# Social Media as Platforms of Dramaturgy: Text and Display Pictures as Tools of Impression Management

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#### Abstract

Social media in contemporary times has become an inseparable part of our lives. People use social media and social networking platforms as important tools for impression management. This paper is based on Goffman's theory of Dramaturgy in the context of today's social media. The paper looks at display/profile pictures and posts and the frequency of sharing them as a tool of impression management. A mixed-method approach was adopted to conduct the study which consisted of an online survey of 500 respondents and interviews with experts to validate the findings of the survey. The study found evidence that the front stage (social media profiles) holds importance for an individual and one plans to create an impression through it and manage it. This was evident by the data that showed that 153 respondents (30.6%) changed their display picture or profile picture about once a month whereas 113 respondents (22.6%) changed it about once a week. Another important result of the study showed that 138 (27.6%) respondents said that they wrote their posts about once a month and 127 (25.4%) respondents said that they wrote their posts several times a week whereas 107(21.4%) respondents said that they do so about once a week. 62(12.4%) Individuals achieve success in maintaining their impression on social media by planning backstage, in this case, in their real lives. They enact the drama and achieve success and gain satisfaction.

**Keywords:** Display pictures; Dramaturgy; Impression management; Social media; Virtual identity.

#### Introduction

Social media is a platform that extends an opportunity to its users to create

a virtual identity for themselves through posts in form of photographs, texts, and other forms of interaction. How users present themselves on these virtual platforms is dependent on multiple factors like their real-life demography and psychology. Researchers have in the past made use of large data to explain the user's behaviour based on age, Rao et al. (2010) occupation, Preo tiuc-Pietro, Lampos, and Aletras (2015), gender, Burger et al. (2011), and personality Schwartz et al. (2013). The pictures posted by the users can be used to show a particular psychological side of the user Naumann et al. (2009). Studying the frequency and psychology of the profile pictures finds its appeal in understanding the choices of the social media users. The choice can be studied around the theory of dramaturgy by Goffman (1964). A person plans to perform on the front stage of life in his backstage. For example, one may post a picture of himself traveling which depicts that he likes to be on the move. Where he shares a profile picture with someone else in the picture depicts that he is social and extroverted. If he changes the picture more frequently, he likes to be attended to by his peer. Users who are high in conscientiousness are keen on being orderly and planning their behaviour. This planning can be studied as part of impression management as proposed by Goffman in the theory of dramaturgy.

# Dramaturgy and Impression Management: The Virtual Self

The building up of identity for the virtual world is called the virtual self. Social media users construct these identities which may match their real selves or may not match. The virtual self has become an integral part of human lives and people spend high amounts of time online. This is altering the process of communication. The way people communicate is undergoing a tremendous change. The virtual selves are like avatars. The identity construct of the avatars is rapidly changing over the globe hence it is a matter of intrigue to researchers. The constant craving among the users of social media to show their best in terms of images, behavior, and self-portrayal stems from many factors. The characteristic of the virtual medium that it allows people to experiment with themselves is why the users are so attracted to these channels of communication. The freedom that social media gives to its users to alter their identities to their wishes is a matter of enjoyment to the users. They thus get attracted to these sites and create virtual identities for themselves.

# **Theoretical Framework**

The theoretical frame of the study is placed around the theory of drama-

turgy proposed by Erving Goffman in his 1959 book titled The Presentation of Self in Everyday Life. Though the theory has had a long journey it holds equally good in contemporary times. It can be applied similarly to the present-day social media interaction by the users. Sannicolas (1997) mentioned that with the emergence of technology and communication that is mediated by computers, one can very well observe how dramaturgy is displayed every single day amongst the networks of online chatting. He also mentioned that a huge amount of work has been conducted on internet chats which have also attracted multiple audiences and performers on the stage, in this case, social networking sites and social media. Goffman put forth that our lives are stages where we do a role play that is never-ending and all the people around are actors. He supposes on being born a person is set on stage which is his everyday life. We become a part of the process of civilization since our birth.

Humans began to learn to play their roles from the other people in their lives. They start to enact their roles whereas others start to enact their part of the roles with the person. Goffman mentioned that whatever a person may be doing he is playing a role in the life stage. He further talked about the concept of front and backstages. The front stages can be a dinner table for a public lecture and so on. These front stages are places where we present a part of ourselves to others in a particular way. Looking at the way social media and social networking sites have entered our lives the theory of dramaturgy holds good to our virtual lives. The social media platforms can be understood as front stages in this case whereas the real lives are the backstage for the social media users. We come to the front stages in form of our virtual avatars make public appearances in form of the pictures or texts we share and then retreat to our backstages. We also use the opportunity to plan for our next appearance on stage. The appearance is inspired by our wish to be perceived by others in a particular fashion. Miller (1995)pointed out that one of the purposes of communication for people is to present themselves in such a manner that others approve of them such that they are entitled to be considered an expert and morally correct and so on. Talking of display or profile pictures on social media we choose them backstage and then share them on our front stages. The planning that one does with the help of the backstage in effectively performing on the front stage. Further, Miller(1995)mentioned that "Electronic communication" (EC) has begun a new "array of frames" to make communication happen with an "emergent decorum". We first conduct a selection of a picture and formulate our opinions about it on what we want others to perceive about us after looking at the picture. We wish others to form a particular impression about us which Goffman looks at as Impression management

### **Impression Management**

The term impression management was coined by Goffman who referred to it as a technique of manipulating the impression of others about us in the front stage of our lives. As per Goffman, we use various mechanisms which he termed sign vehicles to showcase ourselves to others. The sign vehicles that are used most commonly are our appearance, social setting, and how we interact. The kind of pictures one chooses as profile pictures depict the social setup that we make public which includes the cities one lives in or travels to, a social-economic status that one shares on his walls, and relationships that one flaunts contribute to his front stages on social media impression management. The social setting here is the physical place, in this case, the social media platforms. How one manages these virtual identities conveys a lot about him. A person who travels to faraway places flaunts cars or expensive accessories signifies that he is important, powerful, and wealthy. On the other hand, a person with no such history on social media would be considered an ordinary person. The opinions we support give people an idea of our socio-cultural beliefs. These posts that one share on their social media profile is an extension of one's physical self.

Secondly, one's appearance speaks volumes about a personality. People are first judged majorly by their appearances which are a mix of what clothes they wear, and what physical stature they have, and the first impressions are based almost exclusively on appearance. The clothing people wear on their profiles also speaks of their mindsets, sometimes also their professions. Physical stature also speaks a lot about the choices one makes in life. A fit person is assumed to be well-disciplined or a good-looking person is assumed to be good at heart too. Speaking of races, humans feel the need to align with races. This is also a part of their identity and it allows them to conclude choices of food culture etc. One drawback of these conclusions is stereotyping. Some persons may fall for stereotyping too.

### Display/ Profile Pictures and Posts as a Tool for Impression Management

Apart from the chance to write textual posts on most social networking sites people can also add pictures. These pictures serve the specific purpose of creating a virtual identity for the users. Ellison, Heino, and Gibbs (2006) in their work on the environment of online dating mention that the profile pictures helped in supporting textual claims made by users which meant that users not only used display pictures to visualize their physical appearance but also to stress qualities that were important to them. Therefore Ellison et al. (2006) point out that different photos fulfill different functions for the users. Whereas on the one side photographs are a kind of supporting discursive claims that are made in the written part of the profile on the other side it is an insight into the self-concept and physical appearance of the person. But as these are planned and executed as per dramaturgy it is often not the real self of the person and may not be a representation of the real behaviour Boyd (2006). It's right to mention that people are extremely conscious of their virtual identities and in turn careful while selecting their display profiles. Facebook users showed interest in choosing photos that they thought could be classified as attractive. Photos that showed them having fun were preferred to be chosen to be posted on social media as cited by Strano (2008).

Kirsty Young (2008) also points out that to present themselves on online platforms people are often keen to select where they look their best. Thus, pictures in general and display/profile pictures are important tools of impression management on social media by the users The emergence of social media has allowed the users to lead a parallel life. This parallel life is their virtual self. It is rightly said that a picture is worth a thousand words and in current times when it can reach a very huge number of audiences at the click of a button, it is all the more important to study it. The communication that these pictures can help in understanding the social media usage patterns of the users and the impact it can have on their real lives. The display or profile pictures are an important part of a person's virtual identity. It is the first thing that comes across when one befriends someone on social media. Hence it involves a great deal of backstage planning and front stage execution. The study is important to understand this communication between the users of social media. The question that this study looks at is the negotiation between the real and virtual selves while portraying oneself on the front stage of virtual lives from the backstages of real lives. The frequency at which it is changed also communicates the social media usage patterns of the user. So, both the frequency of change of display/profile pictures along with the psychology and rationale behind selecting a particular picture is where the research gap of this study lies.

### Objectives

Given Goffman's Dramaturgy theory and the gap in research that this study aims to address, the following are the objectives of this study:

1. To study how image and text sharing on social media helps in the impression management of individuals.

- 2. To study how individuals manage their impression by frequently changing their display/profile pictures.
- 3. To study how individuals manage their impression by writing frequent posts on social media.

# **Research Methodology**

A mixed-method approach was adopted to conduct the study. The study was divided into two parts. The quantitative part of the study was completed by conducting an online survey of 500 respondents to find out how frequently they changed their display or profile pictures and how frequently they shared posts, thus looking at how their online behaviour contributed in managing their impressions on social media and social networking sites. The research used maximum variation purposive sampling as the respondents were highly heterogeneous. The study uses the maximum variation purposive sampling method to collect data as the population of the study, the users of social media, are heterogeneous and are extremely large in numbers. The maximum variation purposive sampling also called heterogeneous purposive sampling, helped the researcher to look into a diverse range of cases (audiences or social media users) that are relevant to the phenomenon of virtual identity construction and aspects related to it. The technique allowed the researcher to gain a holistic view of the various projections of the virtual identity of the social media users from as many angles as possible.

The technique was used by the researcher to search for variation in the perspectives of the social media users. The conditions that are studied included the projection of one's virtual selves. The sample exhibited a wide range of attributes, qualities, behaviour, situations, and so forth. The units were largely heterogeneous so the variations could be tapped only by choosing a sample based on maximum variations. The sample exhibited variations in the manner the respondents behaved online in terms of their attitudes, characteristics, and portrayal. Thus, the fundamental principle behind using maximum variation sampling is to gain in-depth insights into the phenomenon of virtual life projections by looking at it from multiple angles. This helped the researcher to identify common themes that were evident across the sample. The technique supported the researcher to make a logical generalization based on the results. Looking at the heterogeneous nature of the respondents, extremely large numbers of the population, and the vast geographical area that they are spread on, a non-probability sampling technique was used.

# **Qualitative Method**

The gualitative part of the study was conducted in the form of semi-structured interviews with two experts each in the fields of communication, sociology, and psychology. The selection targeted one percent of the total survey respondents (500). Two experts from each field were interviewed to get an insight into the causes behind user's particular social media behaviour. The questions asked to the experts were based on the research objectives. The questions looked at the aspects of social media as a channel of communication between the real and virtual self, if social media had the capacity of altering a person's psychology or rationality and to what extent, if conflicting identities existed in real and virtual lives, how virtual identities affected the real-life relationships of the users, if users hide their socio-economic status on their virtual platforms and if so, why? The interviews also delved into virtual interactions that create peer pressure among the users while making real-life decisions, does the self-worth of the users gets affected by social media influence and if it could act as camouflage for the real-life crisis, and if virtual identities instilled a sense of belongingness or distinctiveness among the users.

The views of the experts gathered in these interviews helped the researcher better understand the virtual projections of the users. The results of the survey were studied in the light of the expert interviews while conducting the analysis and interpretation of the study. The expert views helped in better understanding the dramaturgical behaviour in the context of the real and virtual life travel of the users of social media.

**Scaling:** A five-point Likert scale was used to measure responses as it is an orderly scale from which respondents have the choice to select the option that best supports their opinion. It was used to measure the attitude and behaviour by measuring the extent to which people agree or disagree with a particular opinion and also to study the frequency of user's particular social media behaviour. Likert scale questions are among the most widely used tools to record opinions and use psychometric testing to measure beliefs, attitudes, and opinions. The questions were designed like statements so that respondents could mention the extent of the aspect probed. Also, other response patterns were included to gain inputs. The questions were designed such that they bring out the respondent's virtual identity concerning his real identity and the possible dramaturgy involved.

# **Findings and Analysis**

The respondents were asked to respond to how often they change their Display Picture / Profile picture and write and share a post. The following

were the analysis of the collected data:

### Frequency of Changing Display/ Profile Picture and Writing Posts

Table 1 shows that 153 (30.6%) respondents changed their display or profile pictures about once a month whereas 113 (22.6%) respondents said that they changed it about once a week. The table shows that 102(20.4%) of the respondent said that they changed their display or profile picture several times a week whereas 69 (13.8%) said that they never changed it. The number of respondents who said that they changed it every day was 53(10.6%) whereas (10) two percent said that they changed it multiple times a day.\*There was a significant relationship between the educational qualification and area of residence with how often the respondents The number of 12<sup>th</sup> passed respondents who changed their display pictures several times a week was 35 % as compared to 15.9% graduates and 20% postgraduates. The table shows 9.1 % of rural residents never changed their display/profile picture as compared to 16.8% of urban residents. Table 1 also shows that the respondents who said that they wrote their post about once a month were 138(27.6%). 127(25.4%) respondents said that they wrote their posts several times a week whereas 107(21.4%) respondents said that they do so about once a week. 62(12.4%) respondents said that they wrote their posts every day whereas 14(2.8%) said that they wrote multiple times a day 51(10.2%) respondents said that they never wrote their posts. The p values show a significant relationship between educational qualification and area of residence in terms of writing their posts.\* No respondents of the total of 10<sup>th</sup> qualified wrote their posts as compared to 11.1% gradutes.18.4% of urban wrote their posts once a week as compared to 29.3% semi-urban and 17.4% rural respondents.

Frequency Research Question	About once a month	About once a week	Several times a week	Never	Every- day	Multiple times a day	No re- sponse
Frequen- cy of Changing Display/ Profile Picture	153 (30.6%)	113 (22.6%)	102 (19.8%)	69 (13.8%)	53 (10.6%)	10 (2.0%)	0 (0%)
The fre- quency of writing Posts	138 (27.6%)	107 (21.4%)	127 (25.4%)	51 (10.2%)	62 (12.4%)	14 (2.8%)	1 (0.2%)

Table 1. Frequency of Content and Visuals

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Figure 1 shows that 30.6% of respondents changed their display or profile picture about once a month whereas 22.6% of respondents said that they changed it about once a week. 20.4% of the respondent said that they changed their display or profile picture several times a week whereas 13.8% said that they never changed it. 10.6% of respondents said that they changed it every day whereas two percent said that they changed it multiple times a day.

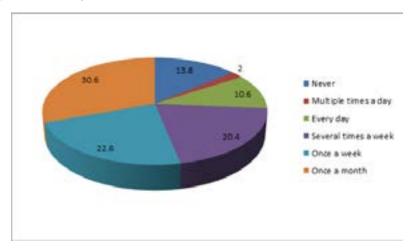


Figure1. Frequency of DP Change

Figure 2 shows that 27.6%. wrote their post once a month. 25.4% respondents said that they wrote their post several times a week whereas 21.4% of respondents said that they do that about once a week. The respondents who said that they wrote their posts every day were 12.4%. 2.8% said that they wrote multiple times a day 10.2% respondents said that they never wrote their posts.

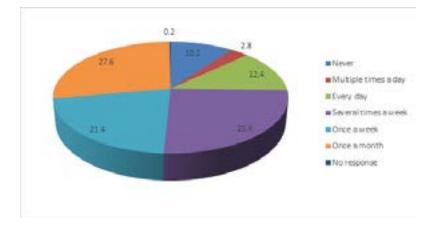


Figure 2. Frequency of Writing Own Posts

# Findings of Qualitative Study

Varied real and virtual identity projections: The study looked at the frequency with which respondents changed their profile/display pictures, the respondents' frequency of writing posts, and what the experts thought about the concept of display pictures and their importance in social media impression management. Along with how often they wrote their posts and how both display pictures and posts were used as a tool of impression management by them, the user's online identity projections depicted in his/her online actions were found to be distinct from the actual identity. One of the most important ways of doing just that is of course the choice of a profile picture. This is the accompanying picture that appears with a person's name and the first picture that potential new friends see before they send a friend request, Wu et. al (2015).

**Perception-management**: After collecting the responses from 500 respondents about their social media behaviour, the researchers interviewed a few experts in the area. These were academic experts as well as practitioners. An insight into the interviews along with the quantitative analysis of the data obtained helped in making sense of how the important elements of social media accounts of an individual become a potent tool for impression management. Psychologist Shaili Mishra was of the view that according to the humanistic approach, there are two selves in an individual – what one is and how one would like to be perceived.

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The Profile pictures or Display pictures are the first impressions of the individual in the virtual world of which one is a part and is chosen very cautiously. Monika, a media academic and researcher added that posts and pictures are extensions of a person's virtuality. People don't generally know a majority of social media friends personally and don't interact with them in real life very often, so the chances of virtual friends knowing what one does in real life are low. So they have an opportunity to manipulate their impression through their display pictures. This includes their online style statement through virtual projection. Moreover, according to Monika, this virtual projection is distinct from the real and is a display of only the good and extraordinary with extended magnanimity. In such a case, displaying pictures and posts is a statement about oneself that one likes to carry in the virtual public sphere. They are equivalent to a textual introduction of a person online on social networking sites. They have in themselves enough information to analyse the personality of an individual. Display pictures are capable of constructing the desired impression of the user.

Mishra was affirmative that the second self is what one wants to become, the ideal self. It could be about the depiction of one's body image close to what one may idolize like that of a film star and also the abstract qualities. The ideal self can be found in the display of pictures and pictures that people share of themselves online. The fact that the display picture appears for every comment, chat or friend request the user makes, it is easy to understand why a profile picture occupies a prominent position in shaping the user's online identity Wu et. al (2015).

K. Ranga a sociologist, rightly put forth that "Social media is impactful. It has affected human beings in every way it can. The thinking process of people in contemporary times has ceased to be belonging to an individual and has started to be belonging to a group." The search for identity is associated with the need to express. They need to express more because they are new to identity. Ranga sees a specific intention of conveying identity in pictures and textual posts in an attempt to manage their impression on social media. For example, girls tend to share pictures in which they look beautiful by the definitions of beauty whereas men may want to share pictures highlighting their physique or interests. Users sometimes leak their interests unintentionally like ethnicity, relationship status, or hobbies. They share posts that they would like to associate with their personality, in this case, their virtual identity. Monika mentioned that "The psychology and rationality of individuals can be altered by their virtual identity. It has been used the world over in both positive and negative manners for perception management. Groups are targeted through fake news and it is tried to change the perception of people. Nobody bothers on social media to verify the information and check the credibility of the source. Just by seeing it once, people start believing it. They form an opinion and psychology starts to change. We start believing it unconsciously. A partial change in rationality is possible because of social media. It can be manipulated to a large extent."

Monika opines that "Social media has entered our lives to an extent where it is very hard to ignore it. There is this constant anxiety to check upon messages and notifications now and then. It is sometimes a distraction from the actual work that you are doing. People even go to the extent of ignoring a face-to-face conversation they are a part of to peek at their gadgets and are more concerned about their online images." The journey between real and virtual lives travels everywhere you go. To showcase a minuscule part of your existence, the virtual world is constantly seeking your attention at all places. N. Kaushik, a psychologist, said that "young users were the most affected by the social media wave. They are all the time anxious about their social media and their virtual identity. "The younger ones show a little immature behavior by sharing every little detail of their lives online by frequenting social networking sites. They share details like what they are eating to what place they are visitingto create an impression and further manage it.

N.Kaushik says that "sites like Facebook are very lucrative, they keep on attracting users, especially young users resulting in overuse at times which can further have consequences in real lives of the users. Monika further added that "People share the post that is in line with their beliefs or supports their thoughts" Respondents shared information that they wanted others to believe about them thus contributing to Impression management. Thus, dramaturgy was found to play an important role here. The respondents thought in their private spaces and then built an image for themselves online. They cautiously do so though at times subconsciously they convey what they want others to believe about them. Their psychology and rationality can be read in the kind of information they share online. They showcase their political affiliations their economic understanding, social and cultural beliefs along with religious thought as a part of their overall virtual self. Monika mentioned that "the frequency of posts of a person shows how deep is the real and virtual life connection of the individual". Respondents who wrote their posts were likely to convey a certain thought of their personality to their audiences. It is a way of conveying their own beliefs or messages to others. One specific feature of Facebook and other social networking sites is the possibility for users to share self-generated content such as texts, pictures, audio, and video clips with their online social networks. Thus, it's evident that pictures and images contribute immensely to the impression management of individuals in online spaces.

# Discussion

Results showed that 30.6% of respondents changed their display/profile picture about once a month whereas 22.6 % of respondents changed it about once a week. Around 10% of the respondents said that they change it every day. Those who frequently changed their display/profile pictures were more involved with their social media. They were in constant engagement with their virtual selves. They looked at their display pictures as a message that they needed to communicate to their social media peer. Frequently changing the display/profile pictures underlined the need to seek the attention of the "friends' ' and "group members" thus signifying impression management in their virtual lives. The frequency also underlines the constant sharing of partial real lives with virtual. This sharing is planned and executed to create an impression that may be wished for by the user. Therefore, it could be understood that a profile picture is an important link between the real and virtual worlds of the respondents. The profile photograph is now a central component of online self-presentation and one that is critical for relational success (Hancock and Toma 2009). 27.6%. wrote their post once a month. 25.4% respondents said that they wrote their post several times a week whereas 21.4% of respondents said that they do that about once a week. The respondents who said that they wrote their posts every day were 12.4%. 2.8% said that they wrote multiple times a day 10.2% respondents said that they never wrote their posts.

But writing posts is not an intellectual activity. Along with displaying pictures, posts are also a tool to gratify the need of managing impressions on the outer world. This also depends on the socio-economic class of the audience. What they show and say also says much about their aspirations. One who aspires for material success in life is found posing with expensive cars or hotel lobbies. The moneyed class aspires to find meaning in life, contribute to society, and wishes to be seen as living up to the expectations of the society of which they are apart. Mishra was also of the view that users want to be distinct in their virtual world. So, they experiment with their display pictures.

### Conclusion

Society has set parameters and points of reference for individuals. While an individual defines satisfaction, success is defined by society. To ensure the achievement of this success, an impression is created and maintained of the formula which is devised the backstage in real lives. The drama is enacted, success established and satisfaction gained.

Thus, we conclude that display pictures and posts are used by people as an important tool for impression management of their virtual selves on their social media platforms. They are conscious of updating it regularly to gain the attention of their peers. They make choices based on various assumptions and how they would like to be perceived by others whom they have befriended on these social media platforms. Their display pictures and posts are like a statement about themselves that they want to showcase on the front stage. They constantly travel from backstage to the front stage. Real-life is backstage which also involves planning for online performances and choosing pictures and text. The front stage is where the performance is cautiously delivered on social media platforms. Their acts are based on their individual preferences and what impressions they want to make for themselves in their virtual identities. Further, display pictures and frequency of changing it has stood out as an important tool to understand the to and fro journey from real to virtual selves of the users.

### Works Cited:

- Boyd, D. Friends, friendsters, and myspace top 8: Writing community into being on social network sites. 2006.
- Burger, J. D., Henderson, J., Kim, G., &Zarrella, G. "Discriminating gender on Twitter", Proceedings of the conference on empirical methods in natural language processing. Association for Computational Linguistics, 2011, pp. 1301-09.
- Chen, Y. J., Chen, Y. M., Hsu, Y. J., & Wu, J. H. . "Predicting Consumers' Decision-Making Styles by Analyzing Digital Footprints on Facebook". International Journal of Information Technology & Decision Making, 2019, 18(02), pp. 601-27.
- Ellison, N., Heino, R., & Gibbs, J.. "Managing impressions online: Self-presentation processes in the online dating environment". *Journal of*

computer-mediated communication, 2006, 11(2), pp. 415-41.

- Goffman, E. "Stigma: Notes on the Management of Spoiled Identity Englewood Cliffs," NJ: Prentice-Hall. 1964.
- Hancock, J. T., & Toma, C. L. "Putting your best face forward: The Accuracy of Online Dating Photographs". *Journal of Communication*, 2009, 59(2), pp. 367-86.
- Miller, H. "The Presentation of Self in Electronic life: Goffman on the Internet", *Embodied Knowledge and Virtual Space Conference*,1995, vol. 9.
- Naumann, L. P., Vazire, S., Rentfrow, P. J., & Gosling, S. D. "Personality Judgments based on Physical Appearance". *Personality and social psychology bulletin*,2009, 35(12), pp. 1661-71.
- Rao, D., Yarowsky, D., Shreevats, A., & Gupta, M. "Classifying Latent User attributes in Twitter:". Proceedings of the 2nd international workshop on Search and mining user-generated contents, October, pp. 37-44.
- Sannicolas, Goffman. "Dramaturgy, and on-line relationships", Cibersociology. 1997.
- Schwartz, H.A. et. al. "Personality, gender, and age in the language of social media: The open-vocabulary approach". 2013. PloS one, 8(9), e73791.
- Strano, M. M.. "User descriptions and interpretations of self-presentation through Facebook profile images". Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 2008, 2(2).
- Wu, Y. C. J., Chang, W. H., & Yuan, C. H.: "Do Facebook Profile Pictures reflect user's Personality", *Computers in Human Behavior*, 2015, 51, pp. 880-89.
- Young, K. "Toward a Model for the Study of Children's Informal Internet use". *Computers in Human Behavior*, 2008, 24(2), pp. 173-84.