44
		Eigenvalue	Cumulative %
Factor 1		5.68	51.61
Factor 2		1.06	61.24

Table 4. Factor Loadings for the UNESCO-ILL

No.	Item	Accessing and Utilizing Info.	Storing Info.	Handling Info.	Disposing Info.
5	I am able to determine the existence of needed information or not.	0.44			
6	I am able to fully understand found information.	0.67			
7	I am able to accurately identify and define the information.	0.71			
8	I am able to find the needed information.	0.88			
9	I am able to communicate and present the information.	0.78			
10	I am able to evaluate reliability of information and its resources.	0.41			
11	I am able to utilize the information to resolve the problem.	0.67			
12	I am able to go for help to understand needed information.	0.57			
19	I am able to realize that a need or problem exists that requires information.	0.43			
20	I am able to create or cause to be created unavailable information that I need.	0.45			
15	I am able to preserve information.		0.87		
16	I am able to store information.		0.99		
17	I am able to reuse information.		0.72		
18	I am able to record and archive information.		0.68		
1	I am able to organize information.			0.69	
2	I am able to analyze information.			0.95	
3	I am able to interpret information.			0.83	
4	I am able to evaluate information.			0.85	
13	I am able to dispose of information no longer needed.				0.74
14	I am able to safeguard information no longer needed.				0.91

	Eigenvalue	Cumulative %
Factor 1	10.55	52.73
Factor 2	1.56	60.53
Factor 3	1.30	67.03
Factor 4	1.02	72.14

Table 5. Ownership of Different Kinds of ICT Devices by Female and Male

	Female				Male			
	Yes		No		Yes		No	
Different Kinds of ICT Devices	N	%	N	%	N	%	N	%
Desktop	139	76.4	43	23.6	51	81	12	19
Laptop[a]	171	94	11	6	52	82.5	11	17.5
Cellphone	182	100	0	0	63	100	0	0
Digital Devices	136	74.7	46	25.3	46	73	17	27

[a] Significant difference between female and male on ownership of laptop ($\chi^2 = 7.46$, df = 1, p = .006).

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Exploring News Reading Behavior in Hong Kong: Identification of Distinctive Reader Profiles

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Abstract: For both academics and media organization practitioners, news reading habit has always been a topic of concerns. Every time when there is a new communication technology evolved, news readers adopt the new technology and utilize its new functionalities to satisfy their needs. News reading habit also changes accordingly. In order to offer the best technologies to satisfy news readers' needs, it is important to understand their news reading habits. This study aims to explore news reading patterns. The research questions are: What do news readers choose to read? How do they access news media? Would there be any significant relationships between different media? Would there be any unique news readers' profiles to describe news consumption? This study has employed a survey instrument to collect respondents' news consumption behavior. Significant correlations are found among different news media. According to the patterns, four different news readers' profiles are identified, namely, Internet Readers, Loyal Readers, Economy Readers, and Educational Readers. Discussion and implications are offered in this chapter.

Keywords: News reading behavior, Printed newspaper, Internet news, Free newspaper

1. Introduction

News reading behavior has been a continuous concern to both academics and media organizations (e.g., Robinson, 1980; Tewksbury, 2003; Fortunati, Deuze, and Luca, 2014). Whenever there is a new form of mass media or an emerging technology, people will find new sources to satisfy their needs and expectations and accordingly shift their news reading behaviors. For example, researchers found different characteristics of news reading habits when they examined television (Robinson, 1980), free newspapers (Fortunati et al., 2014), the Internet (e.g., Tewksbury & Althaus, 2000; Tewksbury, 2003), and smartphones (e.g., Oulasvirta, Rattenbury, Ma, & Raita, 2012; Wei, Lo, Xu, Chen, & Zhang, 2014) as an emerging technology at the time of studies. Recent studies on the use of social media also pointed out the ever changing news reading behavior (Ma, Chu, Hui, & Chan, 2011; Ma & Chan, 2012; Ma, Lau, & Kho, 2014). Owing to this continuous concern, it is important that revolutionary technological changes are captured every time when they change, so as to better understand people's news reading behavior.

Television can be regarded as a revolutionary technological change in the last decade. For example, studies explored newspaper reading habits after the emergence of television. Robinson (1980) reviewed the changing reading habits of the public in the United States during the period 1946-1977. He found that readership of newspapers per capita declined: 66 percent in 1975, 63 percent in 1977, and 57 percent in 1978, and argued that television had become more adept than printing sources at providing news and other information to satisfy audience needs and expectations. Younger readers who, possibly were in lack of ability and were not interested in reading opted for television, a medium allowing watching news rather than reading it.

Stepping into the age of the Internet, news reading has been made possible through either traditional newspapers or online reading. Since then studies have started to compare reading habits of online readers and those traditional newspapers readers. Tewksbury and Althaus (2000), for instance, conducted a multi-day experiment comparing the differential effects of exposure to printed and online versions of the New York Times. They found that online readers appeared to have read fewer national, international, and political news stories and were less likely to recognize and recall events that occurred during the exposure period. They explained that Internet-based news reports provided fewer cues about the importance of news stories and gave readers more control over story selection. As a result, readers easily skipped or overlooked the selections from the more knowledgeable and experienced editors. Tewksbury (2003) further studied the effect of Web-based news outlets on readers' choice of topics in reading news. He found that, in general, online news readers chose to read public affairs news less frequently and remarked that the World Wide Web had provided readers with substantially more control over the news selection process than the traditional media.

Other studies also explored the characteristics of different age groups under the Internet age. For example, Diddi and LaRose (2006) examined news consumption among college students and they identified five distinctive patterns: hometown newspapers, comedy news, cable news, Internet news, and broadcast news. Their study also found that habit, surveillance and escapism gratifications were consistent predictors of news consumption behavior where habit was the most powerful predictor among them.

Going into the 21st Century, there was a sudden leap into the use of smartphone to access the Internet. News and information was acquired anytime, anywhere through media websites and smartphone Apps. For example, Oulasvirta et al. (2012) examined the use of smartphones and found that smartphones devices could induce readers to have a habit to check dynamic contents quickly accessible on the devices (p. 105). They described this checking habit as an annoyance rather than an addiction. They also thought that supporting habit-formation was an opportunity to make smartphones more personal and pervasive.

Why does the emergence of technologies lead to changes in news reading habits? You, Lee, Lee, and Kang (2013) investigated how online users' motivations, namely information-seeking, entertainment, and social utility, for reading online news would influence their online news usage and consumption in

South Korea. They found that in-depth reading mediated the association between the three motivations and reading online news. However, they did not find any mediating effects from interactions and source-checking. Wei et al. (2014) conducted a comparative study and found that college students' use of smartphones to read news and follow news posts on smartphones-accessible microblogs increased rapidly in Shanghai, Hong Kong, Singapore and Taiwan, but there were significant differences among respondents in these four cities. Press freedom was found negatively related to reading and following news via smartphones. Fortunati et al. (2014) studied news readership diversification on a national level. They compared written news, including printed and free newspapers, online and smartphones news services, in Italy, France, Spain, the United Kingdom (UK), and Germany, and identified a rich but volatile relationship between written news, audience behaviors, and community participation. Specifically, Spain was the leading country in the reading of printed, online and free newspapers. France stood in the second place in printed newspaper reading, and was also in a strong position with regard to free newspapers reading. Interestingly, France is the weakest as far as online newspaper reading was concerned. Italy was one of the earliest countries to provide smartphones news services and was at the state of being superior to all other countries in smartphones news. UK and Germany showed a strong presence in the reading of online newspapers, where UK was also strong in terms of free newspapers though less strong than Spain.

In summary, the literature review supports that news reading habit is a topic of continuous interests, especially with respect to the emergence of new technologies. It is therefore important to understand both new technologies and how they would impact news reading. With its recent evolution, social media has attracted significant number of active users (Facebook: Newsroom, 2014). For example, seeing the tremendous users' base, Facebook has launched a smartphones news-reading app, trying to change news reading from traditional media websites to social media platforms (Gross, 2014).

What is the present news reading habit? Would the emergence of social media impact the way people read and acquire news? The current study aims at exploring various news reading patterns and to identify, if any, unique readers' profiles. The research questions are:

RQ1:   What do news readers choose to read?
RQ2:   How do they access news media?
RQ3:   Are there any significant relationships between different media?
RQ4:   Would there be any unique news readers' profiles to describe news consumption?

2. Methodology

With the widespread use of smartphones devices among young adults and assuming that they are heavy Internet users, this study aimed to understand their news reading behavior. Questionnaires were distributed to 1,500 secondary school graduates who were enrolling at a local university in Hong Kong in 2014, and it took about five minutes to complete the questions therein. A total of 1,494 (99.6%) respondents completed and returned their questionnaires, and 94.1% of them are between 17 and 20 years old.

The questionnaire was divided into four parts. The first section listed all newspapers in Hong Kong, no matter whether they are in the printed format or whether they are free or paid newspapers, together with several most popular Internet-based news platforms. The second section contained a list of all television stations, radio broadcasting stations and the Cable TV, whilst the third and the last sections were respective lists of all major social media and all major social media activities in Hong Kong. Respondents were asked to self-report their usage and consumption over a scale, ranging from 1 (never) to 10 (every day or many times a day).

3. Findings

3.1 Descriptive Statistics of Respondents

This study investigated among 493 male (33%) and 1,000 females (67%). Respondents are mainly 17-20 years old (1,401 persons; 94.1%), with a distribution as follows: 17 years old (374; 25.1%), 18 (684; 45.9%), 19 (223 people; 15%), 20 (120; 8.1%), and the remaining majority ranged from 21-32 (88; 5.9%), with an overall average age of 18.28. One respondent did not respond to the question about sex, and five did not answer their age.

3.2 Descriptive Statistics of News Reading Consumption

Respondents were asked to self-report their news reading habits from 1 (never) to 10 (every day or many times a day) from the questionnaire comprising 14 paid newspapers, six free newspapers, and five network news media. The results showed that they got news from multiple sources. The most popular one was "Yahoo! News (smartphones access)" (M=6.27, SD=2.805), the second was "Next Media Animation (smartphones access)" (M=6.09, SD=2.858), followed by "Apple Daily website or App (smartphones access)" (M=5.82, SD=2.875). Apple Daily, Headline Daily, and South China Morning Post were the most popular printed newspapers (Table 1).

As far as television channels and radios are concerned, the respondents got access to news most often through television broadcasting, namely the "TVB" (M=7.66, SD=2.348) and "TVB iNews" (M=6.78, SD=2.901). The third position was "RTHK" (M=4.62, SD=2.719), a radio broadcaster, followed by "Commercial Radio Hong Kong", "Metro Radio Hong Kong", "Cable TV", "Now TV", "ATV", "DBC", "Phoenix Satellite Television" and "Hong Kong Broadband TV" (Table 2).

3.3 Social Media and the Usage Behavior

The more common social media were listed in the questionnaire and respondents were asked to self-report their usage, ranged from 1 (never) to 10 (every day or many times a day). It showed that the most commonly used social media were "Whatsapp" (M=9.19, SD=1.727), "Facebook" (M=8.39, SD=2.078), and "Youtube" (M=8.28, SD=2.034). The other social media are ranked as follows: "Instagram", "Yahoo!", "Google +", "Line", "Wechat", "Sina Weibo", "Twitter", "Weixin (micro-channel)", "Tumblr", "Pinterest" and "LinkedIn" (Table 3).

3.4 News Reading Profiles

With the survey results, the authors have analyzed the significant correlations between the usage of newspapers, televisions, radios, and social media and tried to identify any reading patterns to explain the readers' reading habit. Significant correlation coefficient is used to calculate the probability of reaching a certain standard to display association with an increased or decreased change which is not generated by the random chance ($p < .05$ or $p < .01$). However, even if there is significant correlation between high and low points of value in a survey, somewhere between -1 and 1 where 0 refers to for increasing or decreasing the changes completely non-related, and 1 refers to an increase or decrease of the changes exactly. The following analysis reported significant correlated items ($p < .01$) with a high correlation coefficients ($> .4$).

It is found that there is no significant and high correlation between news media and social media usage. If social media are excluded, further analyses of high and significant correlated items among news media lead to the identification of four different patterns, namely, Internet Readers; Loyal Readers; Economy Readers; and Educational Readers.

Table 1. Respondents' usage of newspapers and Internet news media

Newspaper and Internet news	*M*	*SD*
Yahoo! News (smartphones access)	6.27	2.805
Apple Daily Action News (smartphones access)	6.09	2.858
Apple Daily website or App (smartphones access)	5.82	2.875
Apple Daily	5.12	2.789
Headline News	4.77	2.699
South China Morning Post (SCMP)	4.76	2.397
Sing Tao Daily	4.68	2.593
MyTV (smartphones access)	4.45	2.833
Ming Pao	4.36	2.269
am730	3.84	2.591
Metropolis Daily	3.71	2.582
Oriental Daily	3.71	2.645
Hong Kong Standard	3.52	2.524
SCMP website or App (smartphones access)	3.41	2.505
Sing Tao website or App (smartphones access)	3.34	2.587
Ming Pao website or App (smartphones access)	3.32	2.398
on.tv (smartphones access)	3.29	2.603
Sky Post	3.27	2.456
Headline News website or App (smartphones access)	3.12	2.579
Sun	2.88	2.241
Oriental Daily website or App (smartphones access)	2.80	2.367
Hong Kong Economic Times	2.75	2.198
Hong Kong Standard website or App (smartphones access)	2.74	2.358
Sun website or App (smartphones access)	2.53	2.160
Wen Wei Po	2.48	1.894
am730 website or App (smartphones access)	2.48	2.221
Metropolis Daily website or App (smartphones access)	2.47	2.113
Sky Post website or App (smartphones access)	2.31	2.060
Wen Wei Po website or App (smartphones access)	2.26	1.956
Hong Kong Economic Journal	2.20	1.941
Hong Kong Economic Times website or App (smartphones access)	2.19	1.922
Hong Kong Daily News	2.06	1.691
Sing Pao Daily News	2.06	1.716
Ta Kung Pao	2.05	1.652
Ta Kung Pao or App (smartphones access)	1.97	1.682
Hong Kong Economic Journal website or App (smartphones access)	1.94	1.791
Hong Kong Daily News website or App (smartphones access)	1.90	1.609
Sing Pao Daily News website or App (smartphones access)	1.87	1.605
Hong Kong Commercial Daily	1.79	1.483
Hong Kong Commercial Daily website or App (smartphones access)	1.73	1.452
Good News	1.62	1.376
Good News website or App (smartphones access)	1.55	1.286
China Daily (HK)	1.53	1.298
China Daily (HK) website or App (smartphones access)	1.47	1.220

3.4.1 Internet Reader Profile

The results show that the firstly ranked "Yahoo! News (smartphones access)" and all the other newspapers and online news media have an important correlation (p <.01), but the correlation values were low; and significant correlation values higher than .4 were: "MyTV (smartphones access)" (.452, p <.01), "on.tv (smartphones access)" (.428, p <.01), "Apple Daily Action News (smartphones access) "(.412, p <.01)." However, "Apple Daily Action News" was only correlated with "Yahoo! News" but not correlated with others, it was dropped in further analysis (Table 4).

Table 2. Summary of TV and Radio Broadcasting usage of respondents (Ranking according to usage)

TV and radio broadcasting	*M*	*SD*
Television Broadcasts Ltd. (TVB)	7.66	2.348
TVB iNews	6.78	2.901
Radio Television Hong Kong (RTHK)	4.62	2.719
Commercial Radio Hong Kong (CRHK)	3.61	2.680
Metro Radio Hong Kong	2.95	2.351
Cable TV	2.80	2.503
now TV	2.80	2.545
Asia Television (aTV)	2.72	2.039
Digital Broadcasting Corporation (DBC)	2.40	2.093
Phoenix Satellite Television	1.90	1.700
Hong Kong Broad Band (bbTV)	1.74	1.549

Table 3. Summary of social media usage of respondents (Ranked according to usage)

Social Media	*M*	*SD*
Whatsapp	9.19	1.727
Facebook	8.39	2.078
Youtube	8.28	2.034
Instagram	7.40	3.12
Yahoo!	6.60	3.042
Google+	5.78	3.253
Line	5.35	3.178
Wechat	4.23	3.133
Sina Weibo	3.53	3.098
Twitter	3.01	2.577
Weixin	2.82	2.756
Tumblr	2.17	2.213
Pinterest	1.72	1.749
LinkedIn	1.70	1.655

Table 4. Internet Reader Profile – significant and high correlation coefficient items matrix

	Yahoo! News (smartphones access)	MyTV (smartphones access)	on.tv (smartphones access)
Yahoo! News (smartphones access)	1		
MyTV (smartphones access)	.452[**]	1	
on.tv (smartphones access)	.428[**]	.455[**]	1

3.4.2 Loyal Reader Profile

The second place of usage in the ranking was "Apple Daily Action News (smartphones access)" and the significant and highly correlated items were: "Apple Daily website or App (smartphones access)" (.688, p <.01) "Apple Daily" (.453, p <.01), "MyTV (smartphones access)" (. 452, p <.01), "on.tv (smartphones access)" (.428, p <. 01). Since "MyTV" was only correlated with "Apple Daily Action News" but not with others, and "on.tv" was correlated with "MyTV: but not correlated with others, "MyTV" and "on.tv" were dropped from this profile group before further analysis. The significant and high correlation results show that loyal readers of "Apple Daily" would buy a printed newspaper of "Apple Daily", access to the "Apple Daily website or smartphones App", and access to "Apple Daily Action News" by smartphone. Details are shown in Table 5.

Table 5. Loyal Reader Profile – significant and high correlation coefficient items matrix

	Apple Daily	Apple Daily (smartphones access)	Apple Daily Action News (smartphones access)
Apple Daily	1		
Apple Daily (smartphones access)	.549**	1	
Apple Daily Action News (smartphones access)	.453**	.688**	1

3.4.3 Economy Reader Profile

"Headline News" being in the fifth usage rank shows a completely different audience pattern, as it was associated with all the other free newspapers and their corresponding websites. It seemed that when readers got "Headline News", they also requested for other free newspapers including "am730", "Sky Post", or "Metropolis Daily". However, the data also showed that the respondents spent more time reading "Headline News" as illustrated by the finding that the average usage of "Headline News" was much higher than other free newspapers. When readers wish to get further information, the highly correlated items went to the corresponding free newspapers websites or Apps (Table 6).

Table 6. Economy Reader Profile – – significant and high correlation coefficient items matrix

	Headline News	Headline News (smartphones access)	am730	am730 (smartphones access)	Sky Post	Metropolis Daily
Headline News	1					
Headline News (smartphones access)	.488**	1				
am730	.565**		1			
am730 (smartphones access)		.588**	.546**	1		
Sky Post	.487**		.534**		1	
Metropolis Daily	.459**		.469**		.521**	1

3.4.4 Educational Reader Profile

In Hong Kong, owing to the existence of different political stances or the editorial styles, only a few newspapers would be able to attract schools and students to subscribe (Leung, 2003). The data showed that all those newspapers were highly and significantly correlated, including "Ming Pao", "Sing Tao Daily", "SCMP", and "Standard". "Ming Pao" and "Sing Tao Daily" were paid printed Chinese newspapers. "SCMP" was the major paid English newspaper. "Standard" was the free English newspaper. "Ming Pao" was highly correlated with "SCMP" (.488, $p < 0.01$) and "Sing Tao Daily" (.429, $p < 0.01$). There is another interesting observation. It appears to be a unique pattern that a newspaper was highly correlated with its own website through smartphones access only but not with other newspapers' websites. For example, "Ming Pao" with "Ming Pao website or smartphones App (smartphones access)" (.537, $p < 0.01$), "SCMP" with "SCMP (smartphones access)" (.548, $p < 0.01$), and "Sing Tao Daily" with "Sing Tao Daily (smartphones access)" (.624, $p < 0.01$). Also, among different newspapers' websites (smartphones access), they were all highly correlated, for instance, "Ming Pao (smartphones access)" with "SCMP (smartphones access)" (.471, $p < 0.01$), and "Ming Pao (smartphones access)" with "Sing Tao Daily (smartphones access)" (.468, $p < 0.01$) (Table 7).

4. Discussion

Literature review shows that news reading studies are important for the better understanding of readers. Previous studies reported changes in news reading behaviors whenever new technologies such as television and the Internet emerged, for instance. More recently, social media appear to become a new

source of news reading. The emerging smartphone technology also helps prepare readers to consume news at any place and at any time. In this study, four different readers' profiles are identified and the findings are supported by prior studies: Internet Reader Profile (Fortunati et al., 2014), Loyal Reader Profile (Diddi & LaRose, 2006), Economy Reader Profile (Fortunati et al., 2014), and Educational Reader Profile (Diddi & LaRose, 2006).

Table 7. Educational Reader Profile – significant and high correlation coefficient items matrix

	Ming Pao	Ming Pao (smart-phones access)	SCMP	SCMP (smart-phones access)	Sing Tao Daily	Sing Tao Daily (smart-phones access)	Standard	Standard (smart-phones access)
Ming Pao	1							
Ming Pao (smartphones access)	.537**	1						
SCMP	.488**		1					
SCMP (smartphones access)		.471**	.548**	1				
Sing Tao Daily	.429**		.449**		1			
Sing Tao Daily (smartphones access)		.468**		.483**	.624**	1		
Standard			.412**		.426**		1	
Standard (smartphones access)				.497**		.496**	.651**	1

4.1 Internet Reader Profile

With the above findings, we define in this study, "Internet Reader" as those readers who are tech-savvy and acquire news through various Internet based news platforms. The correlation data illustrate those smartphone news-oriented readers used to access Internet news through smartphone or other smartphones devices. This unique reader profile may highly be a result of the popularity of smartphones. Media websites or Apps also provide free news and information and it is very easy and convenient to obtain news through smartphones. It is because of the emergence of new media, smartphones news is developed and it brings more young people to care about news and social issues. In Hong Kong, smartphone technology is very popular that nearly all teenagers have their own smartphone. Through the use of smartphones, readers search and read news on the Internet. Internet news is updated very frequently to provide timely news, and hyperlinks help readers easily surf the Internet for news issues. People check and browse updated news and through hyperlinks and are able to cross reference and to read diverse viewpoints. Readers are also able to keep themselves updated at any time of the day. With the popularity of smartphones, smartphones news reading in Hong Kong has become a rising trend. People use smartphone Apps to read news anywhere, anytime. The ubiquitous use of smartphones for news reading helps solve the geographic restrictions. Thus, on this unique profile of readers, they access Internet news and enjoy the convenience and up-to-date news. In particular, in the use of "Yahoo! News (smartphones access)", readers have the habit of using the phone to access news but they are not limited to a single news media. They would tend to access to a number of different of sources on the Internet for news information. Today, the public download and install smartphones programs (Apps) in order to get convenient access to free news. If news organizations

accept this usage as a trend, they should start developing relevant strategies to attract these strata of readers.

4.2 Loyal Reader Profile

With the above findings, we define in this study, "Loyal Reader" refers to those readers who are loyal to a media organization or a group of media organizations which have clear political stances. In this profile, there are high correlations between "Apple Daily", "Apple Daily website or App (smartphones access)", and "Apple Daily Action News". Readers of this profile only read news from the same media, "Apple Daily", through its printed newspaper, website, and/or smartphones application. The brand loyalty here is very strong. It shows that once a newspaper has developed its unique identity and offers news to satisfy its readers' needs and expectation, readers would show their loyalty and commitment to the media. The data analysis illustrates this unique reading habit of the readers. Firstly, the correlation between "Apply Daily" and other newspapers and media is low. Readers reading news from "Apple Daily" will not likely read news through other news media. Secondly, when readers use the "Apple Daily website or smartphones application (App)", they will also read the "Apple Daily" printed newspaper (.549). Thirdly, when readers read the "Apple Daily Action News" through their smartphones, they will also read the "Apple Daily" printed newspaper (.453) and use the "Apple Daily website or App" (.688).

4.3 Economy Reader Profile

With the above findings, we define in this study, "Economy Reader" refers to those readers who are used to acquiring news through various economical means. In Hong Kong, there are four major free Chinese newspapers, namely "Headline News", "am730", "Metropolis Daily", and "Sky Post". When checking the usage data and the rankings, readers report that they spend more time reading "Headline Daily" than any other free newspapers. Data also show that all these four free newspapers are highly correlated. Specifically, "Headline News" and "am730" have significant and high correlation (.565). Readers of "Sky Post" and "Metropolis Daily" also read "Headline News", get access to "Headline News webpage or smartphones App", and read the printed format of "am730". This phenomenon may be explained by the widespread distribution of free newspapers. These free newspapers are usually distributed free of charge in the mornings in crowded spots like train and underground stations or busy districts. People will usually take one or more free newspapers and read them during the journey to, say, work or school. As the collection points of different free newspapers usually come close together, readers may collect different free newspapers simultaneously. Consequently and they may have a chance to read more than one newspaper. It also depends on the time available at the transportation that readers may need to decide their preference to spend the time on. When readers want to get further information from the free newspaper, they can use the QR codes on the newspapers to access websites or smartphones Apps of the free newspapers. Readers do not just read more details on the websites or via smartphones Apps, they are also able to watch multimedia content of the news stories, including texts, photos, sounds, animations and videos, etc. As a result, these websites and smartphones Apps have strong correlation with their affiliated printed newspaper, for example, readers who get news from "Headline News website or smartphones App" will also read "Headline News" (.488). Similarly, readers who access "am730 website or smartphones App" for news also read "am730" (.546) and visit "Headline News website and smartphones App", too (.588).

4.4 Educational Reader Profile

With the above findings, we define in this study, "Educational Reader" refers to those readers who acquire news from sources they are more familiar through their education development. In Hong Kong, schools treat newspaper as a source to understand society and improve generic knowledge. Schools encourage students to subscribe newspapers at schools, with significant discounts offered by the news organizations. For the benefits of students, schools normally help students to choose newspapers with more objective and neutral editorial and news writing styles. These newspapers, for example, Ming Pao and SCMP, are expected to be comparatively objective and neutral, readers choose reading them in a

hope of knowing the truth without any bias (The University of Hong Kong Libraries, 2014). Also, as these newspapers seldom carry pornographic messages or images in their reports, it is suitable for readers in different ages. Data from the current study show that "Ming Pao", "Sing Tao Daily", "SCMP" and "Standard" are highly correlated. Actually, they are also most popular newspapers that schools subscribe. Many schools select and subscribe these newspapers for their students, so as to build up their habit of reading news. They choose "South China Morning Post (SCMP)" and the "Standard" since they are the two major English-language newspapers of Hong Kong, student readers could learn English while absorbing the news content. They also choose "Ming Pao" and "Sing Tao Daily" as these two are expected to be comparatively objective in reporting skills. Readers select these newspaper based on educational purposes. The data analysis discussed above confirms this unique readers' profile.

Data also shows that most of these readers got access to news through both the printed format and its smartphones version of the newspapers: "Ming Pao" readers would only read "Ming Pao website and smartphones App" (.537); and most "Sing Tao Daily" readers would only access to its smartphones version (.624). These findings show the uniqueness, needs, and expectations of this readers' profile.

4.5 Academic and Practical Contribution

The current survey has captured various news reading behaviors by asking respondents the media they used to access news, including printed newspapers, Internet news websites, and smartphones Apps. The findings as reported in this chapter provide a better overview of young adults' news reading consumption and the relationships between different media.

This research has a practical contribution to the media industry. Media organizations have to understand their readers in order to provide better services. Or else, readers would leave. This study provides both an overview of all printed newspapers, televisions and broadcasting, Internet news, and social media in Hong Kong, as well as detailed analyses on the correlations among different news media.

4.6 Limitation and Further Studies

There are a number of limitations of this study. Firstly, the sample was a limited and specific group of respondents – confined to young adults who were going to be university students. The results may not be generalized and applied to the population of all news readers in Hong Kong. Secondly, the sample was not drawn from a random sampling procedure. The sample might be biased towards a confined scope of respondents. Thirdly, the analysis only shows the correlation patterns among news media. It is suggested that further researchers make use of other analyses to find out factors leading to these reading behavioural patterns. Further studies may also consider inclusion of determinants to predict news reading behaviors, rather than having news media as the only variable.

5. Conclusion

This study has timely captured the paradigm shift in how people read news. This should be a continuous research work as every emerging technology may impact people's consumption of news, and emergent readers' news behavior may appear. The four readers' profiles identified in the current survey will facilitate academics and media organization practitioners to have a better understanding of contemporary news reading behaviors.

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