Happiness Participatory Media: Cultural Differences in Happiness on Instagram

Qiuwen Li[1(✉)] and Young Ae Kim[2]

[1] Department of Art and Art History, Santa Clara University, 500 El Camino Real, Santa Clara, CA 95053, USA
Qli2@scu.edu

[2] School of Design, South Dakota State University, 117 Grove Hall, Brookings, SD 57007, USA
YoungAe.Kim@sdstate.edu

Abstract. The Happiness Participatory Media analyzes Instagram data for visual cues with emotional expression (happiness), hashtags (words), gender, age, and locations, in order to get a clearer picture of how people portray their happiness from different cultures. This research looked at the actual patterns of the dataset to see how it is different and/or similar to the generalized idea of happiness today.

In our previous research, we were curious about how to approach theoretically social media images in general and to understand one's emotional expression through social media, in particular, Instagram. We incorporated an ensemble of computational methods from machine learning, image processing, and information design to extract useful psychological indicators from photographic data. Hence, we discovered that the daily communication method has been changed drastically, which heavily influenced individuals' perceptions of what they considered to be happy. In fact, physical appearance was by far a more important factor for young adults' happiness than relationships, achievement, or travel/experience (Li & Kim 2019).

Happiness Participatory Media centralized disparate archives of happiness expressions through Instagram from 3 countries in the international locations Seoul, Korea (four seasons), Naha Japan (one season), and New York (four seasons) and Los Angeles (one season) in the United States using a mix of theoretical, artistic, and quantitative methods. This rich media visualization will be assembled with thousands of photos to reveal interesting patterns and allow participants to navigate the whole set of 4,000 photos (1000 images of each location) with hashtags of #beautiful, #relationship, #achievement, and #travel. In addition, we will address social media as not only a function of emotional expression through images of oneself, but also opportunities to display a perfect version of oneself with a desired lifestyle. The project brought to light the development of participatory media and the diverse social & cultural contexts.

Keywords: Happiness · Instagram · Cultures · Participatory media · Visualization · Lifestyle · Emotion · Social media · Social network · Social comparison · Self-concept · Emotional responding · Body image · Vanity validation

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1 Introduction

Social media is part of people's daily lives and is changing how we communicate and connect with others around us. According to Instagram's marketing report in 2020, more than 1 billion Instagram accounts worldwide are active every single month and more than 500 million Instagram accounts worldwide are active every single day [1]. For many Instagram users, they check their own and others' feeds and stories multiple times a day. They see others posting smiling selfies, travel photos, and personal/professional accomplishments. The eMarketer predicts that users will spend an average of 28 min per day on Instagram in 2020 [2].

The use of social media platforms, such as Instagram, gives users easy access to more information and affects how they approach their lives. In previous research, we discovered the preference for communication types through smart devices and what are the direct influences on sensing the feelings of others [3]. In addition, we found that the daily communication method has been changed drastically, which influenced heavily on individuals' perceptions of what they considered to be happy. In fact, physical appearance was by far an important factor of young adults' happiness than relationships, achievement, or travel/experience [3]. We have been focused on emotional visual signals with described words and how they influence individuals' perceptions, value of life, presentation of themselves, and communication method changes.

The Happiness Participatory Media analyzes Instagram data onto visual cues for emotional expression (happiness), hashtags (words), gender, age, and locations, in order to understand visual methods of portray one's happiness from different cultures and climate environment. We analyze the patterns of the dataset to create theoretical essays to deliberate visual methods (types of photographs of individuals) how it is different or similar to the generalized idea of happiness today within. The photo filters from social media platforms and photo editing apps were not concerns in this study in terms of how well flawlessly display themselves.

Positive Reinforcement. All actions we think and say and do have consequences that influence ourselves and others. In behavioral psychology, positive reinforcement occurs when a stimulus or reward is presented as a consequence of a behavior and increases the likelihood of the behavior recurring [4]. One example of positive reinforcement of everyday life, a mother gives her son ice cream (reinforcing stimulus) for doing homework (good behavior). Virtual compliments (e.g., views, likes, and comments) on social media are different types of positive reinforcement. Research demonstrates that people feel less lonely and happier when they receive messages from close friends on social media [5]. Each view, "like", and comment, increases people's feeling of self-worth and becomes dependent on positive reinforcement.

Social Comparison Theory. First proposed by social psychologist Leon Festinger in 1954. The theory explains how individuals evaluate their own opinion and abilities by comparing them with others in order to reduce uncertainty and learn how to define themselves [6].

Comparing and contrasting one's life with others often happens to adolescents and young adults and is part of their identity formation [7]. The social comparison between

oneself and others on social media can cause people to feel bad about themselves and magnifies the negative impact. Social media envy happens when they compare themselves to celebrities or others who have achieved unusually high levels of social success; causing negative psychological and behavioral outcomes.

Happiness in Social Network. The Framingham Heart Study, a multigenerational study, was initiated in 1948 with 4739 participants on happiness and found that the happiness of others with whom a person is connected will affect their happiness. Furthermore, an individual's happiness is associated with happiness of people up to three degrees removed from them in the social distance. Social distance refers to the closest social distance between alter and ego. The study shows that a person is 15% more likely to be happy is their friends or family members (social distance 1) are happy (instead of unhappy). At social distances of 3° of separation, a person is still being happier, but, the percentage increase is only 6% [8] (see Fig. 1). In other words, a friend's friend, even if someone never met, can have a huge impact on a person's happiness. Figure 2 shows how the relative importance of distance affects happiness. According to the statistics, friends, spouses, siblings, and neighbors can significantly influence an individual's happiness, but only if they live close to the person [8].

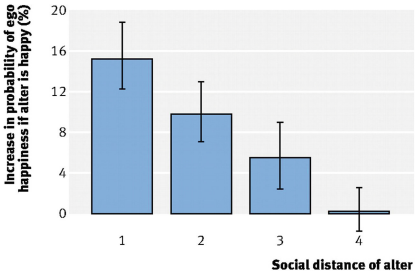

Fig. 1. Social distance and happiness in the Framingham social network.

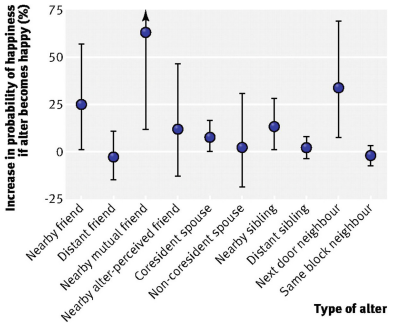

Fig. 2. Alter type and happiness in the Framingham social network.

Happiness and Different Types of Happiness. People view things differently in life, including happiness. According to Alan Goldman, an American philosopher and Professor of Philosophy, happiness is an emotion and contains all features of multi-component states about emotion. Different emotional states include judgments, feelings (pleasant sensations), physical symptoms (smiling, etc.), and behavioral dispositions (energy, openness) [9]. The study also classified happiness into four types: sensation; attitude; and feeling. The first type is happiness as a sensation, which has both a mental and/or physical cause (e.g., sexual pleasure or the pleasure of eating). The second type is happiness as a kind of intentional attitude, which takes pleasure in numerous objects and activities and can be felt in various ways. The third is also called "pure feeling pleasure", which is the feeling of achievement or unexpected change for the better [10].

Cultural Differences in Self-concept. Akey element in understanding cultural influences in self-concepts is distinguishing the difference between interdependence and independence [11]. Western culture emphasizes personal achievement more than group consensus, because Westerners tend to regard themselves as independent individuals. In Western culture, people tend to focus on emotional expression. Moreover, high arousal emotions (e.g., joy and anger) are valued and promoted more than low arousal emotions (e.g., sadness and reflection) [12].

Eastern culture, in contrast to the independent cultural background, tends to think about themselves in terms of interconnectedness with group members (" interdependent "). Asians tend to focus on the external factors or surroundings of the individual, with a special emphasis on the concept of humans as social beings. In the context of interdependent Asian cultures, what the group focuses on is relatively more important than what the individual focus. Furthermore, individual emotional control is highly valued in Asian culture, especially those related to negative emotions and social separation emotions [13].

Gender Shape Emotion Response. In addition to cultural differences, gender also influences how people feel about emotions, including the intensity and regulatory strategies. Data collection indicated that both American and Japanese men reported a higher frequency than did women for disengaged positive emotions, but, the pattern was reversed for engaged positive emotions [14] (see Fig. 3).

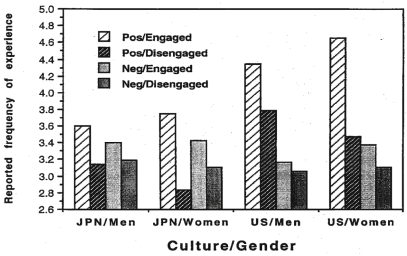

Fig. 3. Reported frequency of experiencing four types of emotions for Japanese and American men and women.

Photo Taking vs. Sharing on Social Media. Information sharing with others is a foundational desire for people. Photo-taking is one method of sharing an individual's personal experience with others, which encourages the engagement of positive (enjoyable) experiences. Taking photos can inspire positive (enjoyable) and negative (unpleasant) experiences [15], however, it decreases one's positive experience if an individual is taking pictures with the intention to share on social media, due to the rise of anxiety or self-presentational concern [16].

2 Method

2.1 The Project Team

The project presentation has three major contents; 1) observation of the demographics of people taking pictures of themselves with the best representation of their interests and perception; 2) the visualizations of revealing patterns; 3) an interactive application in both 2D and 3D platforms that allows interactions and exploration of 4000 images associated with four hashtags (#beautiful, #relationship, #achievement, and #travel) as well as discovering new patterns.

The Team is multi-disciplinary with a wide range of backgrounds, including human factor psychologists, visual designers, programmers, data scientists from China, Korea, and the U.S. The project was coordinated by Young Ae Kim and Qiuwen Li who were also responsible for creative direction and visualizations.

2.2 Data Collection

The first step was to create a dataset of images of four hashtags from each location, which required many steps. Each Instagram post has many hashtags in addition to the four research hashtags and often they overlap because Instagram allows thirty hashtags per post. A closer examination reveals that there are two types of images, images taken by someone else and images taken by oneself (selfies). For this project, it was not a concern whether it is taken by oneself or not. We focused on areas of four cities with different climate environments, including Seoul, South Korea (four seasons), Naha, Japan (one season), New York City (four seasons) and Los Angeles, California (one season), because we wanted to collect images and data with the same conditions in order to improve reliability and validity of the data. The project team inspected all photos collected to make sure images were tagged accurately in order to keep the data visually comparable.

2.3 Computer Analysis

The data set of 4000 images will be analyzed by the different types of images, including location, climate differences, face size and orientation, how one's body framed within the picture (e.g. full body, upper body, or face specific) emotional expression, presence of smile, eyes are closed or open and more. We will be comparing the measured images of characteristics between cities, genders, and ages. These measurements will be

implemented in both VR and AR applications (see Fig. 5 and Fig. 6) to allow users t filter the image database by any combination of hashtags or an individual hashtag as well as any types of images of characteristics (see Fig. 4).

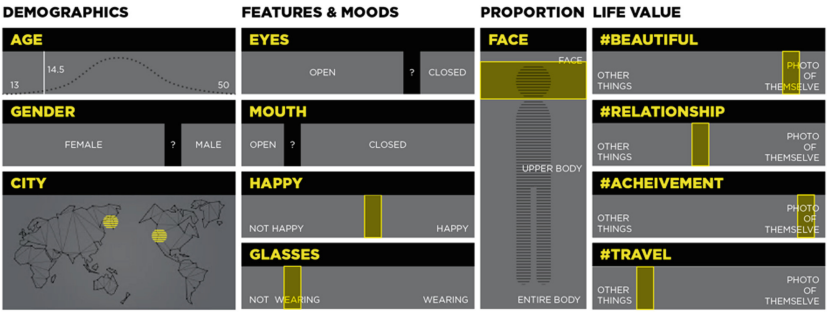

Fig. 4. VR User Controller Interface.

3 Outputs

3.1 The 3D Visualization Environment with Virtual Reality (VR)

VR technology provides an engaging learning experience for users. It will allow users to access a big data set in an interactive manner. Happiness Participatory Media VR allows for self-guided exploration of the dataset. As a user enters the VR space, they will be exposed to space with hashtags on Instagram that represent individuals' happiness, such as #beautiful, #relationship, #achievement and #travel. A user can get closer to each hashtag and choose a specific hashtag to access further information that is involved with the chosen hashtag. Users can select any hashtags floating around them, and as they choose a particular hashtag, a group of images associated with a chosen hashtag from 4,000 images and mean scores of datasets will be displayed. Figure 5 displays the VR environment and Fig. 6 demonstrates the interface after a user chose a specific keyword. The VR experience will provide a multi-dimensional environment with the most memorable data visualization experience to explore the difference and similarity of how people portray their happiness from different cultures.

3.2 The 2D Visualization Platform with Augmented Reality (AR) Experience

AR experiences expose users to learning and exploring environments through what they find interesting. Creativity and curiosity will be fostered for both student and general public users. Happiness Participatory Media AR is the perfect way to get students' imagination flying. Participants will have interaction with 30 exhibited images of the most representable image from the 4,000 dataset through Artivive app, which provides moving images of each image that sparks users' creativity. Figure 7 is a demonstration of how it works.

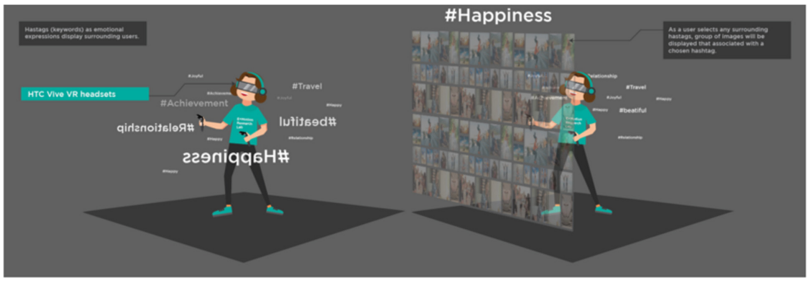

Fig. 5. The Virtual Reality Environment User Interface

Fig. 6. User Interface of each Instagram hashtag.

Fig. 7. Artivive App AR User Interface.

4 Limitations and Future Direction

In previous research, we discovered the preference of communication types through smart devices and what are the direct influences on sensing the feeling of others (Li & Kim 2018). In addition, we found that the daily communication method has been changed drastically; which influenced heavily on individuals' perceptions of what they considered to be happy. In fact, physical appearance was by far a more important factor for young adults' happiness than relationship, achievement, or travel/experience (Li & Kim 2019). We have been focused on emotional visual signals and words and how they influence individuals' perceptions, value shift, and communication method changes.

The Happiness Participatory Media project will be a window to reach a broad public (non-specialist audience), allowing them to filter the image database by any combination of hashtags, individual hashtags, or any type of images of characteristics. It will also allow participants to understand innate complications associated with certain hashtags. By examining a large sample in diverse geographical locations at the same time period, we can avoid focusing on an individual's agendas. Instead, we can observe patterns at large and provide a third-person point of view to see how social media describes meanings and values of life. We need to keep in mind that this study is limited to users of smartphones in active social media platforms; Instagram, in particular. The statistics we used are within four chosen cities among ages between 13–50 years old.

All photo data of this research has constraints and affordance due to the standardized appearance, format and resolution of posted images (612 × 612 pixels) on Instagram, which are edited by its filters and photo editing apps. The control experience has advantages for researchers, because it allows researchers to examine a variety of scopes and ranges of patterns and fast locational mapping. The image format of Instagram also helps to create a standard foundation for comparing the multitude of photos.

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