5-2018

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Recommended Citation

Crockett, Chelsi and Waters, Susan, "Scroll In Color: Examining How Colors in Instagram Pictures Illicit Emotions in Users" (2018). *Undergraduate Honors Theses.* Paper 438. https://dc.etsu.edu/honors/438

Scroll In Color:

Examining How Colors in Instagram Pictures Illicit Emotions in Users

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An Undergraduate Thesis Submitted in Fulfillment of the Requirements for the Midway Honors

Scholars Program

East Tennessee State University

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<u>Abstract:</u>

This study aims to understand if colors in Instagram pictures causes emotions in users. The methods involved in this study included a survey where respondents were presented with questions asking them how certain colors made them feel and users were also presented with pictures with varying color undertones and asked which picture made them feel a specific emotion. This study may provide indications for further research and advertising and public relations techniques using social media, specifically Instagram and utilizing colors within Instagram pictures.

Introduction:

As social media networks keep evolving and growing, advertisers and organizations realize the many benefits of these once purely-social networks. Organizations now can interact directly with their consumers and have an instant connection. Therefore, knowing and understanding their audience is crucial, and understanding how to utilize picture content to the best of their ability is paramount as well. There is one aspect of Instagram pictures that is a common denominator, colors. Every picture has color tones, or lack thereof. So, this sparked the question of if colors in Instagram pictures cause users to feel certain emotions based on the color tone they were viewing.

Color Theory:

Color is a part of our everyday lives. We see everything around s in vibrant colors. These hues demonstrate many different meanings, some of which can curate emotions and feelings based on the colors presented to us. Ultimately, colors communicate between each other and to us, and they can be applied in certain ways to elicit specific responses. Color Theory is the study and understanding of color mixing and the visual effects of a specific color combination (Color Theory, n.d.). Interestingly enough, warm colors (red, orange and yellow), and cool colors (any color with blue tones), have outstanding psychological effects. Warm colors are thought to stimulate the viewer where as cool colors are said to calm and relax the viewer. In the realm of advertising and public relations, undeadening how colors affect our moods is a crucial tool when creating content. By knowing the emotion, you want to evoke in your audience, knowing the color that evokes your desired emotion, and understanding color theory, the desired audience

reaction can be achieved. In turn, if your desired reaction is received, then it is s positive outcome for your brand (Cherry, 2018).

Impression Management Theory:

Erving Goffman is the creator of Impression Management Theory. In Goffman's theory, he proposes that when people are around other people, they act differently around others than they would if they were by themselves. As a society, we are extremely concerned with how we present ourselves and how others perceive us. In a sense, we are constantly executing impression management when positing content on Instagram. Individuals and brands only post the photographs they want their followers to see, and they essentially create their identity and image through their posts in Instagram. The visual appeal is what draws viewers to your Instagram page (O'Sullivan, P.B, 2000). With specific use of color and images, Instagram users can create a certain look or perception of their brand that they want their followers to see. If a company wants users to feel calm, passionate, etc. then they could post only content that makes the user feel that way. As we pick and choose our content, we are taking part in impression management theory, because we are only allowing individuals to see a certain pert of us

Instagram:

Founded in 2010, Instagram is a social media outlet and application. The unique factor about Instagram is that it is primarily focused around pictures and applying filters to your pictures to alter the color of said photograph. Instagram is a way for users to share their lives with followers though photos and videos. Recently after its inception in 2010, Instagram starter with 1 million users, and just one year later, Instagram had 10 million monthly users. The growth rate for Instagram was rapid; prompt growth continues to this day. By the end of 2013 Instagram

had 150 million monthly users. Because of the many positive factors of Instagram such as its unique platform and hasty growth rate, this platform is a perfect way to advertise to many different demographics (Rakos, 2014).

<u>Literature Review:</u>

We can judge a lot about a person through their Instagram profiles and the content they upload. For example, in "Predicting Personality Traits with Instagram Pictures," Ferwerda et. al. studied how the filter users applied within the Instagram application correlated with specific personality traits. To further understand the personality traits, they conducted an online survey where they asked individuals to complete a personality questionnaire and to grant the researchers access to their Instagram account through the Instagram API. In the end, there were 113 participants in this study, and 22.398 Instagram pictures studied. The researchers found distinct picture identifiers such as hue, saturation, brightness, etc. that are related to personality traits. As a result of their research, they discovered that users' picture editing style is reflective of their personality. Ultimately, this data and new discovery will allow for innovative ways to discover and understand personality traits from social media accounts as well as new ways to implement personalized systems tailored to the user. This study will aid my research because it has a similar concept to what I am focusing on. For my study, I wish to study if colors in Instagram pictures illicit a specific emotional response in users, if any at all. Therefore, referencing Ferwerda's study adds credibility to my efforts.

Instagram is a fairly new form of communication. It is a social media platform where users can share pictures with their friends and followers. Even though it is the most popular application of its kind, it has received little attention as far as research goes. Hu and colleagues study qualitative and quantitative data on Instagram in the study "What We Instagram: A First

Analysis of Instagram Photo Content and User Types." They utilized computer vision techniques to examine the content of the Instagram photographs. Additionally, they identified the different active types of users on Instagram by using a clustering technique. Their results yielded discoveries about Instagram that are groundbreaking, they discovered eight popular photos categories, five distinct types of users based on their photos and that a user's number of followers is independent of their shared photos on Instagram (Hu, 2014).

Even though my study primarily focuses on Instagram, utilizing research conducted on other social media platforms is beneficial on my work as well. Ross and colleagues studied the influence of personality and competency factors on Facebook use in "Personality and motivations associated with Facebook use." They found that through their current research and through previous research, specific personality variables were associated with particular aspects of Facebook usage. The discovered that many individuals with a high extraversion trait were a part of more Facebook that their introverted counterparts. However, higher levels of extraversion were not associated with a greater quantity of Facebook friends. They concluded that this finding leads them to believe that these individuals use Facebook as a social tool and not to replace social activities. Further understanding the dynamic of how social media platforms operate and how users maneuver such programs, will help me understand the best way to study my desired topic.

It's no surprise that adolescents are the most prevalent users of social media, and in "To share or not to share? Adolescents' self-disclosure about peer relationships on Facebook: An application of the Prototype Willingness Model," researchers used the Prototype Willingness Model to examine if the disclosure of personal information was impulsive or flowed a more rational path. 1314 adolescents participated in this study. Results showed the unique value of

reasoned pathway, which is which is the attitude and subjective norm of friends, parents and teachers, and he prediction of the disclosing behavior of adolescents. They concluded that self-disclosing behavior is mostly the result of a rational, deliberated process but can also be heavily influenced by emotional turn=moil or an emotional stimulus provided by the social network (Van Gool, 2015).

As the social climate changes, photos are becoming increasingly popular in the world of communication. Even though photos are extremely prevalent in all social media platforms, the research community knows little to nothing about how users interact and engage with content. If we understand how users engage with the content they are presented with and understand what aspect of a picture correlate with high engagement, his could benefit many advertising companies and corporations target their audiences more effectively. "Faces engage us: Photos with faces attract more likes and comments on Instagram," is a study where the engagement aspect of a picture is pinpointed, and the researchers discover what specific content attracts users' engagement. The presence of a face is always striking on and off of social media, therefore Bakshi and colleagues desired to study the presence of faces within Instagram pictures and see if they presence or absence effected the engagement of the pictures. They analyzed around 1 million Instagram pictures and concluded that pictures with faces are 38% more likely to receive likes and 32% more likely to receive comments, no matter the age or gender of the face. Users just prefer to look as faces, plain and simple. For me, to know that users prefer to look at specific aspects of an Instagram picture helps me formulate questions and possible research points for my study and survey (Bakshi, 2014).

As imaging gets increasingly popular, companies are using social software to act as regularized discourse within organizations. As of late, image-intensive social software

applications have received rapid growth and utilization as an additional area of communication. These social software genres help organizations actively shape their image power, which is the organization's self-conscious, self-reflective management of public perception and the concomitant shaping of patron identities, according to McNely in the article, "Shaping organizational image-power through images: Case histories of Instagram. In Professional Communication Conference." If we can further understand how organizations display their image power, then we can better target different audiences, and in turn help the visual content we distribute resonate with our users in a more effective manner (McNely, 2012).

As we dive more into the word of marketing and branding, the subject of color will inevitably surface. The psychology of color is a highly used and highly effective way of targeting users when it comes to visual advertising. Stated in Singh's article "Impact of color on marketing," individuals make up their minds within 90 seconds of their initial reactions with people or products, and 62-90 percent of that decision making is based on color alone. Therefore, effective use of color contributes to standing out from competitors, but also influence the moods and feelings of individuals. Ultimately, our feelings are not fixed and can be easily influenced by the colors we see, and it is paramount that companies utilize colors effectively (Singh, 2006).

In "Effects of Color on Emotions," Valdez and Mehrabian discuss the emotional reaction to color, hue, saturation, and brightness using the Pleasure-Arousal-Dominance emotion model. They discovered that saturation and brightness evidenced significant effects of emotions. The most pleasant hues were, blue-green, green, red-purple, purple, and purple-blue. On the opposition, green-yellow and yellow were the least pleasant. Additionally, green, blue-green, and green-yellow were the most arousing colors, and purple-blue and yellow-red were the least arousing. Finally, green-yellow, induced greater dominance than red-purple. These results about

the emotional implication based on colors will allow me to for hypotheses and research questions based on the results of other research (Valdez, 1994).

As we all know, the majority of pictures uploaded to social media are multi colored, therefore, it is beneficial to study the emotional response to multicolored images. In a psychological experiment conducted by Solli and Lenz, they utilized category scaling and interval scaling. Observers were asked to judge images based in three emotion factors: activity, weight, and heat. Originally, color emotion metric was created to evaluate single colors and later broadened to include pairs of colors. The results of this study show that individuals perceive color emotions for multi-colored pictures in similar ways as used in image retrieval, such as common systems on the internet (Solli, 2011)

Kaya and Epps studied how college students emotionally responded to colors when presented with five principal hues, five intermediate hues, and three achromatic hues and asked the reasons for their choices. The Munsell Color System was where the colors were referenced from. Overall, the principle hues compromised the greatest amount of emotional responses, whereas the intermediate and achromatic hues yielded less positive responses. Emotions such as relaxation and comfort were evoked by the color green because it reminded participants of positive aspects in life such as nature. Unsurprisingly, the color green-yellow received the lowest number of positive responses because this hue reminded participants of vomit and caused them feeling of disgust and sickness. Overall, this study allowed me to see what type of responses I might receive from college students since this study will primarily be distributed in the East Tennessee State University Campus.

Methods:

The university's IRB approved the present survey and the survey also notified the user that this is a voluntary survey, that the user can quit at any time, and that their data will not be stores. There was no compensation or reward involved with the participation of this survey. And even though this survey focuses on Instagram, the survey did not utilize the app itself. The survey was created and managed through Qualtrics Survey Software and this survey was distributed through official university emails and social media accounts.

To accurately determine whether colors and color tones illicit emotions in individual when viewed in pictures, I created a survey with multiple different ways of showing the user different colors in pictures. I asked users what their favorite color was, to determine if there was any bias to one color over another. Next, I asked them how each set pf colors (blue, purple/pink, red/orange/yellow, green, and neutral tones) made them feel. Finally, I presented users with a collage of photos, each with a different color undertone. These pictures were labeled with letters, and I asked users which picture made them feel calm, sad, angry, etc. To conclude the survey, I asked respondents to provide their age and gender. I structures the survey this way because I felt it would be beneficial to ask a similar question in different ways to see if the word which describes the color still illicit the same emotion as visually seeing the color does.

Results:

Overall, I had 243 responses to my survey. 35.19% were ages 18-20, 31.94% were ages 30 or older, and 26.85% were ages 21-23. 76.85% were female respondents and 23.15% were male respondents. Blue was the favorite color the majority of individuals - 36.70% of respondents chose for their favorite color, and pink came in second 14.22%. 70.64% chose blue as the color that makes them feel calm. 45.66% chose purple/pink as their color that makes them feel happy. Surprisingly, there were an almost equal number of individuals that chose

red/orange/yellow as the color that makes them feel excited/energetic (34.70%) and passionate/angry (33.33%). 53.42% or respondents chose neutral colors as the colors that make them feel indifferent. And finally, 0% of respondents said that the color blue makes them passionate/angry.

When presented with the collage of pictures with different color undertones, 59.63% of respondents said that the picture with blue undertones makes them feel calm, 31.43% of respondents said that the picture with blue undertones make them feel happy, 33.64% of respondents chose the picture with red undertones as the one to make them passionate/angry, 28.70% chose the picture with blue undertones as the picture that makes them feel excited/energetic, and 41.46% chose the picture with neutral undertones as the one that makes them feel indifferent.

Discussion:

As we can see by the results, when respondents are presented with color names, they are more likely to choose different emotions to go along with the shade names. However, the picture with the blue undertones was mostly popular across the board. Blue is a color that appeals to the widest audience, and according to my results, is favored by the most people in my survey.

Conclusion:

As we can see, when users are faced with simply the color name, they are inclined to react differently than when they see the color tine applied in an actual photograph. If I could give any advice to Instagram advertisers, focus on cool tones in your pictures if you want appeal to the widest audience, the survey results show that the participants of my survey favor cool tones.

This survey has many areas where there is more room for research, and I plan to expand on my research by completing a graduate thesis over the next two years.

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