

Using Sentiment Analysis to Understand Readers' Preferences

Raptor KWOK Yick Kan

Technological and Higher Education Institute of Hong Kong

Hong Kong

raptork@vtc.edu.hk

Abstract

Sentiment is a combination of word choice, tone of voice and writing style, which allows the same news to be described as either positive or negative. With the assistance of modern machine learning technology, Natural Language Processing (NLP) is the most effective method for sentiment analysis from natural language. Using NLP, positiveness of a news can be analyzed and provide an overview of tone and manner used. Using Sentiment Intensity Analyzer (SIA) of Python's Natural Language Toolkit to evaluate newspaper headlines and contents, the positiveness of the news can be uncovered. While the initial accuracy of the analyzer with default language database is approximately 80%, the accuracy of the sentiment analysis can be enhanced by supplying more training data, which are the news. By cross-referencing the view count of the news, it greatly facilitates journalists to learn about the likes and dislikes of readers. It is also particularly useful for webmasters of news portal to arrange personalized news feed for each reader by rearranging the news layout and display order according to their sentiment analysis results and reading history. While the initial work is limited to English news due to limitations of SIA, it is hoped that the system can be extended to other languages in future and offer opportunities for further work on reader preference analysis.

Methodology

The objective of the analysis is to fine tune news website layout, based on each reader's preferences. Analysis data is based on two sources: news popularity and Sentiment Index (SI) of the reader. News popularity is based on the click rate and social media popularity, including mentions, likes or shares on Facebook, Twitter and Pinterest platform. Sentiment Index is the emotional preference when reading news, which the Index is based on reader's reading history in the news website. When a reader visits the news website the first time, his/her Sentiment Index is neutral. If the same reader tends to prefer reading negative news, his/her SI will incline to negative end. Then we analyze news headlines and contents from the news feed. After feeding the data into the Sentiment Intensity Analyzer (SIA), article positiveness is revealed, with the result ranging from -1 (extremely negative) to +1 (extremely positive). By cross-referencing the news popularity, Sentiment Index and positiveness of the news, news display order can be rearranged to show the news most appealing to the reader in the most prominent position.

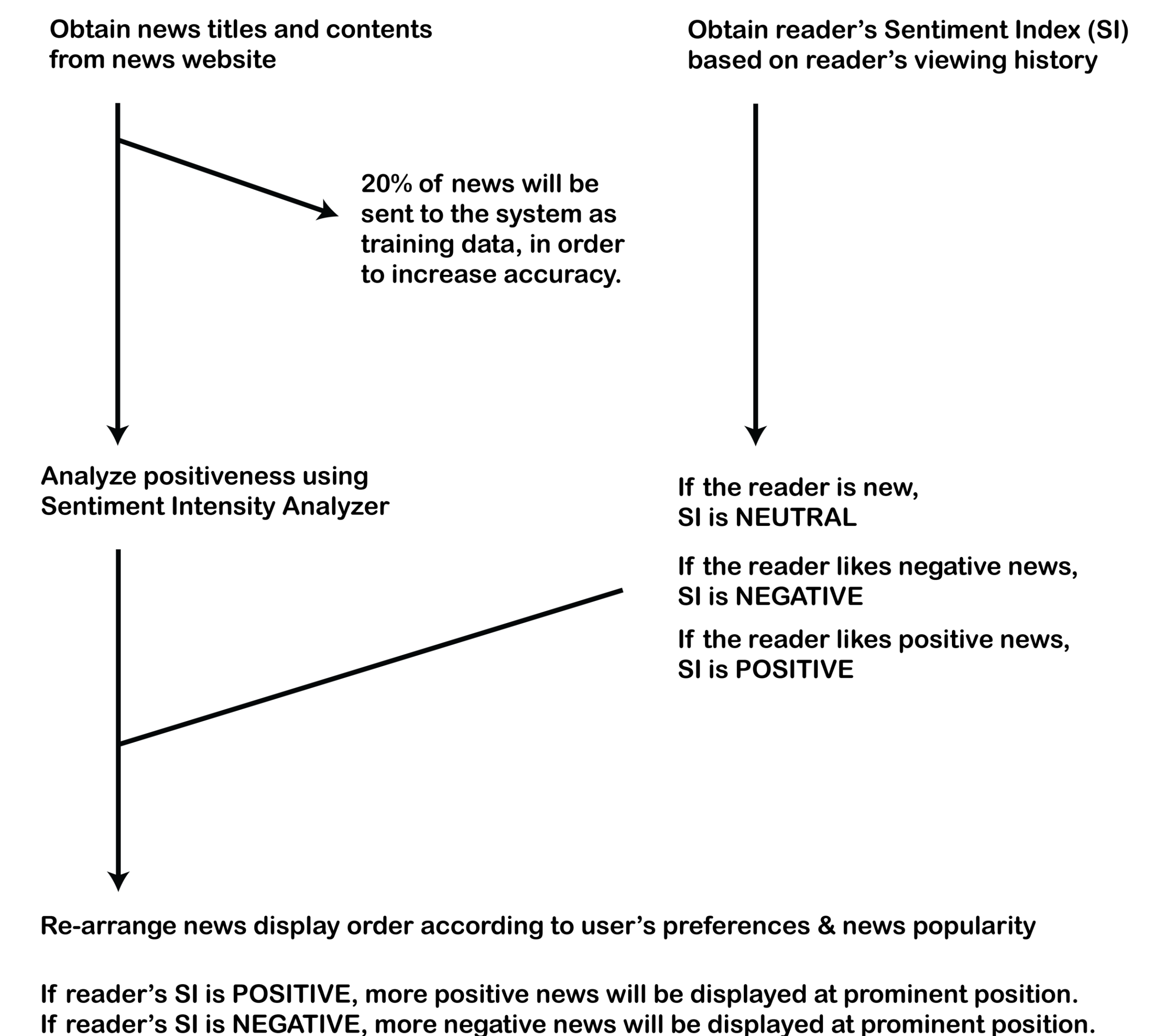
Results

From the CNN World news on August 28, 2018, here are the results:

News Title	Article Positiveness	News Popularity
The race to save the Great Barrier Reef	0.7783	253
Meet the 26-year-old behind those free phones in hotel rooms	0.5106	118
Start your Monday smart: What's happening this week	0.4019	34
Citizenship ceremony reveals American dreams	0.4019	24
At 87, her mission to help immigrants hasn't slowed down	0.4019	497
Elon Musk's next move: 5 big challenges facing Tesla	0.0772	68
Prisoners find an unlikely escape	-0.3818	3.44k
Marine scientist predicts 'a planetary catastrophe'	-0.6597	39.65k
ISIS leader in Afghanistan killed in airstrike, US says	-0.6705	1.32k
British-Iranian woman accused of spying returns to prison in Iran	-0.6705	102

Data collected on August 28, 2018 08:00 UTC

The Workflow



The Ranking Score formula is:

$$\text{Ranking Score} = (2 - \text{ABS}(\text{Reader's Sentiment Index} - \text{Article Positiveness})) + (\text{News Popularity} / \text{Sum of Total News Popularity in Top 10 News})$$

Assume we have 3 readers:

- 1.Candidate A: Reader who loves to read positive news, having SI value of 0.8
- 2.Candidate B: Reader who is new to the news website, having SI value of 0
- 3.Candidate C: Reader who loves to read negative news, having SI value of -0.8

Cross-referencing the results of social engagement and article positiveness using the formula above, the first three news for Candidate A in order will be *The race to save the Great Barrier Reef*, *Meet the 26-year-old behind those free phones in hotel rooms* and *At 87, her mission to help immigrants hasn't slowed down*, while the first three news for Candidate C in order will be *Marine scientist predicts 'a planetary catastrophe'*, *ISIS leader in Afghanistan killed in airstrike, US says* and *British-Iranian woman accused of spying returns to prison in Iran*. For the new reader Candidate B, since the Sentiment Index did not take effect in the formula, the news is ordered according to social engagement.

Conclusion

The sentiment analysis presented in this article enables news website to analyze their reader's preferences. From the exploration of readers' preferences, the extracted results can combine with other reader's information, such as the user profile he/she entered, to provide a more personalized user experience. We believe such personalized user experience offers numerous opportunity for further work on delivering more suitable news contents as well as advertisements to readers.

References

- 1.Bo Pang and Lillian Lee (2008), "Opinion Mining and Sentiment Analysis", Foundations and Trends® in Information Retrieval: Vol. 2: No. 1–2, pp 1-135.

(Re)Constructing Collective Memories for Strengthening National Pride through the Narrative of New Year's Galas (2008-2018)

Abstract

Since 1983, the Chinese New Year's Gala, or "Chunwan," has been an annual live variety-show broadcast by China Central Television on Lunar New Year's Eve. Even though it has a large audience and attracts nation and world-wide attention, there is little research critically reflecting on this significant phenomenological and cultural event. Employing a social constructionist perspective and the concept of collective memory (Halbwachs, 1992), this study examines how Chunwan (2008-2018) functions as a text to mediate national beliefs through (re)constructing collective memories of diverse Chinese audience groups.

The study analyzes ways Chunwan (re)constructs collective intergenerational Chinese memories that reinforce nationalism and a shared past. With shared memory, the boundary of private memory and collective memory is blurred and the two are fused as one. Additionally, the study uncovers that through narrative of individual and national success, group "venting," and traumatic experiences, national pride is strengthened. The findings draw attention to the political and cultural functions of media texts.

Background about New Year's Galas

- also known as "Chunwan" (1983- present)
- produced by China Central Television (CCTV)
- live performance: featuring music, dance, acrobatics, comedy, and skits, etc.
- length: >4 hours
- released on Lunar New Year's Eve: 8:00pm-12:00am
- a minimum yearly viewership of over 700 million viewers
- The globe's "Most Watched National Network TV Broadcast." (Guinness World Records in 2012)

Chunwan has become a National project (Lv, 2014).

Theoretical Frameworks

This study employs a social-constructive perspective that views reality as a story (Gergen, 2013). Along the same line, Fulton (2005) contends that "the story of the experience is obviously not the same thing with the experience itself; the medium always mediates the message" (p. 16). In this study, Chunwan is viewed as a media text that constructs the past experiences socially.

The study will also draw upon the concept of collective memory by Halbwachs (1992) that it is not a given but rather a socially constructed notion (p.22) and it is "essentially a reconstruction of the past in the light of the present" (p.34). Aligning with Halbwachs (1992), Neiger et al. (2011) emphasize the socio-political, functional, and narrational features of collective memory.

Research Questions

Briefly, the current investigation seeks to uncover how collective memories of Chinese individuals are shaped as a group through the narrative texts of Chunwan and how this process potentially reinforces national pride.

Jingyi Zhu; Mindi Rhoades

Department of Teaching and Learning
The Ohio State University, Columbus, OH

Methodologies

This qualitative study relies primarily on 55 hours of video for a decade of Chunwan broadcasts. The video data was (re)coded multiple times using collective memory and social constructivist concepts then analyzed for patterns and discrepancies.

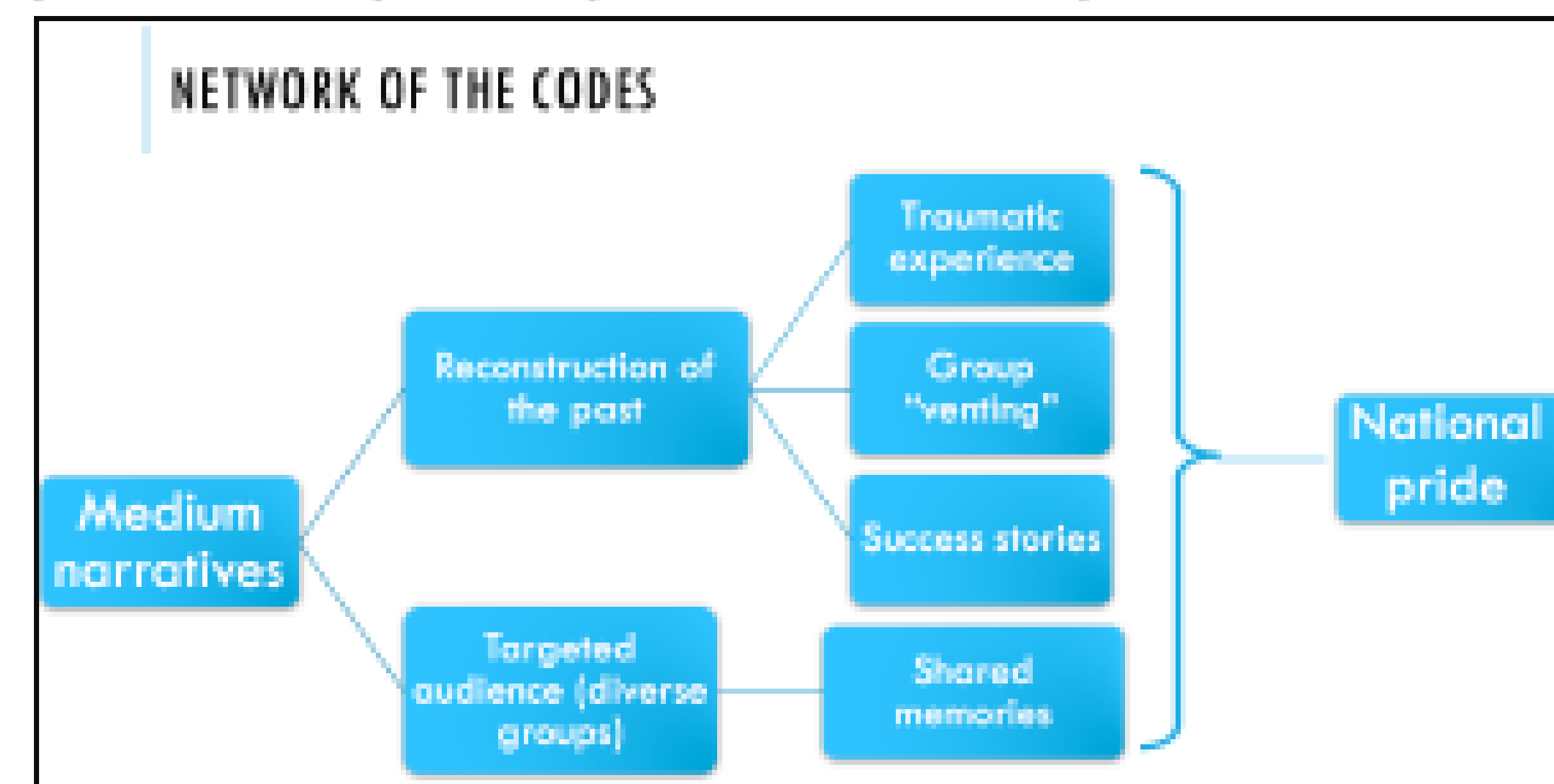


Figure 1. structure of the codes generated during data analysis

Findings

diverse targeted audiences		
Shown in data, Chunwan has been oriented for different age groups and social groups. For instance, there were singing groups (e.g., the Little Tigers) who were popular in the 1990s invited to perform on the stage in the 2000s, which provoked shared nostalgic emotions for people who were born in the 1970s and 1980s. On the other hand, different social groups (e.g., blue-collar workers, minority nationalities) are consistently reflected in a variety of performances, especially in skits and singing shows. In doing so, it seems that Chunwan has bridged individuals and communities with shared memories and blurred the boundaries between private memories and collective memories, which has laid the foundation for reinforcing national pride as a group.		
narratives that shape collective memories and construct national pride		
"group 'venting'" Many skits on Chunwan touch on hot topics in the past year. These skits provide opportunities for the whole nation to vent together, but at the same time draw audiences' attention towards the bright side of the society. Some social issues revealed on stage are high prices of houses, noisy neighbors, helping fallen seniors on streets, traffic jam, and telephone scams, etc.	"traumatic experiences" The 2008 and 2011 Chunwan revisited the Wenchuan earthquake. It provided an outlet of traumatic emotions. Meanwhile, it seems that Chunwan is selective in terms of what to be shown. For instance, many images and videos focused on national leaders visiting the sites and new homes rebuilt after the disaster.	"success stories" Chunwan presents stories of success including not only individual achievements but also economical, cultural, athletic, and political development. For instance, in the 2009 Chunwan, athletes that took part in the Olympics were invited to the stage. The message conveyed by Chunwan reinforces national pride.

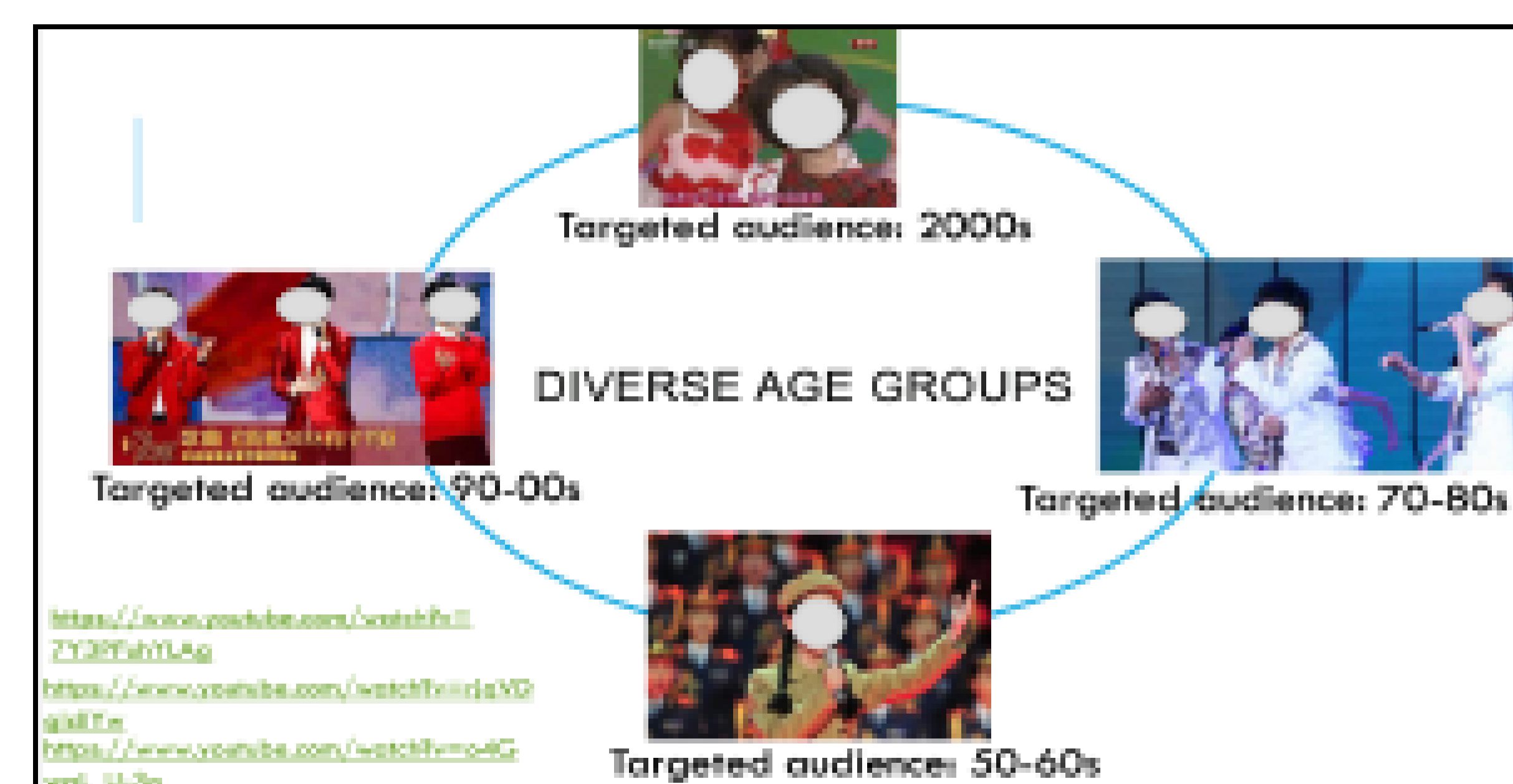


Figure 2. example images to show diverse age groups as targeted audience

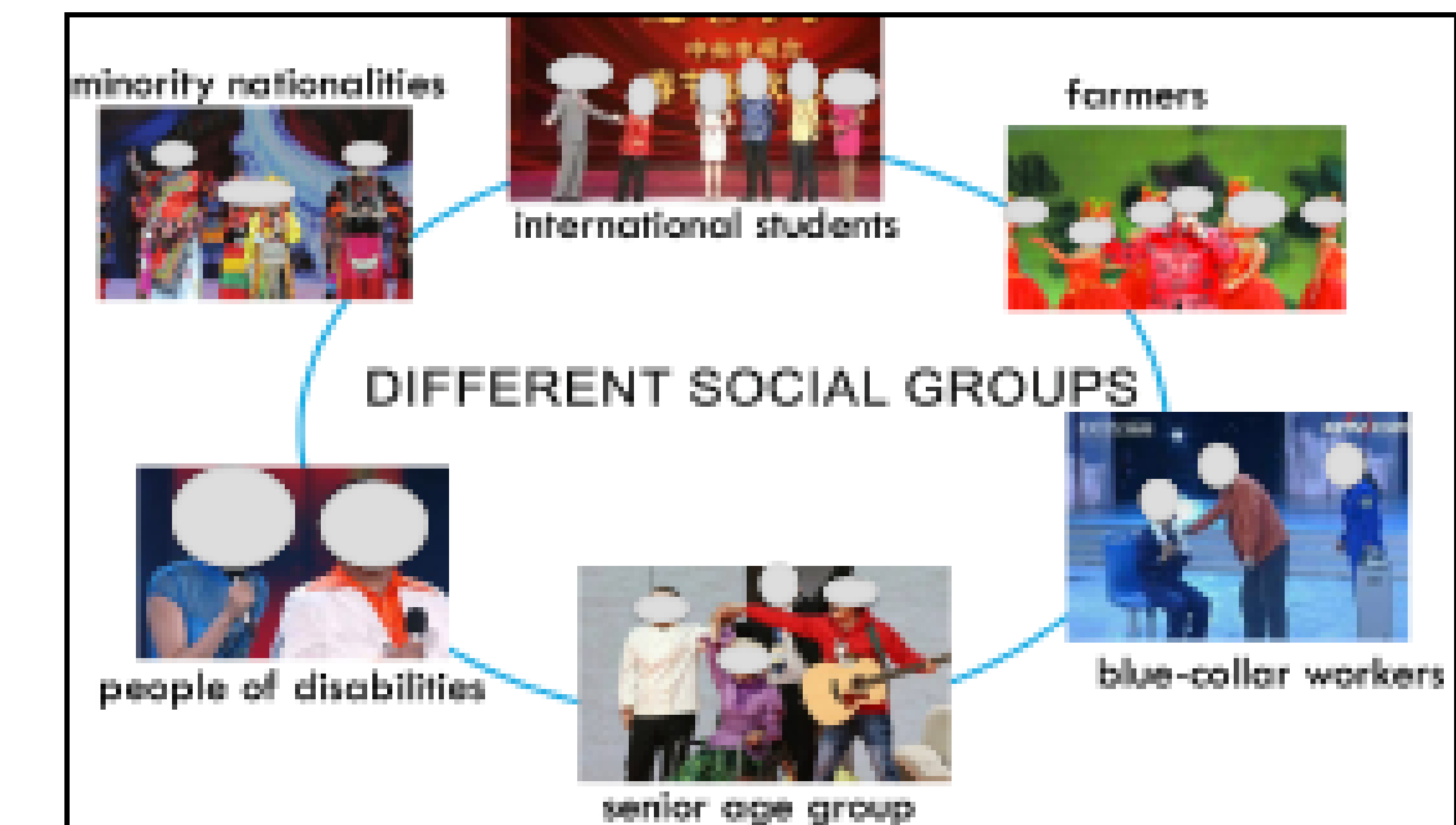


Figure 3. example images to show diverse social groups reflected on Chunwan



Figure 4. example images to show narrative of success stories

Conclusion

Chunwan, as a political and cultural text, mediates collective memories for diverse groups of Chinese people using structured narratives and reinforces national pride through reconstruction of the past.

Notes: All the images are screenshots of the shows from the videos available on YouTube. The links are as follows:

- <https://www.youtube.com/watch?v=IGXPJoLChJk> (2008)
- https://www.youtube.com/watch?v=H10arBv1IUY&list=PLzE_YVYarYxGcrjsum0OwDS2llu9hc67u (2009)
- https://www.youtube.com/watch?v=0MBdPqpsT_A (2010)
- <https://www.youtube.com/watch?v=IRaunsIWbZg> (2011)
- <https://www.youtube.com/watch?v=YIKClzOTHYQ> (2012)
- <https://www.youtube.com/watch?v=TAf7CGSII4g> (2013)
- <https://www.youtube.com/watch?v=7pKHsPcQot4> (2014)
- <https://www.youtube.com/watch?v=WuBHtYeYANc> (2015)
- <https://www.youtube.com/watch?v=Xn02Kle0J6o> (2016)
- <https://www.youtube.com/watch?v=8Tnna8odMvA> (2017)
- <https://www.youtube.com/watch?v=FeRI86DcfyA> (2018)

References

- Fulton, H. (ed.). (2005). *Narrative and Media*. Cambridge University Press.
- Gergen, K. J. (2013). *An Invitation to Social Construction*. 2nd Ed, SAGE.
- Halbwachs, M. (1992). *On Collective Memory*. University of Chicago Press.
- Lv, Y. (2014). Chunwan becomes a national project. *Yangzhou Evening News*. <http://news.163.com/14/0129/12/9JOOTPO900014Q4P.html>
- Neiger, M., Meyers, O., & Zandberg, E. (Eds.). (2011). *On Media Memory: Collective Memory in a New Media Age*. Palgrave Macmillan UK.
- Schuman, H. & Scott, J. (2015). *Generations and Collective Memory*. University of Chicago Press.



Cultivation Theory and the Evolution of Justice in the Facebook Era

Chelsea Slack
Clemson University, Clemson, S.C.

Abstract

It is hard to deny social media and its omnipresence is affecting users. The question is no longer if social media affects us, but how. Are these effects superficial, or do they deal with users' most foundational values? To answer these questions, this study applied cultivation theory to Facebook, and social media in general. With 467 respondents, the results of this survey indicated that as Facebook and general social media use increases, levels of cultivation increase marginally as well. Overall higher levels of both Facebook and social media use were related to respondents more greatly reporting beliefs that the United States is a place of justice and equality. In summary, this project found that social media, Facebook specifically, cultivates ideas, feelings, and perceptions in the minds of its users – some positive, and some negative. Lastly, this study contends the application of cultivation theory should finally move beyond television and into the realm of social media.

Introduction and Background

In 2003, social media use became prevalent, and 2004 saw the dawn of Facebook; by 2007, Facebook hit twenty million users and became definitively mainstream ("The origin," 2016). Now that Facebook has been a regular part of life in America for more than a decade, scholarly research into the effects of long-term social media use on users' beliefs is finally possible. According to Pew Research Center, sixty-nine percent of adults in the United States use some form of social media ("Social media fact sheet," 2017). Since there are nearly 325 million people in the U.S. and approximately 250 million of those people are adults (United States Census Bureau, 2016), that means the number of adult social media users sits at roughly 172 million. However, the huge number of users is only half the story. Approximately 170 million American adults, sixty-eight percent of the adult population, are active Facebook users. Furthermore, seventy percent of adult Facebook users access the platform every day (Duggan, Greenwood, & Perrin, 2016).

Although cultivation theory was originally applied to television, Morgan and Shanahan (2010) indicated the theory should not be restrained to only the realm of television, but could also be applied to YouTube, Facebook, Twitter, etc. This statement is highly significant in the furthering of cultivation applications, since Morgan worked with Gerbner for years and is considered to be one of the foremost researchers of cultivation. In light of Morgan and Shanahan's declaration, the next logical step in the evolution of the theory is to actually apply it to long-term social media use. Just as Gerbner and Gross (1976) called television a change agent for American culture, it is hard to deny that social media has become the change agent of the twenty-first century. Considering Facebook is the most extensively used social media platform, it is possible that its users are just as susceptible to cultivation as television viewers.

Gerbner and Gross suggested that aside from making viewers feel unsafe, television also was capable of fostering passivity toward violence and a distrust of others. Do social media users foster those same feelings as a result of seeing inequalities splashed across the screens of smartphones, tablets and computers? The pervasiveness of social media, coupled with the parallel messages of television and platforms such as Facebook, prompts the research interest in examining how Facebook cultivates certain views, with emphasis on how those views relate to the foundational American mores of justice and equality.

Hypotheses and Research Questions

- H1: Facebook has the ability to cause users to cultivate certain beliefs about the world and/or themselves, with moderate and heavy users being more susceptible to cultivation than light users.
- H2: Social media has the ability to cause users to cultivate certain beliefs about the world and/or themselves, with moderate and heavy users being more susceptible to cultivation than light users.
- RQ1: Does Facebook affect users' beliefs regarding justice, equality, fairness and other foundational American values?
- RQ2: Does general social media use affect users' beliefs regarding justice, equality, fairness and other foundational American values?

Methods

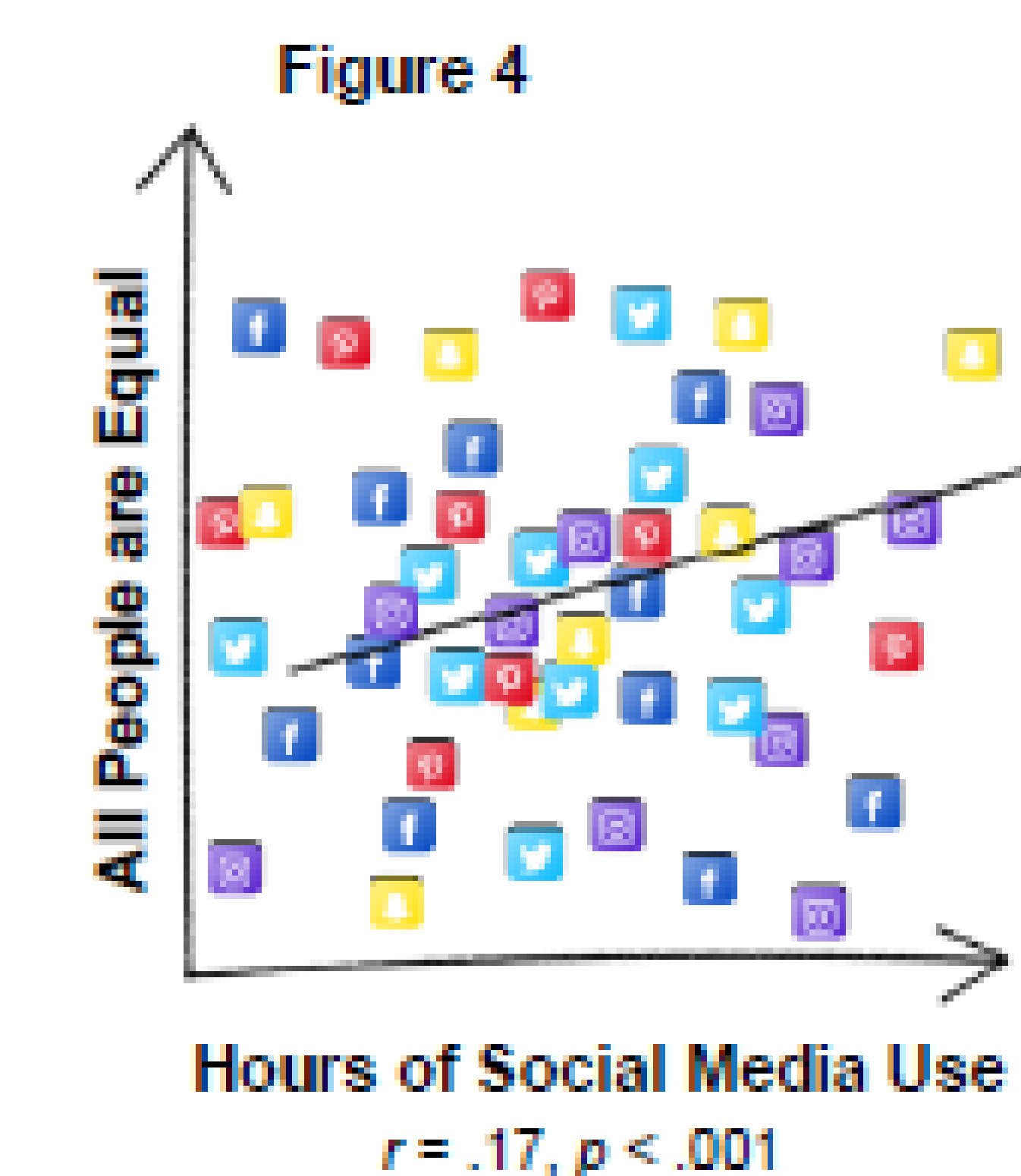
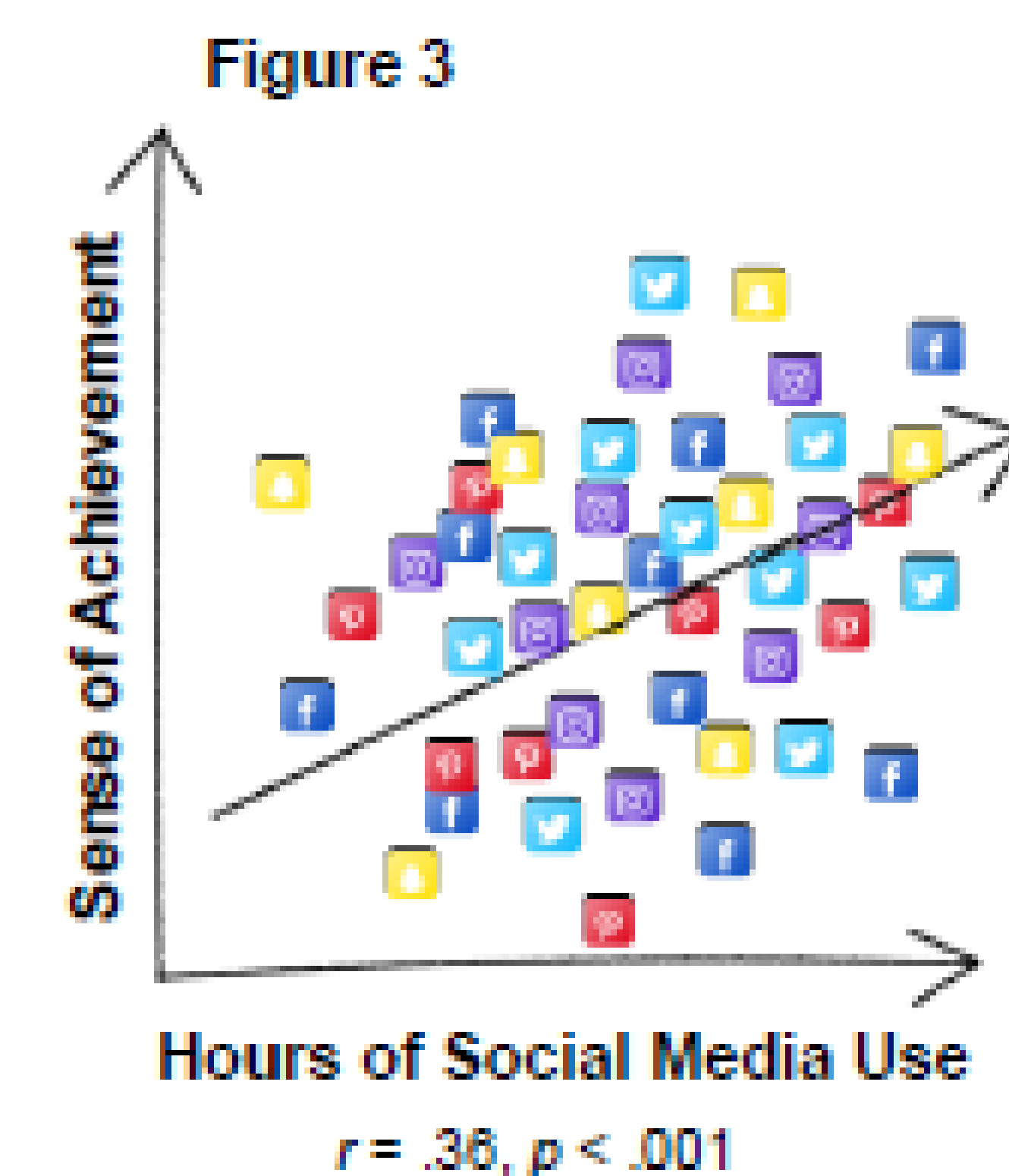
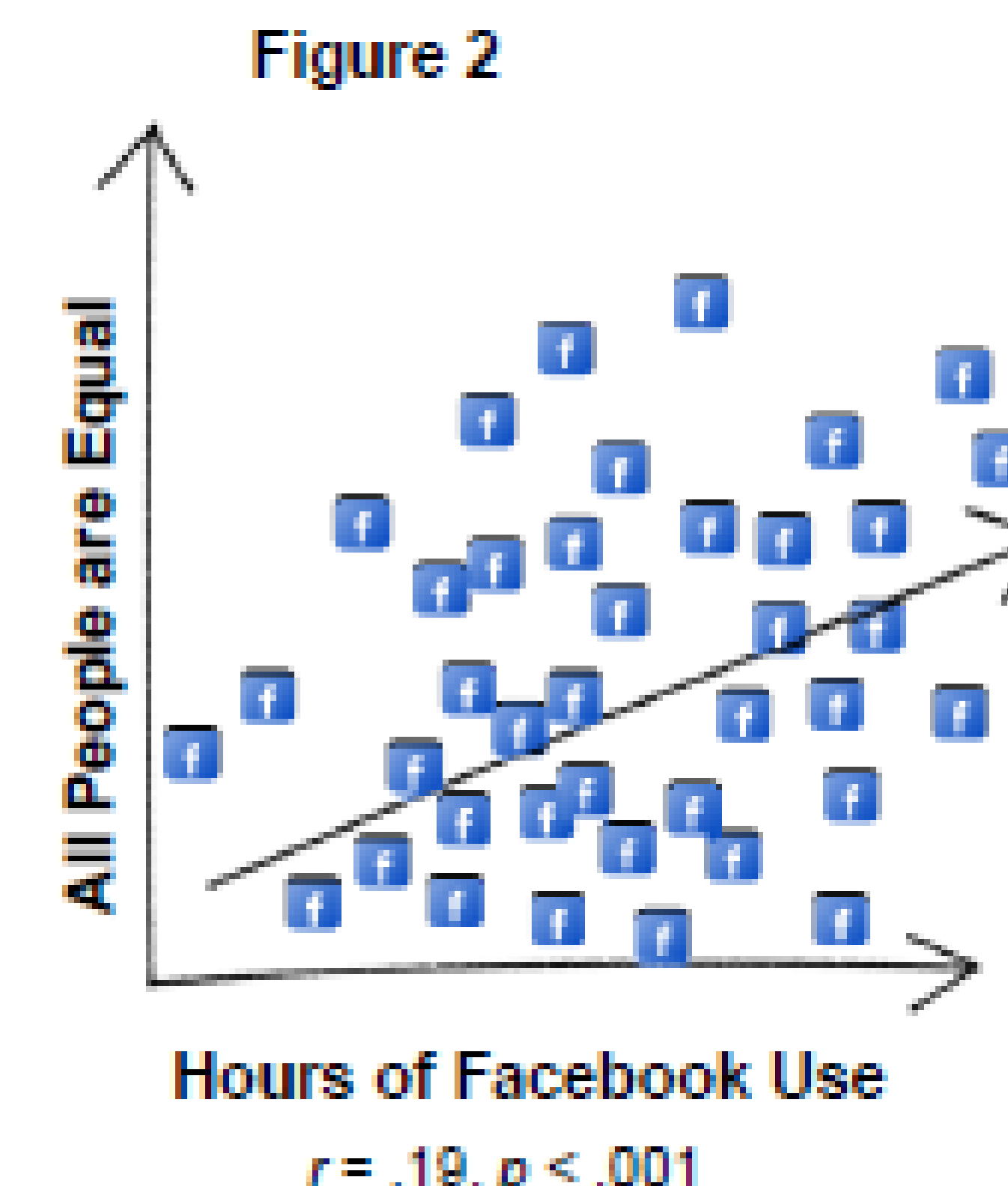
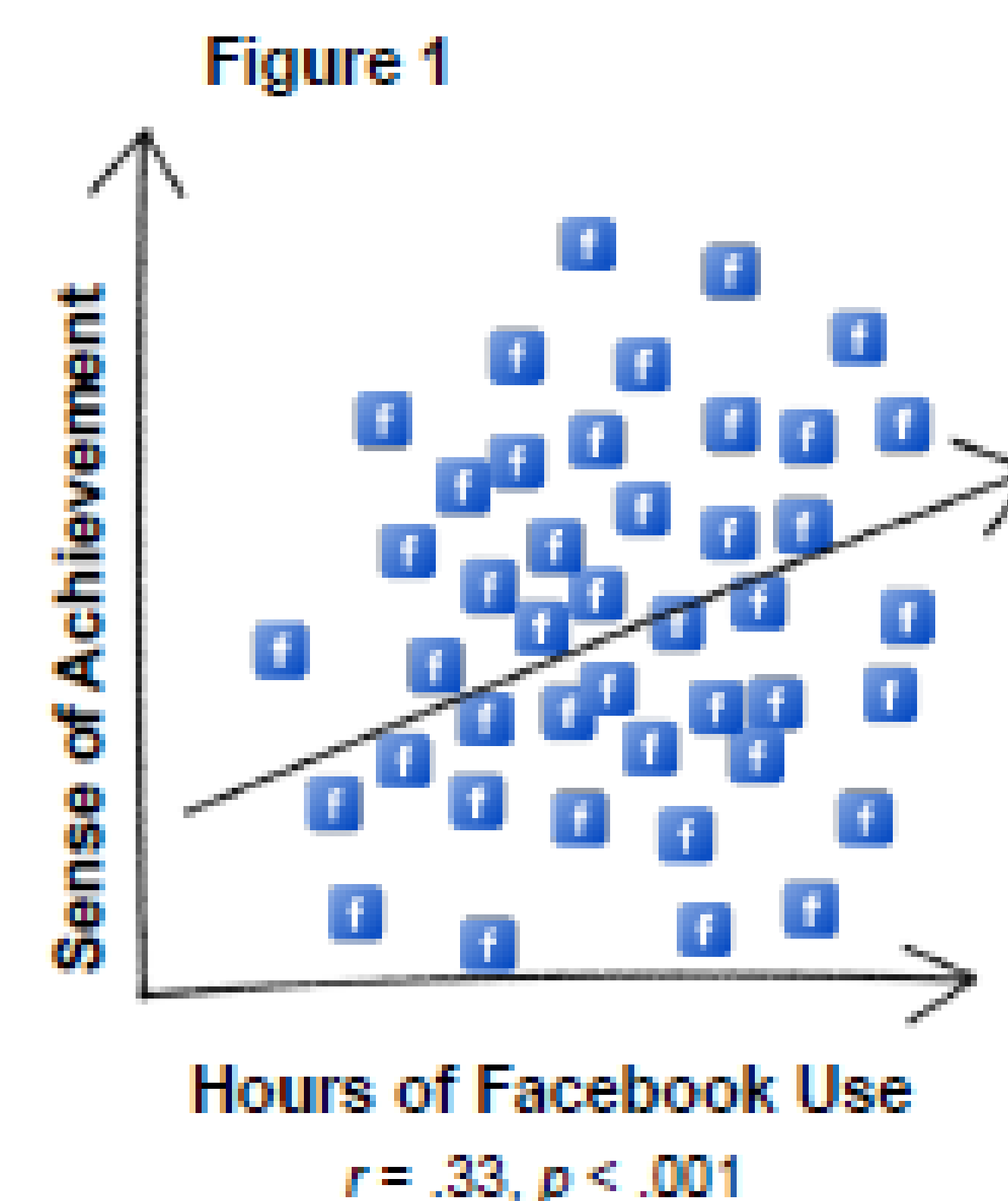
In order to test the aforementioned hypothesis and research questions, data was collected by administering anonymous voluntary online surveys to students, faculty and staff of several U.S. universities, and to adult members of the general public across the country. The target sample size of the survey was 450 to 500. Questions within the survey were posed as closed-ended so responses would be well-suited for quantitative analysis.

Participants

With 467 respondents, the total combined sample was mathematically weighted in SPSS to match known demographics of sex and race within the United States. Demographic estimates were based upon the U.S. Census Bureau's March 2016 Current Population Survey. Age, however, was not weighted, as the majority of survey respondents fell within the age categories that most highly use Facebook. Young adults ages 18-24 and 25-34 accounted for 57% of this study's respondents; those two groups alone make up nearly half of all American Facebook users. Another demographic category that remained unweighted was average household income. The non-weighted income distribution demographics reported in this study paralleled the income distribution published by the U.S. Census Bureau in 2016.

Results

H1 and H2: Explored using the Pearson correlation coefficient. Survey results generally supported both hypotheses. See figures 1 and 2 for H1 results and figures 3 and 4 for H2 results.



RQ1 and RQ2: Explored using factorial ANOVA and Tukey's post-hoc HSD. RQ1 and RQ2 results indicated significant relationships between time spent on Facebook (RQ1, see table 1) and social media (RQ2, see table 2) and several statements related to users' beliefs about justice, fairness and equality.

RQ1: Means and Tukey's comparisons for responses by Facebook use

	0 hours/ week	1-10 hours/ week	11-20 hours/ week	21-30 hours/ week	31-40 hours/ week	More than 40 hours/ week
All people are created equal.	2.03*	2.10	2.42	2.04	2.79	3.55*
People care about feelings of others.	3.36*	3.02	2.71*	3.33	3.19	3.24

$p \leq .05$

RQ2: Means and Tukey's comparisons for responses by social media use

	0 hours/ week	1-10 hours/ week	11-20 hours/ week	21-30 hours/ week	31-40 hours/ week	More than 40 hours/ week
All people are created equal.	1.96*	2.17	2.12	2.37	2.61	3.11*
People treat others the way they deserve.	2.68*	2.73*	2.13*	2.44	2.09*	2.52
I will be a victim of a violent crime.	3.63*	2.51	2.83	2.81	2.29*	2.37*
I will be the victim of police/gov.'t misconduct.	3.28*	2.51	2.84	2.81	2.15	2.07*

$p \leq .05$

Discussion

The chief aim of this research was to study how Facebook use affects users' views and perceptions, especially foundational beliefs. H1 and H2 proposed that with increased Facebook and general social media use, cultivation effects increase. Overall, there is a modest linear relationship between Facebook use and cultivation of certain feelings/beliefs. For general social media use, the linear relationship was more substantial. This finding aligns with Morgan and Shanahan's (2010) assertion that the application of cultivation theory to social media platforms is possible. The moderate but consistent linear relationship agrees with Meyer's (1989) finding that cultivation levels as a result of television viewership are not pronounced, but persistent.

RQs 1 and 2 sought to explore the viewpoints Facebook and social media cultivate, with emphasis on whether social media is affecting basic American beliefs. In contrast to the "mean world syndrome" (Gerbner & Gross, 1976), respondents within this study generally reported Facebook and general social media use contributed to a cultivation of positive rather than negative beliefs. Specifically, users who reported higher levels of Facebook and general social media use also reported lower levels of beliefs that they would be a victim of violent crime or police/government misconduct.

References

- Duggan, M., Greenwood, S., & Perrin, A. (2016). *Social media update 2016*. Washington, DC: Pew Research Center.
- Gerbner, G., & Gross, L. (1976). Living with television: The violence profile. *Journal of Communication*, 26(2), 172-194.
- Meyer, T. (1989). Reflections on cultivation theory and consumer behavior. *Advances in Consumer Research*, 16(1), 186-189.
- Morgan, M., & Shanahan, J. (2010). The state of cultivation. *Journal of Broadcasting & Electronic Media*, 54(2), 337-355.
- Social media fact sheet*. (2017). Washington, DC: Pew Research Center.
- The origin and history of social media. (2016). *Digit [Serial Online]*.
- United States Census Bureau. (2016). *QuickFacts United States*. Suitland, MD: U.S. Federal Statistical System.



Communication & Media
Studies

Educational values of the internet communication space in the perspective of its users

Longina Strumska-Cylwik

Faculty of Social Sciences, Division of General Pedagogy

University of Gdańsk

ginacylwik@gmail.com; l.strumska@ug.edu.pl



The theoretical framework of the research: internet communication space as a pharmakon

The ambiguous and multidimensional nature of the internet communication space has become the main reason for the use of Derrida's concept of pharmakon. This concept is considered to be a component element, and at the same time a consequence of the development of modern technologies. According to Derrida, „Pharmakon can never be simply beneficial”, as “There is no such thing as a harmless remedy”. It can be said that modern technologies, setting a specific framework for contemporary communication in cyberspace, may have both therapeutic and poisonous effects. Bernard Stiegler emphasizes the pharmaceutical nature of technology, which, depending on its use, can manifest both its positive, healing, therapeutic power, as well as a destructive, toxic, stultifying or even killing power. The main aim of this work is to show positive and negative aspects of the internet communication space in the perspective of its users.

Methodological basis of the work

The methodological layer of the work was based on the analysis of „evoked text” referring to students' written essays on educational values of the internet communication space. The main aim and assumption of the work is to show both the therapeutic (positive) and toxic (negative) aspects of the discussed space. Therefore, the main research problem was placed around the question: what educational values do the respondents perceive in the internet communication space and what meanings (positive or negative) they attribute to it? In the context of the above question, the respondents were also focused on the next significant research problem and the accompanying question, namely, what and how do they learn about themselves, about other people, about the world around them?

Results of own research – general characteristics of the results obtained

The educational values of internet communication space observed by the respondents lie in the center of attention of this research. The observations concentrate both on positive and negative meanings – on advantages and disadvantages. Hence the logic of the research being carried out, as well as the two-part analysis of the content of respondents' statements. In the established context, the analysis of the research material and then the interpretation of the obtained results are related to the concept of pharmakon being both a healing remedy (medicine) and poison and oriented at the same time towards its therapeutic effects (usually related to advantages) and toxic impact (usually related to disadvantages). The adoption of such a simplified, two-part analysis (based on the binary opposition of therapeutic properties of the pharmakon and its toxic functioning), although it is a form of simplification of the issue, allows at the same time to better extract its opposite features and distinguish its beneficial properties from destructive ones.

Analysis of respondents' statements allows to distinguish several positive observations, in the context of which we can see that the internet communication space can be used in a constructive, effective way (as a therapeutic, healing pharmakon). It is not used for the automatic, unreflective acquisition of knowledge, and at the same time its superficial use, but for deliberate acquisition it and critical reflection on the information gained in its context (which in this case do not rely solely on their compilation but are used in a critical way). Another time, internet communication space appears as an ominous, poisonous pharmakon where the activity of respondents in cyberspace is very often focused only on solving their own problems and achieving a specific goal, where mutual contacts are superficial and unreliable, where the quality of acquired knowledge has very problematic nature, etc.

Summary

The specificity of the internet communication space does not allow treating it in a one-dimensional, explicit or neutral way. It calls for a re-review of the current thinking about it, and in its context also of communication and education, which have also become elements of the hybrid space, demanding from people the ability to function between the real world and the virtual world.

On the one hand, it is difficult to imagine life without contemporary communication media, surfing the web, contacting with other people (and thus without prior and current technical achievements that are inseparable from human development and without which it would be impossible to continue this development). On the other hand, attention is drawn to the multiple threats resulting from them, which appear especially when people are not properly prepared for their use (rational, critical use of their resources), which is clearly indicated by the results obtained.

References

1. Derrida Jacques. 1992, “Farmakon”: “Pismo filozofii”. Krakow: Inter Esse: 48, translated by: Krzysztof Matuszewski.
2. McLuhan Marshall, “Zrozumieć media. Przedłużenia człowieka” (“Understanding Media. The Extensions of Man”), translated by: Natalia Szczucka, Warszawa: Wydawnictwo Naukowo techniczne PWN – WNT.
3. Olivier Bert. 2016 a, “Why we need a politics of ‘spirit’ not consumption” <http://thoughtleader.co.za/bertolivier/2016/04/26/towards-a-politics-of-spirit-not-consumption/>
4. Stiegler Bernard. 2017, “Wstrząsy. Głupota i wiedza w XXI wieku” (“Etats de choc. Bêtise et savoir au XXIe”), translated by: Michał Krzykawski, Warszawa: Wydawnictwo Naukowe PWN.
5. Turkle Sherry. 2013, “Samotni razem. Dlaczego oczekujemy więcej od zdobyczy techniki, a mniej od siebie nawzajem” (“Alone Together: Why We Expect More from Technology and Less from Each Other”), translated by: Małgorzata Cierpisz. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.
6. And others.

