Visual Communication on Social Network Sites: The Dynamics of Visual Production, Self-Presentation, and Computer-Mediated Communication

by

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Abstract

The availability of Web 2.0 for public use has brought new forms of interpersonal and public interaction opportunities, which affect people’s daily lives by stimulating the complex process of socialization. Online acquaintances are becoming common leading to offline communication or strengthening the existing online connections. Social networking users use massive visual and textual data for self-presentation. Profile images play a significant role in this regard. This research explores the complex relationship among visual production, self-presentation, and computer-mediated communication. It investigates profile image typologies: production technique, visual motif, and photographic perspective. To answer the research questions, 1,028 randomly selected profile images, 90 online survey questionnaires and 7 in-depth interviews were randomly and purposefully collected from students at Duke University (USA) and Jacobs University Bremen (Germany). Content analysis and visual context analysis were used to analyze the collected data. The results show that profile images carry intended connotations meaningfully selected by profile owners. Images connote users’ feelings, emotions, and desires; they are used to tell personal stories, remember significant others, endorse people, promote products and institutions, and announce events. The vast majority of Facebook users prefer to use candid, person profile images, for modifying entails misleading relatives and friends. Moreover, the majority of the profile images are close-up, frontal, eyelevel photographs which convey authentic self-presentation. The process of online visual self-presentation is analyzed from the perspective of hyperpersonal communication; it is asynchronous in that profile owners spend some time with a purpose in mind to choose relatively stable profile images suitable for most audiences. Online self-presentation in images is not about the individual profile owner; it is essentially about the complex interplay among the event, the subject, the photographer, and the technology. This research, therefore, provides both empirical and theoretical foundations of not only the power and significance of images in computer-mediated communication but also the complex relationship among visual production, self-presentation, and computer-mediated communication.
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1. INTRODUCTION

People create and maintain social connections. They create emotional bonds or networks with family, friends and acquaintances for healthy growth and development. Networks are dynamic psychological constituents for human survival (Dwyer, Hiltz, & Passerini, 2007) and have existed from time immemorial in numerous forms and levels of communication set-ups. However, networks as theoretical concepts evolved more recently. Social networks as a term are often associated with Moreno, a psychiatrist who studied friendship patterns of group runaways by employing a new method, sociometry, for eliciting individuals’ personal feelings toward one another (Moreno, 1934). Borgatti et al. (2009) documented that Durkheim’s view of human societies as biological systems made up of interrelated components became tangible and measurable through Moreno’s sociometry.

Scholars define networks in broad socio-technological frameworks. Barney (2004: 2) describes networks as a connection of various nodes (persons, organizations, or computers) with several other nodes intricately linked to numerous other nodes. According to Hekmat (2005), the relationship between persons, commercial relations between corporations, and even intermarriages between families are all considered forms of social networks. Similarly, Castells (2004) in his works has elaborated network society in relation to information technology. Castells (2004) notes networks as self-configurable, intricate organizational entities with the capability to recruit new users and new contents in the process of social interaction (Castells, 2004: 4).

The introduction of digital technology coupled with an unprecedented increase in global Internet usage has brought about new forms of digital networks. Several social networking sites have emerged in the last ten years, each with specific goals. A common characteristic feature for all social networking sites is their ability to let users form social connections (boyd & Ellison, 2008; Ellison, Steinfield, & Lampe, 2007; Wilson, Wassermann, & Lowndes, 2009). Social networking sites are intended to provide a basis for sustaining social
connections, finding users with comparable interests, and locating content and knowledge that have been added or recommended by other users (Mislove et al., 2007).

Several researchers have demonstrated that people join social networking sites for different reasons. Some join social networking sites to reconnect to distant friends and preserve past memories – to track the actions, beliefs, and interests of different groups to which they belong to (Ellison, Steinfield, & Lampe, 2007; Joinson, 2008; Johnstone, Todd, & Chua, 2009; Matsuba, 2006). In addition, users join online social networks to earn emotional support from fellow friends, play games, or waste time (Joinson, 2008). They also make use of the social networks to exchange information, entertain themselves (Matsuba, 2006), express hidden selves (Suler, 2002), and explore other non-conventional identities (Rosenmann & Safir, 2006).

Investigating how social network users construct their online identities suitable for network members may answer some of the fundamental questions of social networking. In order to answer these overarching research questions, various components that make up online self-presentation and identity formation have to be thoroughly examined. Social network users make use of textual and visual inputs to construct their online identities. Therefore, the photographic images and texts profile owners post on their social network pages are primary cues of understanding the fundamental principles of online self-presentation and identity formation. Both the quantity and the quality of these cues should be the primary targets to study online self-presentation. Moreover, the activity of network friends contributes their part for profile owners’ identity construction. The primary aim of this thesis is to investigate images – communication artifacts which are much neglected despite their ubiquity. Today, nearly all of the social network users post images online. The majority of images posted on these sites may carry cues that resemble the profile owner, though other types of images are also uploaded. Most of these images may be snapshots of past moments as well special occasions (birthdays, vacations, and family celebrations); other images may be copied from the Internet.
Moreover, visuals can be used in many different contexts. For example, photographic images can be kept as private keepsakes, complement textual stories in news media, become primary cues in advertisements, or represent the individual on social networking sites. Today, picture-taking has become a very significant social and cultural phenomenon for most people (Knox, 2007). Photographic production, has taught us a way of seeing ourselves—how we present ourselves and form impressions of others (Lury, 1998). Thus, photographic images in this era have become markers of memory (Adatto, 2008: 62) and provide substantive evidence for ephemeral incidences, for they are frequently considered as unmediated, impartial representations of the real world (Lury, 1998; Van House, Davis, & Ames, 2005). During the Internet age, personal photography has become an important communication tool through which people can communicate personal encounters irrespective of spatial and temporal differences. Photographs are mediated copies of seemingly real world events shared through the communication network.

Recently, picture-taking has become a widespread activity particularly among young adults. The incorporation of camera lenses on mobile phone devices has inspired everyone to become a potential photographer (Adatto, 2008). Occasionally, major news organizations also use amateur (cell phone) snapshots or video recordings in their news broadcasts. A considerable number of people, particularly the young, have increasing access to editing software that assists them in changing the properties of their images. They store images on memory cards (sticks) and hard discs, or upload them to social networking sites. Several research reports disclose that posting images online has shown tremendous growth recently due to the availability of digital (phone) cameras and high-speed Wi-Fi networks. However, research on digital image use on the Internet is still very scant. So far, only a few studies have been published on the actual production and dissemination of online visuals and their usage for self-presentation on social networks. This thesis, therefore, addresses research questions related to visuals in computer-mediated contexts.

This dissertation is divided into eight main chapters. The first two chapters discuss digital image production, visual motifs, self-presentation, and computer-
mediated communication. The Literature Review chapter elaborates on the development of digital photography from its inception and theoretical approaches of self-presentation through images. Meanings attached to images and their role in personal, group, family life and beyond are elaborated. Theoretical discussions of digital image taking devices and visual production are elaborated. In addition, this section discusses the extent of visual production's tremendous change in the last twenty years. It deliberates how the smartphone has brought photography to the people. Therefore, special attention has been given to photography and its role in family, individual, and group settings the 21st century. A particular emphasis has been given to the production of photographic images in the 21st century. During an era where every young adult takes photos of his or her own and others, understanding the visual production process has become a pressing question.

The Theoretical Approaches and Research Design chapter is divided in three sub-chapters. The first section discusses how Facebook users construct their identities online. In this section, previous research reports in computer-mediated communication and self-presentation have been summarized. Images are very crucial components of self-presentation and impression formation, particularly in computer-mediated contexts. Previous research reports on self-presentation, impression formation, and meaning attribution in computer-mediated communication testifies that people use social network communication sites for communication, partner selection, or entertainment purposes. The motives of using each social network site differ considerably depending on the intention of the social network user; communication on these sites depends on why and with whom the social network users communicate. Thus, young adults in particular frame their identities in ways that suit a certain group of people within the network. This is particularly true with profile pictures, which are selected by the profile owners from many other images they have. In light of the previous reports, the research questions are framed in a way relating to previous findings and the present research directions. Moreover, the methods of analysis of each research questions are provided for clarity.
The sub-chapter 3.3 provides a detailed description of how visual, interview, and online survey data have been collected. The sampling techniques for different types of data are elaborated in detail. Moreover, the coding procedures for the interview, online survey, and visual analysis are clearly explicited since different codes are developed for different types of data. The interview and online survey use comparable, but not identical, coding schemes. The visual typologies have been developed separately, primarily from a pilot study conducted before the main data were collected (Lewin, 2011, Schreier, 2012). Few concepts from recent research reports were also taken into account (Astheimer, Neumann-Braun, & Schmidt, 2011; Hum et al., 2011). This research is primarily inductive and exploratory. It is also comparative in that data for Duke University and Jacobs University have been separately coded and compared to see if there exists any difference between the institutional networks.

The Methodology Chapter focuses on the data source and methods used to analyze the data. In this chapter, the subjects and the instrument used as well as the methodologies to analyze the visual, interview, and online survey data are explicated. The chapter clarifies how Content Analysis and Visual Context Analysis and Iconography-Iconology are applied to characterize visual motifs and shot perspectives. Content Analysis is the most recommended and widely used technique to analyze visual and textual material. Visual Context Analysis is a recent theoretical framework inspired by iconography-iconology applied to mass communication. It is a theoretical framework to analyze visuals in context (Müller, 2007; Müller, 2011).

Chapter 5 of the thesis addresses research queries related to profile image production, methods of acquiring profile images, visual motifs, and photographic perspectives. The first section, Image Production, elaborates on the interview and online questionnaire results related to the processes of visual production. In this case, users explain the different ways of capturing, editing, and posting profile images. The criteria profile owners set to choose the appropriate images are elaborated in detail. The setting in which they are interested to take photographic images and their involvement as the subject and photographer are examined in this section. This would help scholars understand the subtle
production skills social network users have acquired in their experience with photographic images. The process of planning, selecting, editing, uploading, and changing of the online visual images is explored in this section.

The second section of *Data Analysis and Discussion* explores profile image typologies. It investigates visual production techniques, visual motifs, and photographic perspectives. The first section thoroughly investigates Facebook users' experience in producing visuals and their familiarity with picture-taking devices and software. The second part of the *Data Analysis and Discussion* examines visual motif patterns. Several image typologies are generated inductively from the visual data. Attempts are made to define each visual type to avoid conceptual overlapping. In this case, human and non-human images are thoroughly scrutinized. The motives behind using these images in the context of social networking sites are also deduced from the analysis. The third part of *Data Analysis and Discussion* elaborates on the photographic perspectives of user profile images from three perspectives: the distance (long, medium, or close-up shots) and horizontal angles (frontal, three-quarter, or rear), and vertical angles (high, eye-level, and low). Each of these images has been categorized from the perspective of the subject's distance in the image and photographic angles. This is based on the notion that image distances from the camera matter a lot for self-presentation. The angle of the camera from the subject has its own implication in self-presentation and impression formation. The section provides an elaborate discussion of visuals in online communication and self-presentation contexts. The research also explores the different motives of social network users for choosing their profile pictures with different visual characteristics.

The *Results* section digests insights of visual production, visual motif, and photographic perspectives by comparing and contrasting with other similar studies conducted so far. It juxtaposes the empirical and theoretical frameworks, previous and current, with the findings of this research. The *Conclusion* section recaps the relationship between photographic devices, profile images, network communication, and identity formation in the context of computer-mediated communication. The thesis is expected to contribute to the theoretical foundations of visual production, self-presentation, and impression formation.
processes as well as online identity construction in computer-mediated communication.

The Limitations of the Research and Future Research Directions gives a reflection of the research process. It gives some insights into the problems which surround conducting online research. Moreover, it maps out some of the pressing research directions in visual production, online self-presentation, and computer-mediated communication. Potential research areas that have not been explored so far due to the constraints of time and resource are indicated for future studies.

Investigating how people have become recorders and distributors of their daily encounters using mobile phone technology requires not only the scrutiny of users’ behavior from the psychological point of view but also researching how social network users communicate in public contexts from interpersonal or mass communication perspectives. Visual production, dissemination, and consumption in computer-mediated communication link several disciplinary fields that focus on comparable research topics. Similarly, Internet users create their own digital identities online. They create online blogs and profiles to express their feelings, attitudes, and desires. They share textual and visual data. On Facebook, for example, users update their statuses, upload images, join discussion groups, and like photos and updates. They present themselves in images and texts, and the construction of online identity necessitated that researchers across different fields collaborate and study the new trend in a comprehensive manner.

The stipend for this research was obtained from the interdisciplinary center Visual Communication and Expertise (VisComX) at Jacobs University Bremen, Germany. The center was founded in 2009 as a collaborative visual research initiative from the disciplines of Communication Science, Computer Science, Psychology, and Art History. These fields study visual communication from different yet interrelated perspectives. The thesis, as a product of the collaborative, interdisciplinary study, touches upon theoretical concepts from some of these disciplines: Mass Communication, Visual Studies, New Media, and Psychology.
2. REVIEW OF RELATED LITERATURE

2.1. Development of Digital Image Production

2.1.1. Digital photography in the 21st century

Photography needed several years of experimentation and innovation in a range of fields to reach its current stage of development. Two types of shifts are visible in the digital turn: technology and use. The price of digital cameras dropped significantly. Thirty years ago, unlike today, the analogue cameras were very expensive. Today, the digital camera has been reengineered to be an affordable user-friendly device. The overall improvement in producing precise lens, shutter speed, and color correction was vital for photographers to shoot both indoor and outdoor scenes with ease. Moreover, the digital camera gave the photographer an instant feedback. The photographer could review the pictures he/she shot on the spot.

The digital cameras which flooded the market after the 1990s blurred the distinction between amateur and professional photography. In addition, the integration of image capturing mobile phone camera technologies created further opportunities for users to take decent quality snapshots anywhere. Phone cameras facilitated the flexibility and affordability of producing images (Garry & Wade, 2005). Today, most individuals can afford to buy camera phones or digital cameras capable of taking pictures. Picture-taking has become part of individuals’ daily life experience. Such technological advances increased the popularity of photography. People can take as many images as they want, for they do not have to worry about film rolls or space restrictions. Yet, not all captured images are kept permanently; some images are short-lived.

During the digital era, photographic images tend to serve different proposes. First, they are seen as records of a reliable source of factual evidence (Meurer, 2003). The photograph discloses a more absolute truth, a more perfect identity (Adatto, 2008). All traces or resemblance to nature disappear in other forms of image-making (Sturken & Cartwright, 2005). People have many options to keep their images, and it is common practice to see them having pictures of
themselves and beloved ones in wallets, on mantelpieces, in family albums, boxes, envelopes, drawers, digital files, DVDs, cell phones, and computer screens (Adatto, 2008: 60). Second, photography has become an important contributor of visual data. According to Adatto (2008), the incorporation of cameras in cell phones makes everyone a potential photographer. There are occasions major news organizations use amateur photographic/video images for their news reports.

Mitchell (1992) argues that the digital era is a post-photographic era. The scholar explains how digital technology restricted meanings associated with humans and photography. Photography, however, is interpreted in some form of context (Müller, 2007, Müller, 2011). According to Lister (2004), modern photography is more than technology because it is our cultural, historical, and psychic investment; it is about identity, power, and memory. Machin (2004) argues that there has been a shift from photography as witness to photography as a symbolic system – a culture of branding, where products are represented by images through the meanings and the values of the products rather than through the products themselves, or their functions and uses.

Today, many young adults carry mobile phones capable of taking pictures. They casually take images for private purposes in schools, clubs, and other public places and share them with their friends. Yet, these images are shared less in the context of the family, but more in peer group environments (Van Dijck, 2008). Images can easily be shared using wireless electronic mail, online storage, flash drives, or any one of the following communication methods: Wi-Fi, Bluetooth, or infrared. The physical presence of viewers in a real time and space is no longer required to view the shared images; instead, the content is reproduced and stored by a desired number of audiences. Recent developments on online social networking sites such as MySpace, Facebook, and Picasa have further strengthened photographic sharing practices by transcending temporal and spatial restrictions. Thus, most teenagers consider their pictures as temporary reminders rather than permanent keepsakes (Van Dijck, 2008). In other words, young adults seem to increasingly use digital imagery for ‘live’ communication instead of storing them for ‘life’ (Van Dijck, 2008: 58). Similarly, during the age
of the Internet, the main purpose of photographs is self-presentation, not family representation Harrison (2002: 107).

Success in mechanical and optical equipment has made digital imaging a meaningful activity. Such practice, in turn, is intricately intertwined with communication and information technology and the Internet that define the relationship between people, communication technology, and imaging. In an era where photographic cameras are relatively ample, particularly among the young, researchers are fascinated to learn how images are created using these devices: Digital Single Lens Refex Camera (DSLR), compact digital camera, cell phone camera, iPad/tablet camera, or webcam. Picture-taking with these devices has become ubiquitous. A lot of incidences that impact our memories could be captured with these photographic devices. The practice of using digital cameras seems to increase not only our knowledge of image making but also the activities associated with producing these images.

Photography could be defined as the process of creating realistic-looking images. Therefore, the need to know more about image production during the digital age is a timely question. It is reported that in contemporary culture, people think in a picture-perfect mentality, with self-conscious attention to the construction of images (Adatto, 2008: 25). One way to achieve 'perfectness' is by enhancing images. It is argued that people are impressed by a nicely produced image and outraged by the distortions and deceits of another image (Adatto, 2008). Elaborating on this point, Sontag (1977) gives a synopsis of how images are trivialized and at the same time made significant:

Photographs, which fiddle with the scale of the world, themselves get reduced, blown up, cropped, retouched, doctored, tricked out. They age, plagued by the usual ills of paper objects; they disappear; they become valuable, and get bought and sold; they are reproduced. Photographs, which package the world, seem to invite packaging. They are stuck in albums, framed and set on tables, tacked on walls, projected as slides... Photographs are fragile objects, easily torn or mislaid... (Sontag, 1977: 174).

The current transformation of both amateur and professional photographers in the knowledge of picture making has extended not only the potential of the
camera for genuine documentation; it has also created the potential for images to subvert reality on an unprecedented scale (Adatto, 2008: 65-66; Garry & Wade, 2005). The introduction of editing software in particular impacted the way people understand images; the truth-value of photography is eroded due to image editing processes. Photographic image digitization made possible the fake realism of photographs, i.e., all pictures are not necessarily representations of the real world; in fact, some of these images can be transformed into imaginary depictions of a particular thing, idea, or thought. The camera can lie; the picture can be fabricated, packaged and manipulated (Adatto, 2006; Garry and Wade, 2005; Sontag, 1977). In some cases, camera images are intentionally doctored in ways that erode public trust. Moreover, photos can be produced not only in artificial settings but can also be modified to a larger extent. The term artificially constructed realism refers to images with(out) a referent or real life component (Sturken & Cartwright, 2005). Still, in many cases people judge photography to be genuine and objective; and it is not possible to lose that truth-value of photography completely (Grosvenor, 2010; Wade et al., 2002).

The concept of photographic representation is associated with the erosion of photographic truth. The adoption of digital technology into photography and the necessity of positive self-presentation have intensified image manipulation that erodes the accuracy and truthfulness of photography (Garry & Wade, 2005). Previously, many people may have believed that photographic manipulation has been much more prevalent in marketing and entertainment images. However, manipulation was made subtly in images for individual consumption. So, there are tensions in which images should be authentic on one hand, and they should appear positive on the other. Manipulations have not been alien to both analog and digital photographic production processes.

Generally, it is a common practice to see people using photo-editing software embedded in the compact cameras, mobile devices, or personal computers. Many young adults may have acquired photographic production skills to crop, correct, enhance, or combine their images (Garry & Wade, 2005; Grosvenor, 2010). The process of photographic editing may not require users to be experts. There is a ton of 'handy' software available online and offline to alter any type of image.
without the need to spend time on using complicated professional applications. The photograph editing apps on mobile phones such as Instagram can be used to create filtered images and share them on social networking sites instantly. Users can address a number of issues when they use these software applications: filters can be applied; contrast can be improved; color can be boosted; images can be augmented; light exposure can be increased or decreased; or unwanted people (e.g. former spouses) can be cropped out. The software installed on the electronic device can help users correct flaws in the image (Grosvenor, 2010). In addition, the provision of an image editing software bundle helps young adults produce professional-looking images. Hence, image manipulation technology has become widely acceptable and inexpensive (Wade et al., 2002). Image manipulation results from people's need to appear attractive and unique; sometimes users may need to change the attributes of the image due to 'flaws' in the camera's aperture, shutter speed, and pixel quality. These conditions may require taking the necessary steps to make the image more appealing and realistic (Grosvenor, 2010).

2.1.2. Image posting and sharing on social networking sites

Attempts have been made to understand the role of camera phones and compact digital cameras in facilitating communication. These electronic devices create interconnection between the physical space and the digital space shareable among family members and friends (Lee, 2010). Digital revolution has tremendously affected the way people communicate pictorially. However, as far as the researcher of this thesis understands, very few studies have been conducted on the role of images in self-presentation and impression formation.

McLuhan in his seminal work claims that the media are extensions of man (McLuhan, 1964/1994). Consequently, the Internet as a medium may help users present their digital identities in images and form impressions of others from these presentations. Images on social networking sites extend the visibility of social network users in public and semi-public forums and may depict patterns of shared behaviors of people. They can quickly be captured, reviewed, edited, retouched, collated and uploaded with speed and frequency anywhere anytime.
as long as users are connected to the Internet (David, 2010; Van House, 2011). The image owner is usually an active producer and distributor.

Social network users can tag and share images of friends and acquaintances. Sharing is believed to depict a common ground between people less visible to outsiders; it creates an environment to access, process, manipulate and create media contents beyond the constraints of time and space (Cox, 2012; Lee, 2010). Sharing the trivialities of everyday life captured by the camera depicts self-revelations of people and their connections in tandem. Therefore, computer-mediated communication (which includes also mobile phones and digital cameras) helps users reach out as many connections as possible.

2.1.3. Self-Presentation in Images

Recent study shows that the transformation of digital technology and the proliferation of online social networking sites have facilitated the construction of online identities (Winston, 2013). Online identity formation is shaped by not only how the picture is taken (such as candid or posed) but also how these images are manipulated after shots (Hum et al., 2011). Camera incorporation in a mobile phone transformed the distribution processes of images, self-presentation, and self-evaluation. Cameras in the context of social reworking sites are used to portray individuals and events that are unfolding around us (Lee, 2009).

Winston, (2013) states that it is uncommon for users to present themselves with doctored or retouched images on social networking sites even if such practices exist. The researcher argues that a slight enhancement is not considered as a significant identity manipulation (Winston, 2013: 6). After all, images on social networking sites indicate a “carefully curated life” (Van House, 2011: 131). Self-presentation in images depicts the profile owner who embeds a message in the image. Selecting an image from many other images may be a subtle form of positive self-presentation. Self-presentation in images is not necessarily showing the picture of profile owner on a social networking site; the depicted images can also be that of the family members or loved ones alone or in group. Images,
which are used for self-presentation, reflect the view of the social network users who want to project out into the world (Gye, 2007).

Ease of use of digital or smartphone cameras and image-enhancing applications may have significantly helped users produce images of their interest. Some cameras have default image capturing settings such as black and white, sepia and vignettes. In addition, these digital cameras may have different modes: portrait, landscape, night, candlelight, snow, panorama and fireworks. The presets are used to enhance photographic images in various situations. Applications on the camera or personal computer are sometimes needed for further enhancement of photographic images. Users have endless possibilities to capture, store, and disseminate their digital images (Gye, 2007). The photographic practice, in turn, has resulted in new forms of identity formation and exploration. Users have unlimited photographic production opportunities that can help them explore about themselves. For example, Tinkler (2008) identifies three identity purposes of photographic practices: the production of statement of identity, exploration or playfulness with identities, and deconstruction of identities. Digital images are used to discover the presentation of the self. Image owners try on gendered or aged identities by manipulating these images (Cullen, 2006). Deconstruction of the self refers to the way the photograph owners dissect themselves using images. This may be important to scrutinize the new perspectives, foci and consequence of shots (Tinkler, 2008).

2.1.4. The Motives of capturing photographic images

There are several factors that affect the motive of capturing photographs. Few researchers tried to analyze why people capture digital photographs. The primary purpose of capturing images is to construct personal and group memory (Gye, 2007; Lehmuskallio, 2012: 180-81; Tinkler 2008). It is reported that photographs bind people together. They establish members of a particular community visually by giving cues of the subjects, the time taken, stories that are told around the image and relationships (Van House, 2011). They initiate conversations among group members (Lehmuskallio, 2012: 150). Besides, photographs are used to create and maintain social relationships; accordingly,
capturing a photograph is a means of building and maintaining social ties (Lehmuskallio, 2012: 150; Tinkler, 2008).

When people exchange images, they maintain their social relationships. Belongingness to a certain group is conveyed through displaying, exchanging, or sharing photographs that carry memorable occasions (Tinkler, 2008). The way one poses in images or shares images conveys how he or she is connected to others who further enhance social activities and interaction (Lehmuskallio, 2012: 150). Moreover, Gye (2007) claims that people use photographs to express the self. Cameras are used to document personal experience, enhance social relationship and create self-expression and user produced presentation (Lee, 2009).

A photograph portrays people’s interaction in front of the camera; such interaction reinforces online and offline social bonds. Successful interactions depict confident poses, however, strangers are left out of snapshot depictions (Lehmuskallio, 2012). In this way, picture taking is a way of showing cultural and social membership (Chalfen, 2002, 1987). Knowing when to take pictures, how to pose, what to do with the images are ways of sharing experiences as they happen in certain contexts. Moreover, the clothing chosen as well as the people included in the pictures can show who and what is considered to be an important part of one’s universe (Lehmuskallio, 2012: 153). People of special importance are usually pictured to show social connections.

Sharing pictures publicly may encourage people of similar interest to communicate about their hobbies and interests. For some people, discussing issues publicly on photo-sharing sites is easier than talking about the same issues face-to-face (Lehmuskallio, 2012: 181). Individual and collective social connections are revealed on the social networking sites. Van House (2011: 131) argues, “By making visible both one’s own and other people’s public representations of online activity, including photographs, social networking potentially increases the citationality of people’s online activity, re-iterating social norms and formations.” Furthermore, images are used to express
producers’ talents and understandings; they are used to highlight the social gratification earned from posting these images.

The photographic practice for online self-presentation can be studied from many perspectives: the image-capturing devices, processing images, distribution mechanisms, self-presentation and impression formation. This research cannot address all concerns related to profile images. Yet, it explores the relationship between young adults, photography and communication in the context of computer-mediated communication. Questions such as “What do the profile pictures people post on social networking sites tell us about them?” are adequately answered. Moreover, emphasis is given on the process of profile image production, motives and functions of profile images in the context of social networking sites.

2.1.5. Stages of photographic image production

Photographic image production is a complex process that involves three interconnected photographic events: deciding the subject to be pictured, picture-taking or snapshotting that involves pressing the camera button, and viewing the subject as an image (Cohen, 2005). Reaching a decision on what to picture refers to preproduction stage. Pressing the camera button is production stage, an activity accomplished after the subject to be pictured is identified. Postproduction stage involves evaluating the appropriateness of the captured image. Depend on the motive of the user, captured images can be copied, manipulated, sent, deleted, printed, merged or uploaded instantaneously on social networking sites for further sharing and distribution (Cruz & Meyer, 2012). Photographic image production is the process of changing a physical object to a digital one (Cruz & Meyer, 2012).

Digital images on social networking sites have significantly changed the way users depict themselves. For example, the profile image as an important tool of self-expression is viewable by members in the network (Winston, 2013). In addition, images that are posted on social networking sites are carefully choreographed to create a specific kind of appearance (Zhao et al., 2008: 1826). According to Lehmuskallio (2012: 11) pictorial practice is a way to act by doing
something to the camera, to have a particular appearance. The choice of images may not be spontaneous, but the image is carefully orchestrated to bring some form of appearance (Lehmuskallio, 2012: 11). This does not mean images posed on social networking sites are necessarily edited or manipulated. Profile images on Facebook are used to portray the profile owner as socially desirable by posting images of pro-social activities (Winston, 2013).

Natural-looking images are not produced simplistically as some people may think; rather, they entail different processes at many levels of photographic production. As stated above, the photographic production process can be classified into three broad interconnected stages, which require the photographer or the image owner to perform certain activities. The preparation before the image is taken is the preproduction stage. In this initial stage, the person contemplates why and how he / she needs to take an image at a particular place. After the motives of capturing the image and selecting the setting are decided, the actual shooting process takes place. This is the production stage. The image owner has to evaluate the photographic characteristics, and whether the images are worth keeping or not. That leads to the decision to keep, delete, modify, enhance, or retake the image, and this third level is the postproduction stage.

Photographic image production refers to the different stages images go through before they are readied for consumption. The process of photographic production starts from the purpose of taking images. Why do people want their photos taken? Why do they decide to take a new picture? Young adults may take photographic images for a number of reasons. Some people like to take their images during particular occasions; others do not have a clear preference. Then, depending on their intention, they need to have electronic equipment (e.g. a digital camera or a camera-ready cell phone) capable of taking photographic images. The accuracy of the newly taken photo may be evaluated by owners and, in some cases, significant others. The behavior of the consumer of the photograph is also taken into account. However, photo-taking activity generally depends on the motive of the user. Hence, it is essential to see how photography has developed into a system of self-representation and social connections
(Fernández-Dols & Carrera, 2011: 44). The introduction of social networking sites necessitated the study of image production for online consumption.

2.1.5.1. **The preproduction stage**

The preproduction process includes the psychological and material preparations needed before the actual image is shot. During the preproduction process, a certain setting (convenient time and place) must be chosen; a certain camera whose features can be manipulated to produce the user-desired results is selected to take the snapshot. In many of the photograph-taking occasions, preparations have to be made before images are shot, whether the occasions are spontaneous or planned. In some cases, there is a tendency for the photographer to take snapshots many times or in rapid succession in order to select the best image or the image with the intended characteristics. The photographer presses the shutter button of the camera at a certain convenient time once or continually till he/she produces a “preferable” image. Yet, it is not clear what prompts the users to prefer a certain image over similar others.

Previous research does not clearly explicate why and how people select not only a certain setting in image production but also the decision rules they need to consider when they select the camera that they choose to take snapshots with. How do people decide that a particular time and place is convenient for their photographs? What motivates them to take images? What are the intentions of taking photographs? To the best of the author’s knowledge, no research so far has provided the criteria and procedures social network users follow for taking profile pictures. The preproduction process section of the research explores the question why people choose a certain place and time to get their images taken. It also examines the relationship between the setting, photography, and self-presentation. This is particularly relevant in the case of young adults who usually take pictures, post them on social networking sites, and often replace them with new pictures. What makes a particular image the best that can be used in the context of social networking sites? The current research answers some of these questions related to the preproduction processes.
2.1.5.2. **The production stage**

The production stage refers to the actual image capturing process after the decision is reached what (the target subject), where (the place – either indoor or outdoor), and when (the time of the day when shooting takes place) to capture an image. The production stage comprises three different ways in which images could be taken: a person can shoot the image himself/ herself (self-shot); he/ she can schedule the camera to take a snapshot of him/ her (camera-shot); or images can be taken by another person (other-shot). However, the responsibility of taking self-image, in the first two cases, falls in the hands of the subject who captures the self-image. In the third case, however, it is the photographer who assumes the responsibility for taking a snapshot of the subject. The subject may or may not be aware of what is being done. Images can also be taken spontaneously without prior thinking. For example, people may take pictures when they encounter interesting events. The photographer plays a significant role in the production process. Depending on the attributes of the image, the photographer, and sometimes the subject, images could be deleted, retaken, or stored instantly.

During the production stage, unlike the photographs of the analog era, digital cameras automatically create metadata on the image. They include camera brand, exposure time, aperture, and ISO (sensitivity of image sensor measured in numbers). Furthermore, images also contain descriptions of date and time, file size, file type, compression ratio, color, and depth (Burford, Briggs, & Eakins, 2003). Such features are identifiable on most digital images. Similarly, some metadata fields may, to some extent, correlate with content-based information (e.g. time of day may be indicated by light levels), but the metadata themselves are discrete may only be accessed directly either from personal computers or from the devices themselves (Burford, Briggs, & Eakins, 2003).

The production process also involves instant changes made to the photograph (such as color adjustment, lighting, or cropping unwanted parts) and other changes that can be applied to the image before deciding to keep or discard it. Also, some features may be added to the picture while others are removed. This editing process can be further enhanced on personal computers or the camera,
or any other electronic device at a later stage. Digital photography has certain characteristics that its analog predecessor lacks. For example, photographers could not evaluate their image on the spot before printing or developing. But in digital photography, the photographer has options to reshot, crop, enhance, or keep the image without the need of developing the film. In the case of digital images, people do not keep the image unless it fulfills certain criteria; they discard pictures instantly if they do not display the desired user-defined features.

2.1.5.3. The postproduction

Many modern digital cameras allow hobbyist photographers to shoot professional-looking images. The camera also makes certain capacities of professional cameras available for consumer use (Cobley & Haeffner, 2009). For example, images are captured, cropped, modified, or recreated and eventually saved during the stages of the production process. Few crucial steps are taken in the postproduction stage – the final stage in producing a user-defined image. The decision to keep certain images and discard others can be made during the production stage. However, photographers may not have time to decide on the attributes of the image and, therefore, remain unsure of the quality of the picture. Sometimes, it may not be possible to tell the quality of the image on the camera’s small LCD screen. Hence, young adults keep the images on the memory card and decide what to do with it at a later stage. Therefore, based on the criteria they set, photographers or image owners can decide whether the photograph is worth keeping on the camera or the hard disc.

Photographic images can be captured and edited on the spot (many cameras have the facility of cropping and adjusting color). It is possible to edit or modify an image using pre-installed bundle software such as iPhoto on Mac or Microsoft Office Picture Editor on Windows. With these preinstalled editing tools, users can manipulate the image (Tirohl, 2000). There are also high-end applications that help users edit images. For example, Adobe Photoshop is one of the best software programs available for private use. Photoshop lets amateur photographers manipulate the setting or the camera angle to produce a ‘perfect picture’. Furthermore, a wide variety of options are available for users to
purchase other digital retouching software programs and install them on their computers or other devices for a reasonable price. Hence, the entire apparatus for the production, editing, and exhibition of photographic imagery has now been fully domesticated (Furstenau & Mackenzie, 2009).

In fact, digital photographic manipulation can be performed on phones, cameras, personal computers, or online. There are many software applications and websites that offer what Adatto (2008) calls digital surgery which can effectively remove scars and moles. In both the offline and online editing contexts, images can be orchestrated, superimposed, merged together, or segmented in countless permutations (Furstenau & Mackenzie, 2009). What is new in digital photography is the increased number of possibilities for reviewing and retouching one's own pictures, first on a small camera display and later on the screen of the personal computer. On the individual level, when pictures are taken using a digital camera, the subject may feel empowered to control the outcome because manipulating one's personal or public image is easy. According to Van Dijck (2008), "Previews and reviews of the pixellated image, combined with easy-to-use Photoshop software, undoubtedly seduce viewers into pictorial enhancement." (Van Dijck, 2008: 66).

However, despite the fact that digital technology has democratized the ability of users to alter images, doctoring photos goes back to the early days of photography. Although some theorists of visual culture have singled out manipulability as the feature that distinguishes digital photography from its analog precursor, history proves the opposite (Mitchell, 1992). Some researchers believe that retouching and manipulation have always been inherent in the dynamics of photography (Manovich, 2001; Ritchin, 1999; Wells, 1996). An instance in this case is Mathew Brady and other famous photographers who employed the photo retouching techniques of their day to enhance the portraits they took in their studios (Adatto, 2008). During those days, physical appearance and general demeanor acted as powerful outward signs and, therefore, people tried their best to create the most favorable impression by employing fashionable garments and accessories that demonstrate social status, economic power, and the tastes and preferences in society (Shrimpton, 2008: 6).
Today, the camera-enhanced, photoshopped body is everywhere – in fashion magazines, movie billboards, ads, and on television (Adatto, 2008). Researchers argue that photos indicate what Wernick (1991) has called our *promotional culture*, in which modern users sell their image for public consumption and sell themselves to potential customers (Cobley & Haeffner, 2009). A photograph could fail to do justice to its subject, or it could make people look better than they really do (Adatto, 2008: 44). Despite skepticism on the truth-value of photography, many people consider photography as a reliable witness of real-world situations (Tirohl, 2000). A photographer can now capture a digital image and dispatch it for publication via the Internet almost immediately afterwards (Cobley & Haeffner, 2009).

### 2.2. The power of images

Mitchell (2006) in his book, *What Do Pictures Want? The Lives and Loves of Images*, argues that an image is a living organism – a sign for a living thing and a living thing in its own right. In this case, an image represents a living organism in the real world. It is also considered as a living organism. Some researchers differentiate two types of images: the material image (*Abbild*) and the mental image (*Denkbild*) (Kappas & Müller, 2006; Müller, 2007). The material image is concrete whereas the mental image is rather conceptual. For every material image, there is a mental image, but this does not mean that all mental images have material counterparts (Müller, 2007: 124; Müller, 2011: 497).

Other researchers claim that images as cultural products are used to understand reality rather than serve the purpose of merely referential duplications (Aitken & Wingate, 1993; Barthes, 1977), for they provide evidence as to who we were, what we are, or what we would like to be (Chalfen, 2002; Greenhow & Robelia, 2009). It is also reported that we, as viewers of images, are trained to synonymize authentic photographic reality with mundane reality (Kindberg et al., 2005). We realize that the photographic images are unmediated copies of the real world halted at a set moment in the past (Andén-Papadopoulos, 2008; Murray, 2008; Van House, Davis, & Ames, 2005). Images play a principal role in our daily lives by representing ourselves and reflecting how we perceive the
environment around us. Supporting this view, Bock (2004) states how images could explain aspects of individuals and family:

"...They [photos] can tell us – in a way that differs from a story, interview or a spoken account, in some ways more immediate and yet in part more cryptically – about the family’s way of ‘being-in-the-world’, about the family members, about how those who took the photos saw themselves, saw the ‘other’ and others, and suggest what relation they establish between themselves and that which is ‘other’. They show us what is significant for them in their everyday life, so significant that they wish to fix it, to hold it fast, permanently; they show it in ways that a spoken account or story or interview might never reveal. (Bock, 2004: 281)"

Pictures appear more natural than words, and authenticity connects pictures with the real-world object. Pictures are thought to have analogical-indexical characteristics and lack explicit propositional syntax (Messaris & Abraham, 2001). The same scholars have documented that particular representational conventions may not be necessary to recognize pictures.

According to Van House, Davis, & Ames (2005), people are generally affected by personal photography as photographers, subjects, or viewers, and such impressions remain in the mind of the participant for a very long time. Photographic images are considered to be very powerful in evoking personal memories (Lury, 1998; Grosvenor, 2010; Sontag, 1977; Van Dijck, 2008; Van House, 2006), for they are records of true events of the past in frozen moments of time; hence, viewing a photo is not only a step backward in time but also an evocative encounter (Van House, Davis, & Ames, 2005). Photos are also believed to create and maintain social relationships. For example, the act of commenting on images on social networking sites shows to what extent photos reinforce social connections.

Studies indicate that photographic images have a great impact on people’s attitudes and their ability to learn about individuals, events, and issues (Andén-Papadopoulos, 2008; Barrett & Barrington, 2005). They bear meanings and carry ideas and myths and convert the subject from an active state to stillness – a moment caught in time (Adatto, 2008: 244). Moreover, photographs are used to
present the self in various occasions. Special events such as engagements, weddings, christenings, birthdays, and anniversaries are often documented in photographs (Shrimpton, 2008). Cameras can catch a person engaged in activities, and such movements are caught to make the subject a captive. Van House, Davis, & Ames (2005), who have studied the social uses of personal photography, argue that some people post images on the Internet primarily to create and maintain social relationships, construct personal and group memory, present the self, and express feelings of the self.

Nevertheless, people seem skeptical about the power of images in the contemporary world. The availability of image-enhancing software has eroded the way photographs are perceived in modern society. Even if the current digital revolution in picture making has extended the camera for genuine, real-life documentation, such practice has also created the potential to subvert reality on an unprecedented scale (Adatto, 2006: 65-66). Similarly, Tirohl (2000) contends that photographs have generally remained quasi-photographic, for images can be modified in subtle ways between capturing and uploading. Using the software, images may be cropped, watermarked, or they may acquire compression features (El Refaie, 2009). Furthermore, picture elements can be added, removed, exaggerated, or recombined during the production process in many intricate ways (Tirohl, 2000).

The properties of images are altered just because people generally like pretty faces and bodies more than natural-looking images (Adatto, 2008). People also like to see attractive pose, proper lighting, color and exposure, and mimicry of the situation (Chalfen, 1987: 71–99). There are two paradoxical views regarding image production. Adatto (2008) argues that we are impressed by nicely produced images on one hand, and outraged by the distortions and deceits that images purvey on the other. Another major reason that erodes the power of images is the possibility of producing human-like images using computers (Tirohl, 2000), a practice more common today than ever. These developments have overshadowed the way people perceive photographic images.
Several reports reveal that the number of images on social networking sites has increased at an unprecedented rate. A report released in September 2009 indicated that 30 billion photos were uploaded to Facebook each year, making for 2.5 billion photo uploads per month (Pingdom, 2010). Recently, however, Pixable.com’s new photo feed application sorted out 6 billion photo uploads on an average month on Facebook (Pixable.com, February 14, 2011), more than a two-fold increase compared to the reports in previous years. A report released in 2013 claimed that 250 million photos were uploaded to Facebook every day (Ansonalex, February 20, 2012). The report further states more than 2.7 billion “likes” are given every single day. The same report elaborates that 57% of global Facebook users are females (Ansonalex, February 20, 2012). Furthermore, 70% of users were outside the US, and one-fourth of all users had logged in and updated their pages from cell phones (Facebook, December 12, 2010). From a social network perspective, sharing images on the Internet has greatly encouraged users to present their daily lives in visual form in the global network, a practice not possible with print photographs (Miller & Edwards, 2008; Fernández-Dols & Carrera, 2011: 44). According to Social Twist (2010), Facebook represented over 78% of social network usage in 2010; hence, it was positioned as the most preferred social networking site among users.

2.3. Images on social networking sites

It is safe to claim that young adults, particularly college students, use social media (such as Facebook) on a regular basis to communicate with their network friends. In addition to checking messages, chatting with friends, and reading status updates of friends, social media users upload images on these sites. Some young adults enjoy posting images to “inform” others of the activities they have been engaged in and the encounters they would like to share with friends or the public. Friends on Facebook can comment on these images: the pose of the subjects in the image, the quality of the image, incidences that happened during, before, or after the snapshot was taken, or anything else related to the image. Hence, social media users are involved, though not on a regular basis, in some form of image production and consumption. They are producers in that some of them are involved in the production of images – either by taking images of others.
or having their images taken. They are consumers in that they see what is being produced by others – the end product, the image, eventually reaches them. The main aim of taking photographic images is to capture nonverbal communication (Cobley & Haefner, 2009).

Social network users may be involved in producing both artistic and realistic-looking images. They may use mobile phone cameras, compact cameras, or webcams to capture moving and still images. Users may sometimes sketch images (on computer or canvas). The reason many young adults capture snapshots can be due to the fact that lenses project actual images- visual representations composed of the actual light reflected from the actual things. Snapshot refers to hastily taken images without using a non-professional handheld camera (Chalfen, 1987).

2.3.1. Development of social networking sites

Social networks have emerged as a new social phenomenon online in the last ten years. However, a common and important characteristic feature for all network sites is to form connections between users (boyd & Ellison, 2008; Ellison, Steinfield, & Lampe, 2007; Wilson, Wasserman, & Lowndes, 2009). Previous studies indicated that online social networks, such as Facebook, Flickr, YouTube, and MySpace, were among the most popular sites on the Web (Buffardi & Campbell, 2008; Mislove, et al., 2007). Each of them provides a powerful means of sharing, organizing, and finding knowledge and information.

Social networks have shown tremendous growth recently. In 2004, a Harvard University student created Facebook for intra-campus communication and socialization within the horizon of the university. Later, the Facebook network mushroomed quickly to be one of the most popular social networking sites. In July 2010, Facebook claimed to have more than 500 million registered users. In January 2011, it claimed to have more than 600 million users on its global network (MSNBC, January 5, 2011). A report by Jay Parikh, Facebook infrastructure manager, showed that there were more than 1.11 billion global Facebook users as of March 2013 (Yahoo News, May 1, 2013). Such unprecedented growth was reported as a “meteoric rise that has connected the
world into an online statehood of status updates, fan pages and picture exchanges” (Washington Post, July 19, 2010). In addition, Alexa.com (2012), reported Facebook as the top site visited globally, followed by Google and YouTube.

Facebook allows users to register into membership-based groups of attended educational institutions, affiliated organizations, or geographic location (country and region). It authorizes its users to present themselves in an online profile, to display pictures in online albums, describe their personal interests and hobbies, scrutinize each other’s profiles, and comment on pictures, video clip or status updates and personal notes of users. Users can join virtual groups, see their common interests, and learn each other’s hobbies, interests, and relationship status unless access to this information is intentionally disabled.

This being the case, one of the challenges of social networking sites is the authenticity of user profiles. Some social network users may not disclose their identities, particularly their names and profile pictures, for various reasons. Yet, research indicates that Facebook profiles are generally much more authentic compared to other social network forums (Ellison, Steinfield, & Lampe, 2007). Profile components including images provide traces of users in an online community that may act like an indirect interrogating in face-to-face environments to determine shared ground. Ellison, Steinfield, & Lampe (2007) argue that although online profiles contain conventional signals, deception can be very demanding. In contrast, people in dating site profiles showed selected photos to conceal unwanted qualities of their bodies, such as being overweight or too short; in fact, users carefully craft an attractive persona in dating sites (Gibbs, Ellison, & Heino, 2006).

Social network profiles are arenas for self-presentation and social interaction; they are designed not only to exchange information and knowledge but also to become virtually social (Buffardi & Campbell, 2008). Viewers build their impressions about a person from profiles (Barash et al., 2010; boyd & Heer, 2006). Profiles portray a user’s presumed self and how one wants to be perceived by other users (Martínez & Wartman, 2009). Thus, self-representation
is a very important matter on social networking sites, exemplified by photograph's likes, religious and political affiliations, and user contents (Martínez & Wartman, 2009: 39).

With the expansion of social networks, new survey reports reveal that images posted on social networking sites are increasing in number. Among these images, the profile image is selected based on the user purposes, assumptions, and beliefs to create a positive impression about him or her. However, little has been done to explore how online social network users present themselves visually. No comprehensive study has been conducted on social network profile images in relation to personality characteristics. This dissertation focuses on profile images and their role in self-representation and impression formation in social networking sites.

However images are understood in the contemporary world, the integration of computer technology in the production and the reception of images is of paramount significance. Most images are produced entirely with the help of computers. Today, most young adults incessantly upload personal images on the Internet, which are shared with other users on the social networking sites. Communicating through images has helped people visualize each other without meeting face-to-face. According to Lury (1998), visibility has become an imperative form of contemporary life. At the same time, this has triggered a number of criticisms. Frequent changes in the terms and conditions of Facebook might have led to profile data being universally visible by default which, in turn, might have created discontent among Facebook users who have privacy concerns. For example, Facebook is considering introducing facial recognition software by scanning all the profile images that are in its database (NBC News, August 29, 2013).

2.3.2. Risks associated with social network sites

Facebook, as a social networking site, exerts an enormous impact on people's daily lives. Most recent researchers have focused on the advantages of using Facebook. But, few research reports have disclosed that some activities on Facebook may severely harm users. For example, cyber-bullying is the most
common form of bullying among social network users. Cyber-bullying is intimidating social network users by making use of voice, text or email messages (Smith et al., 2008). It is an attempt by a strong student to humiliate, threaten or embarrass a weaker one (Barnett et al., 2013). It is reported that cyber-bullying, though less frequent than traditional bullying, is a very ubiquitous activity even among teens in elementary schools (Smith et al., 2008). Studies indicate that cyber-bullying affects half of American teens above 10 years old (National Crime Prevention Council, 2011). Cyber-bullying is also prevalent Germany (T-Online, April 17, 2013). A study conducted on 5,600 students at 33 schools in southern Germany shows that one-third of students are affected by cyber-bullying (Spiegel Online, July, 26, 2013).

Few researches have been conducted as to how cyber-bullying affects adolescents. In the context of offline communication, two-thirds of students in the USA have been bullied, and males are bullied more frequently than females (Barnett, et al., 2013). Phone call and text messages are the most widespread cyber-bullying methods (Spiegel Online, July, 26, 2013). Offensive messages account for 14.5%. Also bullies pass confidential information to third parties (7.9%). Mobile phone video clip bullying, though rare, is perceived as the most negative form of cyber-bullying among users. In this case, embarrassing photos and videos posted on Youtube account for 1.9% (Spiegel Online, July, 26, 2013).

A nationwide survey conducted in Germany shows that harassment, violence and insult on social network sites have become major problems among the adolescents (T-Online, April 17, 2013). Spiegel Online (July, 26, 2013) citing researchers indicate that 8% of 7th grade students believe that they perceive themselves as perpetrators of cyber bullying whereas the percentage figure of perpetrators in 10th grade increases to 14%. A recent study conducted on 1,676 Singaporean students aged between 13-17 shows a positive relationship between real world bullying and cyber-mobbing (Wiederhold, 2013). The study discloses that a student’s real-world experience with bullying is highly predictive of his/her involvement in cyber-bullying (Wiederhold, 2013).
Adolescents have different motives for bullying other adolescents online. Cyber-bullies may sometimes pretend that they are other people. They spread lies and rumors about the victims. They not only request the victims to reveal personal information, but also pass the information to other parties afterwards without consent, or post it for public consumption (National Crime Prevention Council, 2011). Some say that they bully others because doing so is funny. Such activity is particularly prevalent on Facebook (T-Online, April 17, 2013). Some perpetrators believe that cyber-bullying is a common practice and does not harm the victim (National Crime Prevention Council, 2011). According to the findings of National Crime Prevention Council (2011), cyber-bullies assume that they cannot be identified, or sometimes friends encourage them to cyber-bully others. Unfriending in the context of online communication may sometimes result in cyber-bullying. A study conducted on 550 adult Facebook users believe that “unfriending” on Facebook is actually relationship termination and, therefore, may urge others to cyber-bully (Bevan, Pfyl, & Barclay, 2012)

Cyber-bullying on Facebook is the most common bullying activity. In February 2013, when a man posted a threatening comment on the Facebook memorial page for two Tennessee girls who died in a car accident, some 3,000 students missed their classes the next morning (BBC, July 9, 2013). In 2009, The Standard reported that a 16-year-old teenager, who was not invited to a party, allegedly stabbed a man to death after seeing the Facebook invitation to others (The London Evening Standard, December 21, 2009). A university lecturer in Bangladesh was sentenced to seven years for death threats against the prime minister on Facebook (The Voice of Russia, June 27, 2013). Users’ personal data can be passed on to advertisers and other unidentified companies. In Germany, there are allegations that Facebook contacts have been illegally used for marketing purposes (Portland Press Herald, June 8, 2010). Stories of hackers and applications stealing Facebook data are common.

Sometimes, it may be necessary that national and international agencies take measures against cyber-bullies. For example, it is alleged that an assassination plot to kill a journalist on Facebook with fake Facebook accounts was foiled by FBI in Boston (Addisvoice, January 8, 2013). The news report adds that FBI
agents reportedly intercepted some of the exchanges detailing the plot. (Addisvoice, January 8, 2013). These are only a few of countless stories that circulate daily globally.

Very few researchers have tried to understand the effect of cyber-bullying on victims. How do the cyber-bullied react to such behaviors? Victims display a number of emotional behaviors such as psychological distress as well as physical and/or sexual assault including murder (Finn & Banach, 2000). It is reported that cyber-bullied victims show emotions of anger, embarrassment or fright, which may encourage them to seek revenge in the form of counter-cyber-bullying or avoiding friends (National Crime Prevention Council, 2011).

Failing to protect private data on social networking sites may pose severe risks of privacy invasion (Hart et al, 2008). Hackers usually steal information posted on the social networking sites to create fake account or pass it to other organization for various reasons. For example, photographs can be used to create fake profiles to befriend friends, family members and acquaintances of the victim. This would help hackers access more data from other connections. Personal emails can be used to advertise products and services. Generally, images and demographic data of the victim may be used as inputs to create multiple fake accounts in different social networking sites and add friends and acquaintances for further promotion of products and services. Unless images and demographic data are protected, fraudsters may use them to counterfeit other network members connected to the victim. Demographic cues can also be used to construct fraudulent identities. There are several incidences that third party institutions use social networking user data for commercial purposes (Debatin et al., 2009).

Young adults seem to understand privacy risks associated with revealing a huge set of data. The risks increase when users willingly publicize personal data in public or semi-public networks to maintain social connections with old friends and new acquaintances and create the social capital (Hart et al, 2008). A Study shows that profile owners do not seem to take precautions in protecting their private data due to the benefits they earn from Facebook (Debatin et al., 2009).
When profile owners reveal personal information, their data may be hacked, phished, mined, or abused. The privacy invasions are usually attributed to others than the self. Social networking users apply privacy settings when negative things happen to them, not when it happens to others (Debatin et al., 2009). For some social network users, social capital may outweigh privacy issues. In some cases, social networking users may think that privacy abuses may not occur to them at all.

Young adults use the social networking sites to varying frequency of time. For example, spending too much time on Facebook may negatively affect student’s daily activities. In one study, students’ self-reports show that 10-15 percent of social network users couldn’t control their Internet use (Kirschner, & Karpinski, 2010). Some students spend most of their time chatting with friends, viewing photos of others and commenting on status updates and photos instead of working on their assignments. It is reported that students could not complete their work as a result of staying up late which resulted in getting less sleep and eventually missing classes. In other words, Facebook use is negatively related to academic achievement (Kirschner, & Karpinski, 2010). Moreover, Facebook use is believed to affect subjective wellbeing of individual students. For instance, using experience sampling, Kross, et al. (2013) text-messaged the study subjects five times a day for two weeks to assess how students feel moment-to-moment communication and their satisfaction with their lives. It is reported that the more people use Facebook, the more their life satisfaction decreases. Therefore, Facebook use may undermine the wellbeing of the individual which eventually impacts health and longevity (Kross, et al., 2013).

People’s inability to control their images may result in privacy abuses. Threats of privacy abuses may come from two directions. First, images could be downloaded to create fake accounts, which are used as springboards to infiltrate other user accounts. Second, the facial recognition software on social networking sites may pose severe threat for people who do not want to be identified. The automatic identification software on the social networking sites may identify people irrespective of owners’ interests. Therefore, the trend in the privacy and ownership of images is tremendously changing. Images posted on social network
sites may be publicly viewed unless some precautions are taken. The publicity of profile images is particularly true in the case of the profile image. Anyone can share, download, or upload private images. Van House (2011: 128) argues, “...digital photographs have slipped the bounds of materiality and may have a life of their own outside the control of their makers.”

2.3.3. Research on social network profile images

Very few studies explain how our daily life is framed in images. Some researchers went about it by adapting theoretical and methodological frameworks from communication theories. For example, Walther’s (1996) Hyperpersonal Model, which was initially intended to examine textual messages in computer-mediated communication environment, was used as a theoretical framework to analyze visual elements of the photographs in dating sites (Hancock, & Toma, 2009). The Hyperpersonal Model of Computer-Mediated Communication claims that social networks offer users the unique chance to create more favorable impressions in text, images, and other communication features; in addition, users have more time to create their self-presentation in slowed-down temporal dynamics pertaining to sender, channel, receiver, and feedback (Holliman, 2004; McLaughlin, Vitak, & Crouse, 2011). The Hyperpersonal Model seems suitable for social network profile images that undergo the processes of selection, editing, and posting. The way users spend their time to select, process, upload, and eventually present themselves in these special types of images is of paramount significance in the study of self-presentation.

A study was conducted to measure attraction and affinity through pictures of familiar and unfamiliar research participants in the context of Computer-mediated communication (Walther, 2011: 22). The result showed that the unfamiliar groups with pictures were more affiliative than those groups without pictures. The result of the already established groups showed the favorability of their partners without pictures. The study also indicated that the moment a photo is shared with group members, attractiveness becomes fixed; however, the person’s endeavor to build a more attractive personality after that may backfire (Walther, 2011: 23).
According to Van House, Davis, & Ames (2005), people are engaged in complex photographic production processes. To produce a profile image, users should have access to digital cameras, webcams, or camera phones. Then, they should have a motive for choosing particular spatial and temporal settings. By engaging in online self-presentation, users have the opportunity to think about aspects of their personalities that could be made public and the photos that best convey their images (Ellison, Heino, & Gibbs, 2006). University students, for instance, may be driven to capture images that depict the mundane life of friends, events, and possessions; and these images are juxtaposed with artistic aspirations or pretensions such as lighting, framing, and composition (DiMicco & Millen, 2007; Murray, 2008; Van House, Davis, & Ames, 2005).

Users have endless possibilities to manipulate these images after taking the original snapshots. One reason for such manipulations may be due to users’ needs to produce “better quality” images. It is reported that amateur photographers depict their daily lives in fuzzy pictures because of the technical limitations of cell phones, webcams, and other compact cameras (Murray, 2008). However, these images can, in many instances, be enhanced with the owner’s artistic motifs and technical knowledge to make them captivating or bizarre. Digital imaging helped social network users to crop unwanted segments of an image, alter the color weight to create eye-catching or humorous sights, and remove red eyes. Such processes may, however, demand the user’s expertise in editing, or they may require him/her to employ easy-to-use editing software. In the study of Greenhow & Robelia, (2009), high school teenagers said that they used image editors to not only crop undesired part of images but also create artistic expressions. The picture editing process has sparked two important dimensions of photographic representation: productions in multiple copies of similar images available to multiple users, and stitching together several images to create panoramas or montages (Kirk et al., 2006). Such new forms of images imply more flexibility in people’s photo-practices and more complexity in the kinds of things they can do (Kirk et al., 2006).

A user’s profile integrates personal information that ranges from hobbies to images to other valid information about his/her personality (Back et al., 2010).
Quite often, social network users choose images that represent themselves online, as the image perhaps remains to be the most vital component of personal appearance. The image is usually intended to make an impression on the viewers. For this reason people intentionally spend time in carefully choosing images to represent them online. Social network users not only scrutinize themselves from their own point of view; they also assess themselves from significant others’ perspective. Approaches to self-presentation often revolve around limiting particular information or replacing it with altered details (Derlega & Berg, 1987; Kelly & McKillop, 1996).

Self-presentation is a very important concept in the context of social network communication. Buffardi & Campbell (2008) elaborate how social networking sites became gateways for users’ self-promotion through texts and images. According to Siibak (2009), people use images not only to visualize their appearance but also to highlight features that are significant for them. Some social network users have pre-conceived ideas as to how they should be perceived through their profile pictures. They post images online with defined photographic intent. In this case, self-portraiture showing the person’s face is one of the most important branding techniques used on social networking sites. Moreover, social network users may post images to show social relationships and friendship ties. Some people may like to remember past moments they spent with friends and lovers. Since a photo portrays a particular moment in the past, such events may remain the most remembered for a long time. These moments are used for self-presentation on social networking sites. In addition, social media users sometimes present themselves not with self-portraits but with images of pets or infographics. Yet, the profile picture has become an important component of social networking sites and the most evident component of online self-representation (Shim, Lee, & Parks, 2008). The profile image presents the user’s identity on dating sites, chat rooms, news sites, and online games sites. Even if the profile owner may not post an image of his/her choice, some social networking sites such as Facebook leave a generic space (a placeholder) on the top left corner of a profile page [Refer to Annex 5 for changes made to Facebook profile designs from 2004 to 2013].
In addition, the profile image, being an integral part of the communication process, takes a bigger space to attract viewers’ attention when it is compared to the surrounding textual descriptions. The significance of the profile image becomes apparent through the communication activities of users. On Facebook, a thumbnail of a profile picture usually precedes any textual and visual communication exchanges between social network users, emphasizing the significant role it plays in the online communication process. In this case, the profile image literally represents or stands in for the user’s body in an online environment (Strano, 2008). The profile picture on Facebook is the only image displayed when the name of the person is searched within the social network and beyond.

The profile image on Facebook has three different sizes– an original image in a profile album, a picture depicted on the profile page, and a thumbnail that appears before every status update, uploaded image, or comment. The thumbnail is apparently the most important picture that shows the profile owner in every communication transaction. The size is reduced for the purpose of toning images and texts during communication. As the size of the text is small, the image should also be small while maintaining visibility. In other words, it is inconvenient to have small size thumbnails while chatting, commenting, uploading images or updating statuses. The author of this thesis understands that the thumbnail is the
most recurring visuals on social networking sites. Nevertheless, this study considers images for analysis only from profile page, for these images demonstrate the “actual” identities of users. Moreover, this study explores self-presentation in social networking sites which necessitates studying images from the profile page.

Ellison, Heino, & Gibbs, (2006) believe that individuals are conscious of their choice of images when they depict themselves, and such portrayals are formed according to implicit guidelines. That seems to be the reason why many people put a lot of effort into choosing and sometimes enhancing their profile images. Social network users choose particular images for their profiles depending on their motivations. For instance, Vasalou & Joinson (2009) found that avatars on dating sites were made to look more attractive whereas they were made to look more intellectual in gaming sites. Thus, avatars were perceived by the profile owners as highly similar to participants’ self-image leading to more self-awareness and a higher rate of self-disclosure (Vasalou, Joinson, & Pitt, 2007). The same researchers indicate that attractive avatars increased self-disclosure and the willingness to approach members of the opposite gender compared to participants represented by less attractive avatars (Vasalou & Joinson, 2009). Hence, user identity is implicitly constructed and displayed through profile images (Shim, Lee, & Parks, 2008; Zhao, Grasmuck, & Martin, 2008; Van Djick, 2008).

Researchers investigated photographs or avatars from specific dating or gaming sites (Gallant et al., 2011; Hancock & Toma, 2009; Vasalou & Joinson, 2009). They contend that the presence of photos in online communication creates intimacy and affection for computer-mediated partners (Walther, Van Der Heide, & Kim 2008). However, images are posted for different purposes in different settings. On online dating sites, images represent males as somewhat taller whereas women’s images in the same sites tend to make them look slightly slimmer than in reality (Hancock, Toma, & Ellison, 2007; Zhao, Grasmuck, & Martin, 2008), indicating slight exaggerations in self-presentation and creating a dilemma for users’ desire to appear honest while at the same time promote attractiveness to potential partners (Ellison, Heino, & Gibbs, 2006).
images are more or less realistic as users want to avoid exaggerated appearance that may affect communication in later offline encounters adversely (Ellison, Heino, & Gibbs, 2006). However, it is documented that the absence of visuals in online self-presentation encourages more self-disclosure (Joinson, 2001).

Few studies attempted to generate image typologies from other social networking sites (Sites, 2009; Shim, Lee, & Parks, 2008). For example, Sites (2009) investigated gender differences in displayed images. The researcher found that females, compared to males, prefer to show pictures pertaining to friends, family, significant others, holidays, and schools. In a similar attempt to study profile images on social networking sites, Shim, Lee, & Parks (2008) investigated the contents of images on Cyworld, a South Korean social networking service. The research report indicated that images posted on Cyworld could be systematized into two broad categories: photos of the self and/or significant others, and photos depicting life events or scenes (Shim, Lee, & Parks, 2008). The researchers found out that the most frequently posted photos were the ones participants had taken with other persons, followed by individual photos.

2.3.4. Research on Facebook profile images

A profile image occupies an important space in the presentation of the social network user (Astheimer, Neumann-Braun, & Schmidt, 2011; Shim, Lee, & Parks, 2008; Strano, 2008; Zhao, Grasmuck, & Martin, 2008). Aware of the role images play in their online identity formation and communication, most young adults build their online profiles with images that reflect themselves, their interests, or needs. They make extra efforts to provide images that reflect their real or imagined self. Moreover, social network users may take their friends’ and significant others’ opinions, sentiments, and desires into account before they select certain images to be their profile pictures. This being the case, research on online visual communication in general and social networking site images in particular is scarce. So far, little has been done to find out how people make use of images to communicate among themselves. To the best of the author’s knowledge, Strano (2008), Hum, et al. (2011), Astheimer, Neumann-Braun, & Schmidt (2011) and Uimonen (2013) were pioneers in studying images and
image-based communication on Facebook. The scholars have attempted to understand the role of the profile image in young adults’ online identity formation and self-presentation.

Strano (2008) conducted an online survey to answer specific research questions related to the picture-posting behavior and the image interpretation practices of college students on Facebook. The researcher asked participants to describe their profile images in relation to the intended motives of these images. The study participants mentioned a number of concepts that fall into many overlapping visual categories. Since participant responses were self-descriptions that encompassed a wide variety of themes, it was difficult for the researcher to synthesize mutually exclusive image typologies. For instance, the scholar stated that study participants used terms like "alone" and "headshot" interchangeably. Yet, "alone" did not necessarily mean "headshot" or vice versa (Strano, 2008), for a long-shot with one person only could also be considered "alone." Most descriptions participants gave regarding their profile pictures were difficult to categorize. However, the study subjects provided first-hand information on perceptions and experiences users imbued in their profile images.

Framed visual categories lacked a methodological explanation, for the researcher did not explain the procedures followed throughout the analysis. Strano (2008) depended on users’ responses to categorize profile images. Motives for changing profile photographs were sought from users in the online survey. Many respondents stated that they chose their current profile images because they found them attractive, humorous, memorable, or romantic. Nonetheless, the study failed to identify traits that made users consider their pictures attractive or romantic. Systematic identification of the qualities that make images more appealing, humorous, memorable, or romantic would have led the researcher to come up with tangible concepts to understand the nature of profile images rather than resounding users’ perceived projections about themselves. The participants felt that people who saw their profile pictures would consider them as fun loving, friendly, happy, unique, athletic, or proud of a relationship. Finding answers from the profile images (the data) would have strengthened the result of the research more than asking the respondents to generate their perceived
indefinite viewpoints. Moreover, Strano (2008) attempted to discover what prompted users to change their profile image. Reasons provided for this question varied. Some said that they changed the photograph just because they got a new photo that could replace their old boring image; others claimed that they wanted to be more attractive (to show their appearance for others). Still others believed that they wanted to show a particular activity or event they took part in.

This study faced some methodological problems. First, the open-ended nature of the online survey generated unquantifiable concepts. The participants were asked to use as many words as possible to describe their profile picture, which might mean different things to different people. It also posed methodological challenges for the researcher, as participants’ reports were subjective descriptions and perceived opinions of their profile images. Strano (2008) did not publish the coding methods employed during analysis. It seems safe to speculate that the research gave the profile owners to interpret and categorize their profile images without precise visual categories. In other words, objective, non-biased descriptions of these images are missing. In addition, the research discussed only human images as profile pictures. In the course of the current study, several non-human images appeared in the sample [see illustrations on Annex 1]. Therefore, researchers should allow for images other than human portraits to serve as profile pictures, too. Images of pets, landscapes artifacts, or celebrities are not mentioned in Strano’s (2008) analysis. It is not clear whether the researcher excluded users with such images from the study, or all students used human profile images.

Hum et al. (2011) explored online identity construction and gender roles by comparing and contrasting profile images of male and female Facebook users. The researchers coded specific features of 150 college students’ profile images (60%–40% female–male ratio). They generated six categorical concepts to analyze the profile pictures: gender, number of profile photos in the participant’s profile picture album, level of physical activity, candidness, level of appropriateness, and the number of subjects in the image. Gender included male and female categories. The physical activity category consisted of a scale that ranged from completely-physically-active to inactive. The candidness category
included a similar measuring instrument that ranged from candid to posed. *Level of appropriateness* was used to measure whether the profile image was appropriate or inappropriate in the online context.

Hum et al. (2011) showed that the vast majority of users had more than 21 profile pictures, and there was no significant difference between males and females in uploading profile images. As to physical activity, more than three-fourths of these pictures were *pose* type. This also showed that there was no significant difference between males and females in the way they pose in their profile pictures. The result also showed that there was “no appropriate difference by gender” (Hum et al., 2011: 1831). The next item was the number of subjects in the pictures. It was reported that 42 percent of profile pictures contained *one subject*, followed by a *subject and another person* (32 percent), and the remaining 24 percent of images contained *three or more people* and few (2 percent) contained no subjects at all. The final result showed that the majority of users’ current photographs tended to be inactive, posed, appropriate for all audiences, and contained the subject. When all dimensions are considered, the results showed no gender difference in the use of profile pictures.

Hum et al. (2011) investigated the relationship between gender and image in identity formation and self-presentation. Even if the researchers tried to classify the number of subjects that appear in profile images, they did not elaborate what these images contain and the characteristic features they exhibited. They did not provide parameters to characterize each profile image. According to Barthes (1977), two layers of visual messages are evident: the first layer involves simple identification of the denoted element in the image (what is depicted in the images). Denotation is the surface meaning of the image. Barthes (1977) postulated connotation is the symbolic (deep, associated) meaning of an image, which can be inscribed by cultural codes. This may also be related to the historical and cultural contexts. The research by Hum et al. (2011), therefore, lacks methodological explanations and did not take the connotative aspects of visuals in users’ activities into account. In other words, there was little explanation that accounted for how Hum et al.’s (2011) categories were developed as well as the method through which they reached their conclusions.
In addition, similar to what was observed in the work of Strano (2008), Hum, et al (2011) took primarily human images (images that depict persons) into account, disregarding other types of profile pictures.

Recently, Astheimer, Neumann-Braun, & Schmidt, (2011) conducted probably the most elaborate study on Facebook profile images with a grant from the Swiss National Science Foundation. The study compiled results generated from 650 Facebook users between 2008-2011. The scholars produced mutually exclusive visual motifs of profile images. They classified profile image motifs into two broad categories: Dummy and Person (Astheimer, Neumann-Braun, & Schmidt, 2011: 32). The difference between person and dummy is that the former is intended to convey users’ online presence by posting authentic profile images, whereas the latter is thought to conceal the user with someone or something else’s depiction (Astheimer, Neumann-Braun, & Schmidt, 2011: 38).

Astheimer, Neumann-Braun, & Schmidt, (2011: 38) elaborated that the production aspect of Dummy is completely different from Person’s. First, the default Facebook placeholder can be used as a dummy. A profile owner can also select an image from the Internet and use it as their profile picture. The user has the option to modify it in a way that suits his or her needs. Additionally, the dummy category includes living creatures and artifacts. Celebrities are also included in this visual category. The use of cartoons, artifacts, and animals as profile pictures represents masked profile owners. The motive behind using the dummy image is that the young adults project what they like, want, or admire. In some cases, they intend to convey their own viewpoints and positions. By posting interesting images, users try to endorse an actor, a superstar, a pet, or an artwork, as group spirit is very important among young adults.

Astheimer, Neumann-Braun, & Schmidt (2011) further classified person images in both content and form. These refer to variants in style that modify the format of the passport or identification photo through interactive poses (how the subjects appear in the image) [P. 35], the number of people in the image (objects in the image) [P. 39], or image editing (changing color, merging images) [P. 50]. The researchers assert that the relationship photo (that includes friendships and
romances) shows not only the individual, but also significant others. The important thing in relationship photos is not the subject(s) in the image but the connections and communication transactions within the photographed. Hence, on a relationship photo, the communication aspects of individuals on the image are more important than the individuals themselves. Astheimer, Neumann-Braun, & Schmidt’s (2011: 39) analyses reveal the relationship between individuals (group spirit) to be a very significant communication aspect indicated in physical closeness, distance, as well as the sameness and differences of the corporeal expressions and symmetry of representation. This category emphasizes that friendship and relationship photos carry important symbolic values and are, thus, to be distinguished from individual’s images. In other words, the emphasis is on relationship, not on individuality.

Next, Astheimer, Neumann-Braun, & Schmidt’s (2011: 40) research reveals Body Pose as a significant element of meaning attribution. Under this category, flirt, viewpoint, mummery, model pose, gestural pose, and do-it-yourself pose are identified [Pp. 40-48]. Flirt refers to erotically motivated encounters between two persons: the observer and his or her object. This activity is mediated by body language (the head and upper body) and proximity (close-up shot). The camera is positioned at or higher than eye-level - usually seen from above. It is also often a side view showing a body in motion, an interacting face, eyes, and mouth; that is, the image does not show a person at rest. Viewpoint, on the other hand, is a representation of the face in half or full profile. It is the partial view of the person in the image where the body is turned away from the camera (observer). The black-white color also adds some idealization and says less of an individual [P. 42]. Unlike flirt, which focuses on the physical, the viewpoint focuses on the mental – the thinking ability of the individual [P. 43].

Mummery denotes images that are entirely hidden from public interpretation. The face is the most important feature in recognizing individuals, but mummery shows a “faceless” individual (Astheimer, Neumann-Braun, & Schmidt, 2011: 43). The scholars further argue that such motif is an antipode of the passport form, for the intention here is the non-identification of the individual. This also demonstrates a tension the individual is facing between self-disclosure and non-
disclosure and conveys that visibility does not mean identification. The category Model pose refers to an exaggerated representation of actions in profile images. This includes touching one’s body, tilting head angles, kissing lips, and gazing with dramatic eyes that indicates specific interactive rituals of seduction, playfulness, coolness, or melancholy [Pp. 44-46]. Model pose is related to normative role of masculinity and femininity. Gestural pose refers to some form of explicit communication with the observer. These gestures are symbolic and have more explicit meaning. Typical gestures are greetings (peace sign), blown kisses, drinking gestures, threatening gestures, and vulgar provocation, scene symbols, or pointing gestures. The researchers claim that these gestures are standard on social networking sites (Astheimer, Neumann-Braun, & Schmidt, 2011: 46). The final category relating to body poses is Do-it-yourself. Here, many amateur photographers take images of themselves in private spaces and post them on social networking sites as their profile images. Self–portraits, or “selfies”, have proliferated due to forwarding-face camera. The BBC, citing Boston-based media psychologist Pamela Rutledge, reports that selfies connote people being dynamic, alive, and in progress (BBC News Magazine, June 7, 2013). Accordingly, the question of individuality is shown in self-portrayal. In addition, the profile owners act as photographers, actors, and evaluators at the same time.

Fictionalization (Artification) is the creation of an additional scene around the images through creative acts of picture editing (Astheimer, Neumann-Braun, & Schmidt, 2011: 50). These are changes made to the color or contrast of the image. So, fictionalization includes cross-faded, montaged, or collaged personal portrayals using digital imaging techniques (preinstalled software or online image editing applications). Occasions refer to the shared background that gives important cues for the interpretation of public picture. According to Astheimer, Neumann-Braun, & Schmidt (2011: 51-52), travel day trips, parties, sport activities, and entertainment events represent typical autographical occasions for young people’s photographs.

After defining all the motivic concepts Astheimer, Neumann-Braun, & Schmidt (2011) analyzed the extent to which users’ profile images fit in these framed categories. The results were computed by analyzing the frequency of images.
coded in each category. The result indicated that the acceptance of passport photos was minimal, but the dummy type was more dominant and accounted for 10 percent of the total images. The self-portrait pose was very common for both sexes. The study also showed that girls’ profiles featured more flirt type photos whereas boys appeared more in thinker or greeting poses. Young males used the type gestural pose more frequently than females whereas females used fictionalization more frequently than males.

Astheimer, Neumann-Braun, & Schmidt (2011) deserve credit for their outstanding analysis of profile images. The visual categories are elaborate, and many visual motifs were addressed in the book, The Visual Worlds of Social Network Sites: Image and Image-based Communication on Facebook and Co. Their research is one of the pioneering works that thoroughly addressed the role of profile images in online identity formation and self-presentation. The categories used in the book can also be adapted and used on other social networking sites and millions of other photographs uploaded to the Internet every day.

However, there are some visual motifs that need clarification. First, only the major object in the image was considered for evaluation, and the peripheral entities in these images were not taken into account (Bateman, 2011; Seizov, 2014). These objects may have a significant contribution toward self-presentation and impression formation. No clarification was given as to how Astheimer, Neumann-Braun and Schmidt (2012) analyzed the objects of the foreground and background of profile pictures. It is important to note that the background images may have their share in conveying meaning to the viewers. Next, the way researchers categorized the visual motif, Dummy, lacks clarity. It is not clear whether celebrities, placeholders, artifacts, and animals were all grouped under the same category. If the researchers categorized celebrities and superstars in the Dummy category, it would be difficult to differentiate passport photos from images with other motifs. There is no parameter or typology that differentiates a celebrity image from a personal image. In fact, there can be certain occasions where social network users resemble superstars or celebrities. Yet, this does not mean that he or she should be labeled as Dummy. Celebrity images may also overlap with images in other categories like gestural, flirt, or
model. No clarification was given as to how the researchers solved these conceptual problems. Moreover, users’ choices to either use profile images or leave the placeholder blank may be based on users’ motives. A cartoon and a blank placeholder do not necessarily generate similar motives when they are used as profile pictures. The cartoon necessitates the profile owner’s active involvement in the production process. The profile owner produces an image, modifies the existing image, or seeks out a new image from the Internet and decides which image to use for his or her profile. In the case of the placeholder, the profile owner is not expected to do anything; it is there by default. When a user does not upload a profile image, he or she may have a different motive compared to when one uploads a cartoon or an image of a pet. In the study under review here, these distinctions between different types of dummy images are missing.

The line of demarcation between flirt and model type categories is obscure, too. Both flirt and model type appearances tempt viewers for a purpose, which make the two concepts difficult to distinguish. Furthermore, the way the researchers defined do-it-yourself seems unclear. The digital camera can be programmed to take pictures, and the researchers did not elaborate whether taking images by setting a self-timer is do-it-yourself or another type of image-taking practice. There are many instances where the camera owners request passersby or friends to take pictures. Self-shot (do-it-yourself) is something that cannot be identified or determined from the image. Stretching one’s hand in the image does not necessarily imply it is a self-shot (do-it-yourself). It can sometimes be a type of gesture; the profile owner may convey something else to the viewers. Therefore, it appears that the do-it-yourself pose type is difficult to code as a category, unless such responses are elicited from the subjects themselves during the interview or questionnaire survey.

Astheimer, Neumann-Braun, & Schmidt (2011) classified Facebook images into two broad categories: Dummy and Person. However, applying theories of visual analysis to the classification may produce conflicting results. It can be argued that Astheimer, Neumann-Braun, & Schmidt’s (2011) classifications explore unrelated visual dimensions. The art historian Erwin Panofsky (1970/1955)
suggested three stages to study a work of art: pre-iconographical, iconographical, and iconological stages. The pre-iconographical stratum involves identifying the form of an image through familiarity. The form is factual and logical and can be identified through lines and colors (Panofsky, 1970/1955). The iconographical stage requires the viewer to know more about the producer and context. In this case, Astheimer, Neumann-Braun, & Schmidt's (2011) category refers Person to the form; Dummy to the function. The three authors claimed that celebrity image was categorized as Dummy photo because it masks the social network profile owner. Nevertheless, masking oneself using celebrity images is the function of the image associated with the profile owner that is interpreted at the second level of Panofsky's (1970/1955) method, whereas the celebrity image in its form is a Person photo and is accomplished during the first stage of visual analysis (Panofsky, 1970/1955). Consequently, when the work of Astheimer, Neumann-Braun, & Schmidt (2011) is evaluated from an iconography-iconology perspective (Müller, 2011; Panofsky, 1970/1955), celebrity images should have been categorized under the Person category for the simple reason that they are human images. Any person who views these photos agrees that celebrity images are not related to non-human portraits. The concept celebrity is also culture-specific, and it is difficult to generate universal traits that define it without considering other contextual factors (Müller, 2011). Hence, an image in the person category is factual, whereas celebrity in the dummy category is contextual.

Moreover, lack of explanation on the coding procedure obscures the distinctions between Model Pose and Flirt Pose in the Person category. These two categories overlap and are difficult to differentiate. Furthermore, it is challenging to distinguish gestural pose from do-it-yourself pose, as both categories involve gestures. In addition, gestural pose is a type of form, whereas do-it-yourself is a photo-taking activity. Handling a photographic camera may be an important activity, but it is not straightforward to tell from the profile image that a certain picture is a do-it-yourself pose. Differentiating flirt from the mummery and gestural pose sub-categories by viewing photographs is the most challenging task. The author of this thesis believes flirt is not a type of body pose; it is the interpretation of a certain type of body pose. There is no specific rule how an
individual poses in flirt type. Hence, these categorical concepts should be interpreted in a certain context (Mellese & Müller, 2012; Müller, 2011; Müller, 2007). In other words, it is difficult to conclude whether a certain body pose is the flirty type or not unless it is understood in a particular context. The problem with Astheimer, Neumann-Braun, & Schmidt's (2011) categorical classification is that they seem to mix visual descriptions with their interpretation.

Recently an anthropological research on Facebook profile image was conducted to investigate user’s visual identity (Uimonen, 2013). The research mainly focuses on the use of Facebook profile images in the performance of digitally mediated selfhood (Uimonen, 2013: 122). Profile photos analyzed from an anthropological approach reveal that relationships are communicated through profile images, for images provide interactive reflexivity. Moreover, the research argues that the profile picture validates user’s visual presence and co-presence (with friends and significant others) even in offline contexts. Moreover, the article explores how user's visual performance is related to his / her cultural identity. Yet, the researcher analyzes only few images from an anthropological approach.

All four studies reviewed above attempted to identify visual motifs on social networking sites. Astheimer, Neumann-Braun, & Schmidt (2011) in particular provided a thorough analysis of visual motifs and body poses of social network users’ profile pictures. Nevertheless, questions related to the production technique of images, visual motifs, the proximity and the nature of these images, and the reasons associated with them were left unanswered. As elaborated previously, some of the motifs generated by Astheimer, Neumann-Braun, & Schmidt (2011) seem to be difficult to conceptualize, and it is challenging to draw a clear line of demarcation between these categorical concepts. Visual motifs such as dummy, which may be used by young adults frequently, have not received sufficient attention in the study of Astheimer, Neumann-Braun, & Schmidt (2011). Moreover, previous studies have not addressed the mechanisms in which social network users obtain profile images. These studies indicate that there are numerous options for users to represent themselves in images on social networking sites. Most such images may be photographs of profile owners,
but users can also choose cartoons or avatars to represent their appearance, behavior, purposes, assumptions or beliefs online.

At the time of this thesis’ writing no serious attempt has been made to identify image typologies on popular social networking sites. Therefore, inconsistent categorical formulations made previous visual categories rather confusing. The conceptual overlapping in previous works necessitated the formulation of new visual categories. In the present study, confounding visual frames were avoided, and identifying the form of the image was the first step in framing visual motifs of social network profile images. Moreover, the present research is intended to fill the gap, assisting researchers of visuals in online communication. This study aims to develop a codeable profile image typology. It is intended to produce a synthesis of mutually exclusive image categories that may be used in the analysis of self-representation and impression formation of users in the subsequent study. Specific user profile image categories such as image production, visual motif, and picture perspective typologies are developed for two purposes: first, to investigate the nature of these images; second, to analyze how users select them.
3. THEORETICAL APPROACHES AND RESEARCH DESIGN

3.1. Self-presentation in computer-mediated communication

Communication technologies have become an integral part of our day-to-day communication exchanges. Today, most people carry cell phones, iPads, tablets, laptops, and other electronic equipment for communication purposes. These electronic devices play significant roles in our everyday lives by supplementing (or even substituting) the prototypical role of face-to-face communication (Fortunati, 2005; Petric, Petrovcic, & Vehovar, 2011). The Internet has become by far the most important communication medium for individuals and businesses. It has brought unlimited opportunities for young adults to form and maintain social connections. Several researchers argue that during the 1990s, the Internet served for entertainment; today, it is mostly used for interpersonal communication (Gross, 2004; Valkenburg, 2007; Valkenburg & Soeters, 2001).

Researchers are curious about the extent to which the Internet has an impact on users. Some results indicate that there is a positive relationship between the Internet and the user. In this case, the Internet promotes friendship and the wellbeing of communicators (Kraut et al., 2002; Morgan & Cotten, 2003; Valkenburg & Peter, 2007). The Internet helps young adults spend much of their time on computers that eventually help them develop their social wellbeing (Bryant & Sanders-Jackson, & Smallwood, 2006; Subrahmanyam et al., 2000; Valkenburg & Peter, 2007).

Even if an ample body of work exists in support of the positive aspects of Internet usage among young adults, new media were also challenged with a claim that they hinder young adults’ wellbeing by occupying valuable time that could have been spent with real-world friends (Kraut et al., 1998; Nie, 2001; Nie, Hillygus, & Erbring, 2002). One particular example is that young adults spend their time with superficial people who do not have the decency and communicative skills normally associated with offline friends. The other negative aspect of using the Internet is psychological. Steady Internet usage is often associated with depression and loneliness, which eat away at the wellbeing of
others (Kraut et al., 1998; Morgan & Cotten, 2003; Nie, 2001; Nie, Hillygus, & Erbring, 2002).

Social media are a complex set of information ecosystems (Stefanone, Lackaff, & Rosen 2011). More than a billion users try their best to create identities that conform to their behaviors. Enhancement in the context of self-presentation is usually expected (Walther, 2007) where some aspects are overexposed while others are suppressed. There is some form of strategic management of self-presentation in computer-mediated communication compared to face-to-face presentations (Bibby, 2008; Buffardi & Campbell, 2008; Krämer & Winter, 2008).

Online self-presentation contains three main information sources: self-generated, other-generated, and computer-generated (Tong, et al., 2008). These data sources contribute their own share as to how people perceive others in an online environment. Self-generated information is the content given by the profile owner (such as profile picture, school attended, liked pages, or entertainment); whereas computer-generated refers to information the network provides by default for other viewers such as number of friends, recent activities, name, and location. Also, some attributes such as age, gender, education, and place of birth are only revealed in social networking sites to the level the individual chooses to share them with his/her friends. Both self-generated and other generated data are configurable; it is up to the profile owner to hide or display these cues for network members. Lastly, other-generated information contents refer to data provided by friends in the network. This includes photo tags, wall-to-wall conversations, and comments and shared notes. Many social network users evaluate friends list of the profile owner before approving friend requests.

The profile image has paramount significance even if the various sections of the profile contribute their share of information regarding self-presentation. Yet, the profile picture is the most important method of showing one’s identity, as in most cases, the picture resembles the profile owner. The profile image also represents the individual in online platforms, appearing in search results and
alongside every turn of online interaction such as every written wall-post (Buffardi & Campbell, 2008; Siibak, 2009; Strano, 2008).

Self-presentation consists of the processes related to the psychological make-up of the individual and the perceived opinions of significant others. There is always a tension between how a person defines himself or herself and how the same person connects to others in his or her group (Kleine, Kleine, & Allen, 1995). Research reports indicate that computer-mediated communication is more favorable for self-presentation and self-disclosure than face-to-face communication because it equips users with new ways of presenting themselves, making it easier to disclose latent and nested identities (Schau & Gilly, 2003). Computer-mediated communication may help users fully disclose aspects of themselves, which they would not volunteer in face-to-face communication contexts. Alternatively, it also enables people to conceal some aspects of undesirable selves (Schau & Gilly, 2003).

When social network users construct their online identities, the least amount of information they should provide is first and last names, email address, password, sex, and date of birth. Once a new account is created and verified, they will be encouraged to provide a lot more information such as profile image, schools attended, hobbies, contact information, favorite quotations, and much more. When undesired spots are identified after the profile is constructed, users edit their profiles. Profile owners more importantly avoid conflicting information and, (Leary & Allen, 2011). However, one has to have better self-presentation abilities to do this (Canevello & Crocker, 2011). In addition, it is not possible for the users to tailor online self-presentation for specific friends in the network. Considering the breadth and width of visitors on one’s profile, users try to address a broad audience which implies that a person has to develop a relatively stable identity (Krämer, & Winter, 2008).

3.1.1. Interpersonal communication and social networking sites

Hyperpersonal communication was initially developed by Walther (1996) to describe a new form of computer-mediated communication. It focuses primarily on features of computer-mediated communication, which are different from
traditional interpersonal or mass communication. The first observed difference is that, unlike the offline communication exchange, hyperpersonal communication lacks simultaneous attention in exchanging messages; both the receiver and the sender may obtain delayed feedback (Walter, 1996: 20). According to Valkenburg (2007) & Walther (1996), important concepts can be drawn from the studies related to the use of the Internet: controllability, reduced cues, and asynchronous communication. Asynchronous communication refers to the more time users will have to deliberately manage their preferred persona – an opportunity for better tailored, positive self-presentation. Hyperpersonal communicants rely on broad information that is available online (Walther, 1996). Another very crucial characteristic of interpersonal communication is that the sender is a source of the message for both the public and individuals. Hyperpersonal Communication, as a product of computer-mediated communication, falls somewhere in the middle of the interpersonal and mass communication continuum (Caplan, 2001; Gibbs, Ellison, & Lai, 2010).

Anything can happen between participants in computer-mediated communication in their attempt to exchange personalized messages; they may remain great partakers being anonymous or unique, or they may differ in their tastes and preference, leading to intermittent communication. It is in this process of communication that the participants sense the cues which can alter their communication context. There is high attention but less demand to personal resources as the participants believe that what the user provides is less trusted or accepted (Caplan, 2001). Moreover, computer-mediated communication interactions are restricted, and therefore, the extra-interactional observations are mitigated (Ramirez, et al., 2002). However, there are counterarguments that computer-mediated communication may include alternative ways of gathering information and communication transaction (Bailenson, Blascovich, & Guadagno, 2008).

People may think computer-mediated communication is more intimate than traditional offline relationships, for communicants try their best to create and maintain a positive impression of themselves. An advantage of using computer-mediated communication is that users can edit their persona in a way that
conforms to their aspirations and needs much more than in offline, face-to-face communication (Petric, Petrovcic, & Vehovar, 2011). The sender who presents himself/herself in texts and images can sometimes alter some of the cues in the process of communication (Petric, Petrovcic, & Vehovar, 2011). Such actions denote the freedom of presenting the self. The awareness that the sender selectively controls undesired behaviors results in suspicion on the part of the receiver. In other words, control over self-presentation can result in concerns about misrepresentation and deception (Gibbs, Ellison, & Heino, 2006; Gibbs, Ellison, & Lai, 2010; Lea & Spears, 1995; Toma, Hancock, & Ellison, 2008).

Communication technology has evolved beyond the means by which users have more or less complete control over the information the receivers could see (Tong, et al., 2008). The reduced cues, however, may encourage users to reveal more and engage in a more intimate self-disclosure, for intimacy is positively related to caring, and trust (Collins & Miller, 1994). Furthermore, online self-disclosure increases the quality of online friendships (Valkenburg, 2007).

3.1.2. Deception in computer-mediated communication

Computer-mediated communication offers network members more freedom to explore their choice of online personae, which may differ from their “real life” identities (Stone, 1996; Turkle, 1995). This may lead to the fact that the offline and online representations may sometimes differ considerably. Self-presentation should be understood as a show in front of the social audience around us (Goffman, 1959). According to Bailenson, Blascovich, & Guadagno (2008), the primary goal of self-presentation is playing an instrumental function because people usually want others to get favorable impressions of them. Creating an accurate self-presentation online is a complex process, and it is unlikely that users can construct accurate identities. This is due to technological, personal, and societal influences. However, not all self-presentational mechanisms necessarily involve lying (Gosnell, Britt & Mckibben, 2011).

The question that emerged with the introduction of social networking sites is in what ways self-presentations are altered in online and offline communication settings. According to Ekman (1985), deception is a message knowingly
transmitted by the sender to foster false belief or conclusion. In computer-mediated communication, deception is a process where a communicator gives information that is different from the real image. The receiver, who remains uncertain, keeps on weighing the sender on a truth-falsity judgment continuum (Buller & Burgoon, 1996). Scholars found ample evidence in both communication settings that communicators enhance their appearances with a wide variety of aids (Bailenson, Blascovich, & Guadagno, 2008). Such enhancements lead to deception on the side of the sender in online and offline communication alike.

Concerns about the prospect of online deception are common (Bowker & Tuffin, 2003; Donath, 1999; Donn & Sherman, 2002). In an online dating environment, for example, deception is considered as the main disadvantage everyone is expected to engage in. For instance, some studies on dating sites found out 86 percent of the users felt others misrepresented their physical appearance (Gibbs, Ellison, & Heino, 2006). Moreover, a quarter of online dating participants reported misrepresenting aspects of their own identity, most commonly age, marital status, or appearance (Brym & Lenton, 2001). The conviction that others are lying may encourage reciprocal deception (Ellison, Heino, & Gibbs, 2006), because users exaggerating their appearance automatically create a feeling others are exaggerating or deceiving, too (Ellison, Heino, & Gibbs, 2006; Fiore & Donath, 2004).

3.1.3. Self-presentation on social networking sites

Most people, particularly those residing in the western world, are connected to the Internet. These connections hold manifold significance. In addition to using the Internet for sharing information, people go online to communicate with friends and relatives. Research shows that more than three-fourths of Internet users are on social networking sites (Kaplan & Haenlein, 2010; Moore & McElory, 2012). Recent Internet traffic data reveal that Facebook surpassed Google in popularity and is the top visited website. In the USA, in particular, Facebook is the most visited website as of September 2012 (BBC News, October 5, 2012; Alexa, 2012).
Users of social media have the possibility to enhance their profile pictures, write interesting stories about themselves, or claim to be poets. They usually highlight some aspects they feel would help them in their communication endeavor with others. Kim (2011) documented two types of self-presentation strategies: positive and honest. It is up to the users to decide whether they remain highly noticeable for the purpose of communication, or they remain invisible. In fact, for some people, Facebook can be used to self-affirm against anything that threatens their identity (Kim, 2011).

Self-presentation in social networking sites is a dynamic process in that users constantly reinvent and edit their online identity. Reconstructing identity in a user defined manner is accomplished by updating the profile image, uploading other images of families, friends, and relatives, writing about activities, adding educational institutions and jobs, and liking some important activities and events. Changing components of their self-presentation from time to time helps social network users better socialize in online communication. While they update their profile information, they also assess others’ claims of identity formation (Ellison, Heino, & Gibbs, 2006; Heino, Ellison, & Gibbs, 2010; Whitty, 2008).

Researchers also explore the extent to which people engage in misrepresentation (Ellison, Heino, & Gibbs, 2006) or deception (Toma, Hancock, & Ellison, 2008) in online communication. The results indicate that users face difficulties in determining the veracity of the information presented by other users. The uncertainty in information production and reception makes online communication more dynamic and iterative (Gibbs, Ellison, & Lai, 2010). Research also indicates that third-party information has a significant impact on the perceptions of the profile owner (Walther, Van Der Heide, & Kim, 2008).

Facebook offers activities users can accomplish to build their online identities. It lets users create a semi-personalized page that includes pictures, contact information, hobbies, hometown, academic status and affiliation, political views, religious beliefs, relationship status, sexual preference, and favorite music, movies, and books (Tufekci, 2008; Walther, Van Der Heide, & Kim, 2008).
addition, there is a wall – a message board for members to communicate. Hence, users can control and personalize the amount of information that is posted (Mansson & Myers, 2011). The offline relationships are used as guards so that the user should not commit deception despite the absence of restrictions as to how one presents herself/himself (Kim & Lee, 2011).

Though Facebook was initially intended to serve only college students (Educause, 2006; Golder, Wilkinson, & Huberman, 2007; Stutzman, 2006), today people from all walks of life use it to maintain existing relationships and develop new ones. They also use it to learn more about others (Walther, Van Der Heide, & Kim, 2008). For example, employers are believed to visit the Facebook page of the candidate before the final hiring decision. Friendship connections on Facebook can contribute to the wellbeing of college students. According to Kim & Lee (2011), young adults who use Facebook tend to be happy because they can visualize their connections. Moreover, both previous and recent research indicates that greater Internet use decreases loneliness and increases social support (Shaw & Gant, 2002; Hardie & Tee, 2007).

The reason young adults create online identities on social networking sites remains a central research question. According to Gibbs, Ellison, & Lai (2010), people utilize social networking technologies to accomplish certain tasks, select potential mates, purchase goods and services, facilitate social meetings, and engage in various forms of social support. Users may also use social networking sites to cultivate intimate friendship, symmetrical reciprocity: loyalty, authenticity, trustworthiness, and support (Hall, 2010). These qualities of the individual on computer-mediated communication are significant for effective communication.

Social networking sites are particularly useful for young adults (Ong et al, 2011; Pew Research Center, 2011) and certainly have an impact on college students’ lives (Munoz & Towner, 2009). Hew (2011), Stutzman, (2006) and Junco, (2012) reported that more than 90% of undergraduate students in colleges and universities use Facebook. College students constitute around 30% of the total Facebook user population (Kim & Lee, 2011). Yet, due to a lack of requisite
experience in the outside world as well as of some level of maturity, young adults seem to have less identity management experience (MacDermid, Franz, & De Reus, 1998; Christofides, Muise, & Desmarais, 2011; Junco, 2012). They are prone to different types of social exposures and seem to adapt to certain values from parents as well as friends. Adolescence is the period when the young enter the world of social fabric; this is the age to start participating in social and cultural activities, increasingly without the support of family members. In this way, by inculcating behaviors from family members and friends, college students develop their own personality characteristics. They seem to encounter challenging situations, which they need to confront in their lives. Particularly, they may be encountering dilemmas as to how they need to respond to social connections.

Facebook is believed to induce a positive feeling for individuals and groups. A study by Pew Research Center (2011) revealed that not only people have positive experiences with Facebook, but they also get connected in a different manner than that of offline communication. For example, young adults share photographs with friends, update their status, join discussion groups, and comment on and like their friends’ posts. College students use Facebook to share their ideas related to course assignments and personal issues (Hew, 2011; Kim & Lee, 2011). They also use Facebook to send messages, view pictures, monitor significant others, and be entertained. Social networking sites bring together as friends people who have no prior experience and lack shared physical context (Kim & Lee, 2011). However, friendship on Facebook may not be as strong as that offline. It may sometimes be very loose when friends rarely communicate (Kim & Lee, 2011).

Critics have voiced concerns about the negative effects Facebook incurs on college students. Users sometimes leave offensive posts on the walls of others which may negatively affect social connection and the chances of future employment. What makes Facebook different from other social networking sites is that friendship is fundamentally linked to users’ offline relationships, though this may not be the case all the time. In addition, college students were reported to have experienced adverse effects on their academic achievement (Hew, 2011;
Kirschner & Karpinski, 2010) because they spent their precious time looking at images of others, uploading pictures, chatting, and exploring others’ profiles. Moreover, there are the dangers of meeting strangers who are potential threats of identity theft and cyber bullying (Gibbs, Ellison, & Lai, 2010).

An important concept that relates to the manner in which young adults use social networking sites depends on the psychological makeup of individuals. In other words, the behavior of the individual is a determinant factor as to how one uses social networking sites. Scholars argue that there are persistent differences in the way people use social networking sites. The differences stem from race, gender, and socioeconomic status. For example, women express affection and appear more appropriate than men on Facebook (Mansson & Myers, 2011). Additionally, female Internet users tend to seek information on health matters, whereas males utilize the Internet to search for news and entertainment (Stefanone, Lackaff, & Rosen, 2011). The review further revealed that females have specific communication goals, including fostering community and avoiding isolation, while males are more likely to pursue social positioning through communication (Stefanone, Lackaff, & Rosen, 2011).

One of the salient attributes of social network sites is their ability to connect hundreds of millions of people in a virtual environment. This is particularly true in accumulating social capital. Bourdieu (1986) defines social capital as the real and potential personal assets a person can access in network communication. Coleman (1998) further defines social capital as the existence of useful others in the life of an individual that allow him/ her to use resources from the network. This implies that social capital is the accumulation of both offline and online human resources. In this regard, people have the chance to get connected to their school friends, relatives, or new acquaintances in addition to the offline connection they already have. Stutzman et al., (2012), citing several other researchers, assert that there was a direct positive relationship between social capital and Facebook use. Having many Facebook friends that give care and support is an indication of higher social capital. Online connections may result in employment opportunities and other benefits for the individual. Social capital,
therefore, remains to be a significant research area in the study of social network communication.

3.1.3. Theory of social presence

The introduction of the Internet has significantly changed the way people communicate and share information. Long distance communication is becoming more and more feasible with the proliferation of online networks. Grieve et al. (2013) citing several researchers state that social networks are associated with higher levels of wellbeing and promote belongingness and familiarity of network members. The “presence” of the social network users is possible due to the communication technology.

Gunawardena & Zittle (1997: 9) define social presence as “the degree to which a person is perceived as a ‘real person’ in mediated communication.” In this context, the social presence theory emphasizes the significance of an individual user in being “present” in a mediated environment where he or she employs verbal and visual cues to promote his or her presence. Social presence in the context of Facebook can be projected through images and texts that validate each user. Social network users make use of verbal and non-verbal cues to surpass the limitations of geographic, temporal and psychological distances. According to Gunawardena & Zittle (1997) intimacy and immediacy affect interpersonal communication. Intimacy refers to the appearance of the person, the body language, and facial expressions that provide feedback to communicants. Intimacy also includes body accouterments clothing, make up, hairstyle, and jewelry. These features are keys to individual’s social presence (Short et al., 1976). Immediacy is the psychological distance between the communicators; it can be communicated both verbally and non-verbally (Gunawardena & Zittle, 1997).

Online self-presentation carries social cues that show the presence of the user to build satisfaction, trust and self-disclosure within the online environment (Aragon, 2003). Recently, social network sites have played an instrumental role for allowing users to discuss all sorts of social issues that shape users’ social behavior. Getting connected in the context of social networks creates a warm,
vibrant communication and intimate interaction (Lombard & Ditton, 1997). Particularly, the profile picture shows both personal and social aspects of the user (Nardi, 2005; Rice, 1993). It also shows the person’s identity or his or her interest. The profile image may exert some impact the way network members understand each other. Therefore, the state of communication among social network users can be investigated in the context of social presence theory.

It is documented that social presence increase with an increase in the quality of the medium. For example, email produces a different type of social presence than the telephone (Bulu, 2012; Gooch & Watts, 2010). However, it does not mean a medium is better than another; every medium has its own unique quality. The user’s activities (changing the profile image, posting other image, or updating personal information) connote the interconnectedness of the social network user with other members in the network. Social networking reflects psychological involvement attached to the stimuli and activity of the users (Bulu, 2012). In the context of Facebook, these cues validate the presence of the social network user. Status updates, comments on pictures, hobbies, educational accomplishments and origin can endorse the “presence” of the Facebook user to create trust and self-disclosure.

3.2. Research Questions

So far, the previous section of the research elaborated on computer-mediated communication in relation to Facebook use and profile pictures. Many theoretical studies have explored the process of communication on social networking sites. Few researchers studied how social network users construct their online personae in images. Yet, there is still a huge gap in this aspect of visual communication despite the fact that photographic practices have reached the highest stage of development. It is not clear how users take images, share them among themselves, and use those images for self-presentation. What matters in the study of visual communication is how the images actually represent the users, the reasons when, where, and why they are taken, and how many different contexts they can be inserted into in terms of their forms and content.
Even if a photographic process may involve some or many of these practices, profile image production differs from ordinary photograph production; it may need intuitive, complex decisions that relate to image enhancement and motivation. As indicated above, the photographic process that involves self-presentation in images ranges from selecting to editing, to posting. Eventually, it is the profile owners who make the final ‘verdict’ as to what type of image to use as a profile picture to best represent them online. Yet, there is no empirical evidence to support this claim. We do not know what the users actually do to their profile images before using them for visual representation online. Young adults in particular may use social networking sites not only to disclose their identity but also to express their ideas, emotions, and desires in texts and images to whomever is interested – their families, relatives and friends.

It is important to note that profile images in the form of thumbnails precede any other communication on Facebook: chats, comments, or updates within the framework of the social network site. However, since the introduction of the “timeline” format, a “title picture” which is used as a contextualizing backdrop for the profile image, has added a second visual dimension to the types of complex multimodal communication provision on social network sites [see Figure 1 on page 36 for more details].

The profile picture is also the only image that appears in search engines and represents the body of the user online. However, the profile image plays a specific role (Astheimer, Neumann-Braun, & Schmidt, 2011; Siibak, 2009; Strano, 2008) depending on the context, and respective communication may not necessarily act as an accurate representation of the profile owner. The profile picture may enclose different objects through which the user wants to convey his or her feelings, emotions, and desires. In many cases, social network users post their own photographs as profile pictures. Others use images of celebrities, iconic objects, animals, sketches, or other pictures to represent themselves online. Profile images posted on social networking sites remain extremely diverse and encompass a wide variety of contents, topics, and concepts. Selecting profile images depends on the intent of the individual in online communication.
Image typologies from previous social network site studies have not been exhaustive (Astheimer, Neumann-Braun, & Schmidt, 2011; Hum et al, 20110; Strano, 2008). In addition, previous studies on images posting behavior and image-based communication on social networking sites have not received sufficient attention. Also, previous research has not adequately addressed central aspects of the production and proximity of profile images. This may be due to the complex multimodal nature of visuals (Bateman, 2011; Kress & Van Leeuwen, 1996; Mellese & Müller, 2012; Müller, 2007; Müller, 2011) and the lack of established theoretical-methodological approaches in visual communication. The mechanism social network users employ to produce profile images can be an important step to understand the place and significance of profile images in self-presentation and impression formation.

The placeholder encloses a picture in a frame on the upper left side of the Facebook profile wall [see Figure 1 on page 36]. Its size is unalterable for all types of Facebook user accounts – private pages, celebrity pages, fan pages, promotional pages, or groups. The profile picture can be uploaded in the most common digital formats (.bmp, .png, .gif, .jpg, or .tiff) and should fit in a square placeholder that displays 180x180 pixels. Images bigger than the recommended size are usually cropped to fit in. Users have to decide which section of the selected image should not be cropped, as a significant portion of the image can be lost. A certain level of visual literacy may be required of most social network users to decide on the cropping section of the image. In other words, Facebook profile owners may need to change the properties of their profile images (such as cropping unwanted parts and decreasing its size) if they wish to post a specific section of the image to the placeholder.

Social network users should make decisions in selecting, processing, and posting profile images. Selecting and posting appropriate images may help them fulfill communication objectives. Though it is believed that the profile owners fill in the placeholders with their personal images, they have ample opportunities to select other images that serve their needs. A profile owner who has an appetite for artistic images may be interested to upload a portrait; a music addict may post an image of a musical instrument. Other Facebook users may want to show their
identity by posting candid pictures of themselves. In addition, some Facebook users may prefer to use images of friends, relatives, pets, or objects. Some users may change their profile images very frequently, whereas others may change them less often. Facebook profile pictures may not necessarily belong to the profile owners; in some instances, users may share images from online or offline sources with or without prior consent of the actual image owner despite Facebook’s claim that what is uploaded on Facebook belongs to the profile owner. (Facebook terms, December 11, 2012). Moreover, a Facebook user may modify an image to meet certain standards; for example, he or she may try to reduce the red-eye problem by using editing software. Profile owners make personal decisions regarding their profile images. Moreover, online self-presentation using a particular profile image may last from a few seconds to few years.

Most young adults active on social networking sites upload personal pictures to their social network pages. Some use their photographic skills to produce “impressive” profile images. Thus, the social network users spread out over a wide spectrum of visual literacy that ranges from highly proficient to absolute amateurs. In this context visual production refers to users ability to perceive, interpret and understand visual stimuli. It is a dynamic process that requires the individual to use his or her creative ability in the context of the users background knowledge. A visual expert understands not only the production and usage contexts, but also the technology and communication aspects (VisComX, 2010).

Seen form the photographic perspective, the process of image production ranges from a simple act of pressing the camera button to using the most sophisticated editing software. For example, people do not require special training to capture images with cell phone or digital cameras; it is sufficient for them to know how to press the camera shutter button. Nonetheless, creating montages from two or more images requires not only experimenting with the cameras but also working with editing software and designing techniques on a computer. To paint, draw, or retouch images, social network users have to acquire the necessary skills in using image-editing software. Images, such as maps, need highly sophisticated
measurement techniques and require the producer to understand complex connections between nodes.

The first section of this research investigates the production process. This section solicits users’ first-hand information regarding the image production. The exact properties and characteristics of profile pictures are scrutinized from three related dimensions. First, the methods of acquiring profile images is investigated. What are the sources of the profile images? Do social network users produce these images themselves, or do they copy them from other sources? Therefore, investigating the sources of images is a crucial concept in online identity formation. However, no research so far has analyzed how social network users obtain profile pictures. This is meant to fill this gap, at least partially.

Second, the visual motifs of Facebook profile images are investigated. The iconographical-iconological method is employed to detect visual patterns and motifs. In all likelihood, social network users have reasons for choosing particular profile images even if they are not obvious to others or themselves. They must have their own way of understanding each image and how these images are used to portray them online. Some profile owners may choose one image from many others they have, based on certain criteria. Highly skilled users may take more conscious decisions than users who are not skilled. In this section, the types of images used as profile pictures on Facebook profile pages are investigated in detail.

The third dimension of the present study investigates the different angles from which profile images are taken. What do the camera angles and posing styles in images convey? Since profile images are chosen with intent, investigating the particular camera angle of profile pictures is crucial to understand identity formation online. The research question is framed based on the assumption that the different angles from which profile images are taken influence the way the profile owner and viewer understand the photographic motive. The relationship between the profile owner and the camera is expected to yield a firm background as to how social network users represent themselves online. Therefore, profile images, as a key element of social networking sites, have to be
thoroughly explored. A comprehensive analysis of profile images is expected to provide answers to the complete questions on a theoretical framework of images in online self-presentation and impression formation. It is also expected to clarify the role of images in online identity formation. The research questions and the hypotheses are framed as follows.

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Method of Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What are the fundamental processes involved in the production of profile images before they are posted on social networking sites?</td>
<td>Content Analysis</td>
</tr>
<tr>
<td></td>
<td>Visual Content Analysis</td>
</tr>
<tr>
<td>2. What perceived functions does a profile picture play in the context of social networking sites?</td>
<td>Content Analysis</td>
</tr>
<tr>
<td>3. What are the preferred profile image techniques of acquisition prevalent on Facebook?</td>
<td>Content Analysis</td>
</tr>
<tr>
<td>H3.1 The majority of Facebook profile images are realistic-looking photo portraits than modified, or infographic images.</td>
<td>Visual Context Analysis</td>
</tr>
<tr>
<td>H3.2. Images using a technique different from photography are rare.</td>
<td></td>
</tr>
<tr>
<td>4. What are the visual motifs that are prevalent on Facebook profile pictures?</td>
<td>Visual Context Analysis</td>
</tr>
<tr>
<td>H4.1. Young adults project their identities through real profile photographs than they do through non-person profile images.</td>
<td>Iconography &amp; Iconology</td>
</tr>
<tr>
<td>H4.2. Single portrait images are the most frequent profile image categories.</td>
<td>Content Analysis</td>
</tr>
<tr>
<td>5. What are the most dominant shot perspectives prevalent in social network profile pictures?</td>
<td>Content Analysis</td>
</tr>
<tr>
<td>H5.1. Young adults prefer frontal- close-up images to high or low camera angles with long or medium-shots for their profile images.</td>
<td>Visual Context Analysis</td>
</tr>
</tbody>
</table>

Table 1. Research Questions and Hypotheses

Examining the nature of profile images is one of the most crucial aspects of online self-presentation and identity formation. This study is intended to answer research questions related to profile images and their owners’ perspectives. Generally, scholars who study images on social networking sites have not analyzed production processes exhaustively. The research explores methods users employ in composing (enhancing) and framing their visual identities.
online. Hence, in this research the selection and production processes of the profile image are examined.

3.3. Research design

This research is exploratory in that it investigates attributes of production, motif, and shot perspective of profile images in a comprehensive manner. It generates conceptual frameworks inductively from interview, survey, and visual data. To the best of the author’s knowledge, the study is the first in its kind to juxtapose central facets of profile image motifs from the profile owners and the profile image. In addition, shot perspective, production technique, visual motif, and production processes on social networking sites have never been explored all together.

The research design is comparative in that it partially compares and contrasts similarities and differences between institutions – Jacobs University Bremen and Duke University (Bryman, 2004: 30). The comparison is expected to provide a clue as to what extent social network users in these two institutions differ in the way they select, process, and post profile images. Previous research on profile images have produced mixed results. Some researchers have not found a significant difference between males and females in the way users post profile images (Hum et al., 2011), while others found differences in male and female poses (Astheimer, Neumann-Braun, & Schmidt, 2011). This research examines profile images in different dimensions. It explores similarities and differences in production, visual motif, and shot perspective as a whole. Hence, the study aims to generate a comprehensive synthesis of the role of images in young adults’ online identity formation and self-presentation.

Based on the image typologies created, two instruments – an interview guide and a questionnaire – were developed to explore the processes of profile image production and self-presentation. The research question that focuses on image typologies is answered using Facebook profile image data. Researchers agree that the best approach for higher generalizability of a research result is triangulation – experiments, observations, and questionnaires (Greene, Caracelli, & Graham, 1989; Neuendorf, 2002). Using various methods and instruments to
test research questions is expected to strengthen the findings. Both qualitative and quantitative approaches are used to scrutinize the relationship between visual production, image typology, and self-presentation in computer mediated communication contexts.

The most challenging task for a researcher who deals with a huge set of population data is to choose the sampling technique and to determine the sample size. In principle, sample size should represent the population and produce a replicable result. However, the population may be too large to select a representative sample. For example, it is a very difficult task to select and analyze a representative sample from 1.11 billion Facebook users. Even though large sample size usually yields more accurate findings, it requires more resources (Onwuegbuzie & Collins, 2007; Riffe, Lacy, & Fico, 1998), which are obvious constraints for this study. In addition, the behavior of social network users differs with purpose, age, and region. In fact, some may use Facebook extensively; others may use it rarely. Such complexity, in the absence of a clear sampling frame, makes selecting a representative sample impractical. Yet, the “why” and “how” questions of the qualitative study aim to explain issues or describe the process (Hennink, Hutter, & Bailey, 2011: 10). That is the likely reason why the vast majority of quantitative and qualitative studies resort to non-random samples (Onwuegbuzie & Collins, 2007). Therefore, this research employs two types of non-random sampling schemes: Convenience and Purposive.

3.3.1. Convenience sampling

Researchers argue that convenience sampling produces biased samples to achieve the goal of representativeness (Lewin, 2011: 222; Riffe, Lacy, & Fico, 1998; Wimmer & Dominick, 1991). Yet, convenience sampling is justifiable when it is difficult to obtain a representative sample of the material to be studied (when it is impossible to create a sampling frame), when there is scarcity of resources to generate a random sample of the population, and when a researcher explores an under-researched area (Riffe, Lacy, & Fico, 1998). Several researchers have stated that convenience sampling is used when important relationships between variables have yet to be tested, or sufficient literature
does not exist in the area. Therefore, this research employs a convenience sampling strategy due to the constraints of resources to achieve a representative sample. It is impractical to obtain a sampling frame for all Facebook users on a global scale. In addition, very little is known about the production and the reception of images and their relationship to users’ personality characteristics.

3.3.2. Purposive sampling
When using purposive sampling, researchers select respondents according to a specific criterion that requires specific research justifications other than lack of money and availability (Riffe, Lacy, & Fico, 1998: 86). Purposive sampling is implemented when the samples cannot be attained either by a non-systematic convenience-sampling scheme or a random sampling strategy (Boehnke et al., 2010). Moreover, Boehnke et al. (2010) suggest that one has to take into account the types of cases included in the sample, composition of the sample, and the procedure in the sample selection. In this study, convenience sampling is used initially to generate image categories, and purposive sampling is employed at a later stage to identify the production aspect of profile images. The specific aim of purposive sampling is to explore the relationship between profile images and production process. In addition, the research intends to obtain insights about myths and behaviors of profile image users.

3.3.3. Sample size
In quantitative studies, the sample size is crucial for reaching a conclusion. For qualitative study, the sample size is unexplored research area (Lindlof & Taylor, 2002: 128-129). Large sample size is usually related to quantitative studies (statistical), while small sample size is attributed to qualitative studies (analytical) (Onwuegbuzie & Collins, 2007). Similarly, there is a tendency that random sample is usually associated with quantitative studies, and non-random sample to qualitative research (Onwuegbuzie & Leech, 2005; Riffe, Lacy & Fico, 1998).

Some researchers state that sample size depends on the research question (Teddlie & Tashakkori, 2009: 179). Other researchers have shown that the size of the sample required for a study depends on at least one or more of the
following factors: the type, purpose and complexity of the project; the amount of error tolerable; time limitations; financial constraints; or previous research in the area (Wimmer & Dominick, 1991: 74-75).

Scholars also suggest different sample sizes for qualitative and quantitative studies. For a qualitative study, some researchers believe that it is up to the researcher to come up with a convincing sample size (Lindlof & Taylor, 2002); others recommend that the researcher include at least 3 interview participants in each category (Onwuegbuzie & Leech, 2007). Still other studies propose that phenomenological studies require between six and twenty-four interviewees (Guest, Bunce, & Johnson, 2006; Morse, 1994; Teddlie & Tashakkori, 2009: 184). Taking these suggestions into account, 7 interviewees (four from Duke University and three from Jacobs University) were selected for this study.

Scholars usually suggest larger sample sizes for quantitative studies than qualitative ones (Creswell & Clark, 2007: 119). A random sample should not necessarily be equal to a purposive sample. A sample of 100 subjects per demographic group is suggested to be appropriate to analyze quantitative data (Lewin, 2011: 223; Wimmer & Dominick, 1991). Literature shows that 2,500 participants are sufficient sample for populations of 200 million (Neuman, 1997: 221-2; Neuman, 2011). Others recommend 30 or more subjects to be adequate to conduct correlational and causal comparative analyses (Onwuegbuzie & Leech, 2005). For some researchers, 1,000 cases are often considered as a cut-off point beyond which the rate of improvement in accuracy slows down (Blaikie, 2000: 208; Lewin, 2011: 223). Moreover, in the social sciences, researchers look at the significance of samples instead of statistical logic (Gobbo, 2004: 436). Wimmer & Dominick (1991) recommend that researchers include 25% contingency data in their study.

Taking these suggestions into account, 1,028 randomly selected profile images were considered for analysis. In fact, the sample size in this research reflects the population (Teddlie & Tashakkori, 2009: 183). An image-indexing program was used to download publicly available visuals with accompanying information from both the Jacobs and Duke Facebook networks, since it is very difficult to
study the visual without taking the context into account (Müller, 2007; Müller, 2011). Downloaded images were categorized under various visual frames created from the researchers’ network [see Figure 9 on page 116 & Annex 1].

3.3.4. Methods for systematizing the data

As elaborated above, the first part of this research generates data from interviews, an online survey [see Annex 3 for details], and profile images. During the interviews, notes were taken while the interviewees responded to questions. The content of the notes was analyzed inductively and the intention of the research is to understand how social network users produce their profile images to self-represent on social networking sites. User experiences and activities in profile image production were explored.

To substantiate interview results, 65 purposefully selected and 25 randomly selected online survey data were used. The online questionnaire was administered using a paid version of Free Online Surveys (http://freeonlinesurveys.com/). It had both closed and open-ended questions [see Annex 3 for details]. The close-ended questions were used to collect yes/no types of answers, whereas open-ended questions generated short natural answers from research participants. The open-ended questions were manually coded and later juxtaposed with the interview data. Attempts are made to cover concepts related to photographic preproduction, production, and postproduction stages. User activities and motivations for posting a particular type of image are explored. In-depth interviewing helps researchers generate detailed insights from the study participants (Hennink, Hutter, & Bailey, 2011: 109)

The second part of the thesis explores how and why social network users choose certain images to represent them on Facebook. To answer specific research questions, profile images, which are randomly collected from Duke University’s and Jacobs University Bremen’s Facebook networks, are labeled along inductively generated visual categories based on the characteristics they display. Social network users post profile images that depict personal, social, and cultural messages. One of the hypotheses is that the majority of images show close-up faces of profile owners, close friends or relatives. However, there are other
images that significantly deviate from these types of images. The profile owner may have reasons for choosing some images over other images.

Image categories were developed to classify images based on distinct characteristic features. They were labeled by technique of production, visual motif, and image perspective. These main typologies are further sub-categorized, based on the characteristic features of profile images. The categories described here are applicable to the Duke University and Jacobs University student networks. It should be noted that these visual categories may not be applicable to the global Facebook network’s profile images. Some visuals may require new framing categories. As an exploratory research effort, this study derives concepts from the data. It also uses few visual frames from prior research findings (Boyatzis, 1998), which make the coding process a mixed approach, both prior research driven and data-driven (Schreier, 2012: 87). Combining these two resources, both narrow and broad themes are developed in which images can be exclusively coded in one of the many sub-frames under each main category.

3.3.4.1. **Analyzing interview and survey data**

Research participants are sampled for the interview and questionnaire based on the profile image typologies. Image typologies are classifications of profile pictures based on certain characteristics. The sample initially attempted ten interviews of students from both universities. At least three participants from each category (Guest, Bunce, & Johnson, 2006; Morse, 1994; Onwuegbuzie & Leech, 2007) have been purposefully selected. Using a structured interview guide [see Annex 2], they have been asked for the processes involved in the production of profile images, reasons for their choice of images, editing process, cropping, and enhancement. The interview lasted at least for one hour to an hour and thirty minutes for each participant. During the pilot phase, two interviews were conducted to ascertain how much time the whole interview process takes and the potential pitfalls the research can encounter (Schreier, 2012: 146-7).
A pilot study for the online survey was also conducted before the actual data were collected. In total, six Duke University students participated in the pilot phase. Based on user feedback (provided after filling in the survey), improvements were made (Schreier, 2012: 146-7). Afterwards, 131 university students at both institutions (80 purposefully sampled and 51 randomly sampled) were sent the link to fill in the survey. In total, 90 students completed the survey of which 65 were purposefully sampled. The remaining 25 were randomly sampled. Open-ended questionnaires (Onwuegbuzie & Leech, 2005) with the same intention were dispatched to purposefully selected participants to substantiate the information generated in the interview. The online survey was expected to last ten to fifteen minutes for each student, and a wide variety of topics were covered. The general aim was to identify differences or similarities in the way users process their profile images. However, interview participants were excluded from the questionnaire portion, for the purpose of the study is to solicit information from different sources, not to reuse the same information in a different form. The selection criteria were based on image typologies developed inductively.

Table 2. Interview participants

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Gender</th>
<th>Age</th>
<th>Enrolled University</th>
<th>Date Conducted</th>
<th>Venue</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Male</td>
<td>21</td>
<td>Duke</td>
<td>23.04.2013</td>
<td>East Campus/ Conference Room</td>
</tr>
<tr>
<td>2</td>
<td>Female</td>
<td>19</td>
<td>Duke</td>
<td>21.04.2013</td>
<td>East Campus/ Conference Room</td>
</tr>
<tr>
<td>3</td>
<td>Male</td>
<td>20</td>
<td>Jacobs</td>
<td>08.05.2013</td>
<td>IRC</td>
</tr>
<tr>
<td>4</td>
<td>Female</td>
<td>19</td>
<td>Duke</td>
<td>21.04.2013</td>
<td>East Campus/ Conference Room</td>
</tr>
<tr>
<td>5</td>
<td>Female</td>
<td>20</td>
<td>Jacobs</td>
<td>17.05.2013</td>
<td>IRC</td>
</tr>
<tr>
<td>6</td>
<td>Male</td>
<td>20</td>
<td>Jacobs</td>
<td>17.05.2013</td>
<td>IRC</td>
</tr>
<tr>
<td>7</td>
<td>Female</td>
<td>18</td>
<td>Duke</td>
<td>22.04.2013</td>
<td>East Campus/ Conference Room</td>
</tr>
<tr>
<td>Age</td>
<td>Duke</td>
<td>Jacobs</td>
<td>Total</td>
<td>Percentage</td>
<td></td>
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<td>Female</td>
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<td>Female</td>
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<td>3</td>
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<td>3</td>
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<tr>
<td>25</td>
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<td>2</td>
<td>1</td>
<td>–</td>
<td>4</td>
</tr>
<tr>
<td>26</td>
<td>–</td>
<td>1</td>
<td>–</td>
<td>–</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>29</td>
<td>24</td>
<td>21</td>
<td>90</td>
</tr>
</tbody>
</table>

Table 3. Age distribution of survey participants (rounded to the nearest percentage)

Hence, the sampling technique followed for this section for the research is purposive sampling, which requires an image to fulfill specific criteria before the selection is made. It also requires specific research justification to select the subjects. Hence, the main criterion for the selection of subjects in this research is the type of image they posted as profile picture on Facebook. An interview guide was prepared to structure the content. Those with pertinent image types were addressed with an email to solicit participation. The same rule also applies to the questionnaire administered in the form of online surveys. The research participant who completed the survey and volunteered for the interview was entered into a prize draw for a chance to win one of the two $65-worth SanDisk Sansa clip mp3 players.

3.3.4.2. Analyzing visual data

The second part of the research explores a typology of profile images posted on a social networking site. To identify the visual categories, a pilot study was conducted. Piloting helps researchers to highlight obscurities and other possible drawbacks (Lewin, 2011: 225). The pilot phase is significant when one develops a new instrument – in this case, a coding frame (Schreier, 2012: 147). This showed some pitfalls that needed to be improved. As a pilot study, ninety profile images were randomly selected from the Jacobs University Bremen and Duke
University Facebook networks. Since some of these visual categories exist in Astheimer, Neumann-Braun, & Schmidt (2011), Hum et al. (2011), and Strano (2008), a broad tentative typology that accommodated all profile pictures was developed. Visual categories that carry overlapping concepts were reframed to make them mutually exclusive. Hence, concepts which call for the interpretation of visuals were reframed during the initial stage because the primary objective of this study is the classification of profile images, not the meanings and interpretations associated with them.

Each image was categorized based on the visual characteristics it possessed. First, randomly selected images were classified into photo and non-photo categories. Then images in the photo category showed further differences in their visual characteristics. While some of these images were candid pictures, others were certainly modified. For example, the color of some images was changed, and some pictures were montaged. In this case, two photo categories were identified: unenhanced and modified [see Annex 1 for more details].

Similarly, images in the non-photo category include manually or mechanically created visuals. Some non-photo visuals were easier to produce while others needed sophisticated equipment. Images can be sketched on a computer using Paintbrush on Mac or Paint on Windows. However, there are certain images that are difficult to produce on personal computers. An example in this category is an aerial map. It is very difficult for a social network user to produce such kinds of images on a personal computer. Hence, this category shows the differences as to how non-human images are produced. When users can generate cartoonlike images on their personal computers, it is unlikely that they produce complicated images like maps. Some images are, therefore, borrowed from other people or institutions because profile owners may not have the expertise to produce these images with such precision [refer to Annex 1].

Another interesting observation from the pilot study is camera positions that may affect the way the viewers perceive the profile owners. Most images display different shot viewpoints. In many cases, the face of the person may be identifiable, but the angles from which these images are taken may differ
considerably. When some people prefer frontal close-up shots, few others favor long, rear-shots. It was reported elsewhere that photographic angles are important elements in conveying meaning to the viewers (Kress & Van Leeuwen, 1996; Messaris, 1997; Mullen, 1997; Tagg, 1988). Hence, the camera angle is considered as one of the most significant elements of visual category [see Annex 1 for definitions]. The position of the face was also considered for analysis because people may not necessarily gaze directly at the camera. There are conditions in which the profile owner looks in a different direction. In the context of this research, the speculation is that the majority of images show close-up facial expressions of users, close friends, or relatives. However, there are other images that significantly deviate from this assumption.

A very crucial step in conducting research is developing a sound coding methodology. The coding scheme undoubtedly affects the outcome. Hence, the visual data have to be carefully coded to generate a conclusive result. In this research, all image categories are defined in detail to avoid overlapping concepts (Schreier, 2012: 113-114) [refer to Annex 1 for more details]. Then they are coded in distinct visual frames. For example, a profile image is either photo or non-photo; it contains humans or non-humans. It also has properties of visual perspectives – long, medium-shot, or close-up; frontal, three-quarter or rear; low, eye-level, or high-angle. Each major category also needed further classification because there were many differences in the characteristics of these images.
4. METHODOLOGY

4.1. Subjects

This study attempts to investigate specific, image-related research questions that have not been explored so far. Images are crucial constituents of online self-presentation and impression formation. Identifying image patterns from social networking sites may suggest how users prefer to depict and see themselves. However, categorizing images and detecting patterns may not be sufficient to discover the dynamics of profile image production and self-presentation; it is essential to further investigate the mechanisms in which these images are produced and perceived among users. Hence, the research explores the processes in which profile images, as representations of identity, are constructed, enhanced, and uploaded in the context of online social networks.

The subjects for this study are Facebook users networked to Jacobs University Bremen (Germany) and Duke University (USA). Both universities are exemplary institutions to enroll students from various countries around the world. In Fall 2011, Jacobs University Bremen hosted more than 1,250 students from 102 countries. Similarly, Duke University accommodated around 13,000 students from 85 countries at the same time. Since it is practically difficult, if not impossible, to study all profile images of students from Facebook networks affiliated to these two institutions, a significant portion of the student populations from Duke University and Jacobs University Bremen is considered for analysis. A total of 1,028 (394 from Jacobs University Bremen and 634 from Duke University) randomly selected profile images are considered for analysis. These images are categorized under various adapted or newly framed visual categories which are comprehensive enough to accommodate a number of profile images that fulfill set criteria.

Interview and survey data are used to examine the processes of profile image production. Using a structured interview guide [see Annex 2 for details of the questions], 7 research participants have been interviewed for the processes of picture production – reasons for their preferences of settings, picture-taking behavior, their perceived feeling about editing and activities decisions profile
image selection. Concepts generated from previous studies are juxtaposed with the visual motifs generated from the visual data.

For the online survey, at least 15 participants from each major visual category (Guest, Bunce, & Johnson, 2006; Morse, 1994; Onwuegbuzie & Leech, 2007) have been purposefully selected. Students who have different visuals for their profile pictures have been asked why he/she has used that particular image for social network profile picture. Therefore, 65 purposefully selected and 25 randomly selected survey participants have completed close and open-ended questionnaires (Onwuegbuzie & Leech, 2004) to substantiate the information generated during the interview. The general aim here is to generate information regarding visual production and self-presentation in the context of computer-mediated communication. However, interviewed participants are excluded from participating in the online survey, for the purpose of the study is to generate information from different sources, not to reuse the same information in a different form. The selection criteria for both interview and questionnaire will be based on images typologies, which are developed inductively.

4.2. Instruments

The sampling technique used for the interview and survey instruments is purposive. Participants have been sampled for the interview and questionnaire respectively. An interview guide has been prepared to structure the content [see Annex 2]. Those with pertinent image typologies have been addressed with an email asking for volunteer participants. The same rule applies to the questionnaire administered in the form of online surveys. Users have been encouraged to explain their experience of profile image production. For example, they are asked to elaborate on what types of camera they use, what images interest them, to what extent they edit their pictures, and what makes them change their profile images. Also, the basic criteria users take into account during the selection and editing processes remain a very interesting concept that needs to be researched. In sum, the interview result is expected to shed light on perceptions held about the power of images from the production perspective in online identity formation.
Two types of instruments are used in this part of the study: interviews and questionnaires. Using a structured interview guide, seven research participants have been interviewed on the processes of profile picture production, reasons for their choice of images, editing process such as cropping and enhancement and activities they have been employing in making decisions to use the preferred image for online self presentation. Some of these concepts are generated from previous studies.

4.3. Methods
Content Analysis and Visual Context Analysis and Iconography-Iconology are employed to analyze visual data (Banks, 2007: 46; Bell, 2001; Emmison, 2011: 235; Schreier, 2012; Müller, 2011) to classify images in specified dimensions. Müller's (2011) Visual Context Analysis is used to identify the context in which images are produced. Visual categories have been defined based on content, type, and composition of images to discover profile image frames on social networking sites. Categories are broad enough and mutually exclusive to fit in images in specified dimensions that best define each profile image.

The results of the questionnaire are integrated with image typology and interview results. Moreover, the first section of the questionnaire, which constitutes primarily open-ended questions with basic information on selection, editing, and posting, is intended to explore the image production behaviors of young adults. According to Emmison (2011: 235) it is necessary to understand the visual context through interview or survey methods; otherwise, studying the visual image alone would not produce much beyond the description of those visuals.

Visual categories have been defined based on production technique, visual motif, and shot perspective to discover profile image frames used on social networking sites. Each category contains mutually exclusive subcategories to fit in images in specified dimensions that best define each profile image [see Annex 1 for more details]. The data have been put into SPSS 21 so as to generate different bar graphs on many of the defined dimensions. The graphs are used to compare and contrast the patterns of visual motifs from two institutional social networks.
Moreover, the images are used to generalize the frequency and types of images posted on these two sites. Percentage figures are generated from the visual and survey data.

Coding the visual data has taken more than a month. When first-time coding has been completed, it is necessary to code the same images for the second time after one month to assess reliability of the coding scheme. Then, the intracoder reliability of the two coded values has been computed using Krippendorff's $\alpha$. Different visual categories produced different alpha ($\alpha$) values. The intracoder reliability for technique of production and visual motif are $\alpha=0.87$ and $\alpha=0.89$, respectively which are considered as “very good” (George & Mallery, 2003: 231). Lower internal consistency of the alpha value is observed in photographic perspectives – camera distance ($\alpha=0.83$) horizontal camera angle ($\alpha =0.82$) and vertical camera angle ($\alpha=0.79$). The figures place the reliability of coding scheme as “good” (George & Mallery, 2003: 231). Then several corrections are made on the differing coded values by carefully looking into each image. It is only after the reliability has been computed and the corrections are made that the visual categories with pertinent items are integrated in the subsequent studies. The interview and the survey data have been coded based on the interview guide and online questionnaire.
5. DATA ANALYSIS AND DISCUSSION

5.1. Production of profile images

Understanding the significance of amateur photography in the day-to-day communication of individuals involves scrutinizing production, dissemination, and reception of photographic images. With the proliferation of social networking sites, millions of personal images are uploaded to the Internet every day. This part of the research investigates how young adults produce, edit, upload, and display profile images for online self-presentation and impression formation. It examines aspects of production and presentation of profile images – the different gatekeeping techniques (what content to select, how to present it, and how it is evaluated) used by individuals or professionals to make images more salient for online self-presentation. The production processes are divided into three main sections: Preproduction, Production, and Postproduction stages. Even if the stages are classified for the sake of convenience, the process of choosing a profile image is seamless and continuous, and it may happen in a matter of seconds.

5.1.1. Preproduction stage

5.1.1.1. Interest in photography

In this study, attempts are made to explore how Facebook users produce photographic images in general and profile images in particular. Photography is a social practice. Everyone is involved in it despite individual differences. Some people may like to appear in as many snapshots as possible whereas others are less interested to pose for photographs. Some may be interested to picture every interesting event, but they may not like themselves captured. Yet, it is mandatory for people to have pictures of themselves to get documented in many social systems: a birth certificate, an identification card, or a passport. On a personal level, photographs help users keep past memories (Machin, 2004; Sontag, 1977; Van Dijck, 2008).

The interviewees have been asked to explain how frequently they participate in photography as a subject in the image and as a photographer taking the image, or both. First, all research participants own smart phones capable of taking
pictures. Picture-taking is one of the most important activities for young adults. The phone camera helps them capture interesting events such as social gatherings, private events, and personal encounters. University students do not carry compact digital cameras around often, except on special occasions, for they have the hassle-free mobile phone. The interviewees and survey participants said that they are involved in many social activities. Images are captured spontaneously by making use of mobile phone cameras. Accordingly, the purpose of taking these pictures is to communicate the nature of the spontaneous incidences to other friends and acquaintances – close friends, relatives, siblings, or significant others (Cobley & Haeffner, 2009; Ellison, Heino & Gibbs, 2006; Shim, Lee, & Park, 2008; Van Dijck, 2008: 58).

5.1.1.2. Photographic practices

The trends in young adults’ photo taking practice have shown a tremendous change in the past few years. For example, the scarcity of photo processing devices made them appear in few images in the past. Today, however, many university students capture as many images as they want with their mobile devices. Today’s images are not private ones that include only one person; instead, the majority of them are group images that reveal social validation. Group images convey the participation of individuals in social affairs. Unlike the findings of Harrison (2001: 107), the image is used for group presentation, not family or self-presentation. These images are shared with an unlimited number of people thanks to digital technology.

Images are primarily shared on Facebook, Flickr, or Instagram with those who are (not) captured on the image. They are sometimes tagged, so that not only the participants who were in the event see and comment on the image, but also other friends and acquaintances can provide their reflections on the event shown in the image. The pictures, which are shared among social network users, are used as conversational tools to facilitate communication (Cobley & Haeffner, 2009; Van Dijck, 2008: 58). One of the interview participants said, "Facebook image for me is like emailing and texting. There are different groups I try to discuss professional and social issues using images" [Interviewee 1 on page 73].
Thus, the social network users consider images as communication texts to fill in the visual gap missing in the communication process.

5.1.1.3. **Familiarity with picture-taking devices**

This research has also investigated users’ familiarity with image-capturing devices. The type and number of photographic devices young adults have directly affects how they capture images. Both the interview and the online survey results affirm that college students own at least a mobile-phone camera [see Annex 4 for additional details]. Some social network users said that they own one of the following devices: compact digital cameras, Digital Single Reflex Lens Cameras (DSLRs), disposable cameras, cell phone (iPhone) cameras, film-based cameras, or iPads / tablets. Moreover, the data show that university students own laptops on which webcams are embedded.

![Percentage of picture-taking devices currently used by survey participants (n=90)](image)

*Figure 2. Percentage of picture-taking devices currently used by survey participants (n=90)*

*(note that some respondents use two or more devices)*

Digital or DSLR cameras are primarily used for special occasions and big events. The research participants reported that in the casual day-to-day communication, they employ phone cameras to capture and share pictures among social network users. Young adults always carry the phone cameras, which remain by far the most convenient device to capture photographic images. The Internet capability of the mobile phone camera helps users upload the images very easily to the Internet and share among friends. The research participants unanimously agree
that webcams, except in rare cases, are not used to take shareable or documentable photographic pictures due to the low quality of images. Film-based cameras are not extensively used today because of the technical and temporal inconveniences. However, film-based camera use is very common among older generation users such as parents who have been deeply attached to these image-taking devices for years. In contrast, the younger generation employs phone cameras to capture photographic images.

The phone is a portable communication tool that can be carried anywhere anytime. It is a picture-taking device, a music player, a video player, or a game player in addition to the emailing and texting services it provides. Some interviewees consider the phone as a “life companion,” for it is used to record the everyday lives of individuals. Recently, phone production companies have focused on embedding high quality cameras in mobile phone devices. For example, Samsung and Sony introduced 13–megapixel cameras on their Galaxy S4 and Xperia Z phones, respectively. This may lead to the waning in the use of compact digital cameras. In addition, embedding a high-end phone camera increases the ease of capturing high quality photographic images and high definition videos. Young adults can easily replace their old profile images with recent ones. Images can easily be transferred from one source to another via the phone, and such practice would encourage them to upload their images on various devices. Of course, transferring images from compact digital camera to other devices is easy, but research participants believe that the process is not as convenient to transfer or send images to other people easily as the phone camera does.

5.1.2. Production process

Social network users employ different types of cameras to capture scenes of their choice. The mobile phone is the most convenient and handy for taking photographic images. They may capture images that are of great significance. Yet, some of the captured images may not be as good as initially thought because of the technical standards of the camera phone or the photographic experience of the cameraperson. Sometimes shakes and blurs may result from quality of the camera or the photographer’s inexperience of capturing images. This section of
the research investigates the different mechanisms users make use of for producing photographic images. Users’ choices regarding the setting and composition are discussed in detail.

5.1.2.1. The setting

The setting influences the way pictures are captured. It is the context in which a certain image becomes meaningful. Users’ setting preferences should be studied to uncover the nature and the process of photographic production. Some young adults may prefer to take outdoor images to indoor images. In this research, participants were asked to share their preferences regarding the image settings. Both the online and interview respondents affirmed that outdoor setting is more convenient than indoor setting when they use mobile phone cameras. Yet, the paradox is that most of the social gatherings usually happen either indoors or in the evening. The main problem users complain about lowlight indoor or nightfall photography is the image quality of the mobile phones. Camera phone images remain fuzzy in lowlight indoor or night situations. Therefore, college students prefer daylight outdoor images. Sometimes, the image quality may deteriorate in indoor or nighttime photography. Yet, the smartphone captures a candid picture, and many young adults do not seem to be worried about the picture quality (composition). Capturing the moment with the phone camera suffices.

Young adults who use camera phones during lowlight situations employ different mechanisms to improve the quality of images. For example, close-shots are used at night to produce crisp and clear images whereas medium and long-shot are used during the day to introduce the context. Outdoor lighting is always brighter and clearer than indoors. Indoor images are darker and much more blurred; therefore, in this context, closer shots are preferred. Research participants believe that close-shots are more meaningful than long-shots of people at night or during lowlight situations. In addition, Facebook users sometimes use prosumer cameras (such as DSLR) for professional looking images, whereas iPhone and Android phones are used for casual communication purposes (Shrimpton, 2008: 96).
Interview respondents were also asked about preferring outdoor and daylight than indoors and lowlight settings. All of them unanimously prefer outdoor photography. Lighting problems impact on the quality of the images. They believe that outdoor images show better background and reveal the details of the identity of the subject. In fact, phone cameras do not produce the intended images indoors. Yet, these images are used to validate social connections by documenting particular events.

Some respondents say that they carry compact digital cameras whenever there is a certain important occasion, or when they plan to take pictures. Since picture-taking is not a daily activity, social network users do not carry compact digital cameras everyday. Carrying a compact digital camera is intentional; one has to deliberately bring it to capture intended occasions. These incidences include traveling to attraction places, special occasions, or festivals. The purpose of the phone camera is essentially different from the compact digital camera in that the latter is carried during planned or special occasions whereas the former is carried in everyday situations. Carrying a compact digital camera may not be that much important for some of the social network users. The phone camera can suffice to do the job of any compact digital camera. That makes phone cameras and digital cameras the most widely used picture-taking devices among college students.

5.1.2.2. Picturing subjects and events

Today, picture-taking is a spontaneous, casual activity. Most young adults do not seem to take pictures with intent. College students take pictures whenever they find interesting incidences, particularly in group settings. Hence, these social settings are platforms to capture images, which portray how young adults spend their time with friends and acquaintances. Later, these images are sent to their parents and friends to depict the scene at that particular moment. In addition, social occasions such as birthdays and parties, and personal activities such as trips are important platforms to capture photographic images. Birthday parties, sports events, social gatherings (e.g. dining together) are usually the most important events that are captured with both phone cameras and digital cameras.
One respondent [refer to Table 2 Interviewee 2 on page 73] said that while she was walking across the street in Durham City, she caught an image of a huge fire. But her mobile phone did not produce a good image. It lacked details. Later, she went closer to the scene and took a few close-up images and deleted all other images. The best image was sent to her family and friends to tell about the incident. It was not necessary for her to keep all other images for a much longer time on her phone once the image went out to her friends. She archived only one image for documentation, but most others were deleted after being sent to other persons. Hence, these images are used for conversational rather than documentary purposes (Machin, 2004; Van Dijck, 2008).

Incidences such as change in the season (e.g. spring) are also documentable. Blooming flowers in spring are interesting natural phenomena captured and shared with friends and relatives who live in distant places. These images provide a visual memory of what a certain place looks like on a certain occasion. Images may be sent to other friends and acquaintances as well. For example, Facebook users capture images of food to send them to their friends and relatives. The research participants say that this is an exciting activity they communicate visually with others.

Young adults view profile images they use on Facebook differently from images for day-to-day communication. They argue that profile images are always products of staged activities. Implicit modifications are usually made before or after capturing the image. The suitability of the image for Facebook profile is well thought out before it is posted. In other words, when users choose their profile images, they take certain conditions into account, and images on Facebook profiles show staged activities. Profile images are not necessarily enhanced to be staged activities. The subjects in these images pose intentionally for the suitability of the profile picture.

However, it seems that the self-portrait or *selfie* does not seem a very common image for the profile picture because young adults are not sure of the aesthetics of the image. According to the interviewees, taking *selfies* is uncomfortable; one usually has to use mirrors in the bathroom to capture them. If the mobile phone
has a front camera, one has to extend his or her arm to capture the *selfie*. Some interviewees state that the picture has desired quality if there is a reasonable distance between the subject and the camera. *Selfie* images have other implications. When they are posted on Facebook as profile pictures, network users may feel the subject is claiming his or her identity without the interference of another person. It is like saying, "hey look at me...this is me doing this thing," one of the respondents says [see Table 2, Interviewee 1 for details on page 73].

Embedding the camera on the phone made every Android, iOS, or Windows phone owner a photographer. Most images remain candid shots without modification. What makes young adults’ photographic practice different from previous generations’ is that contemporary photo taking is impulsive, careless, and unstructured. In most instances, people are not dressed for the convenience of photography. Second, many pictures are taken at once. The interviewees estimate that they capture up to five images of a single event where the best one is chosen and kept, and the rest are deleted. Digital images are also editable on the camera, phone, personal computer, or the Internet. Even if males and females take images, all respondents believe that females take more pictures than males do in social contexts.

Images that depict social interactions are discussed among close friends and significant others. Images’ social contexts imply increased interaction among network friends. Research participants believe that pictures are hectic and interesting. For example, get-together and birthday parties are not neat occasions for photo taking opportunities; any type of pose can be tolerated in the chaotic-looking scene. Therefore, the Android, iOS, and Windows camera image-taking process is not ceremonious; instead, it is an informal and less structured activity. This implies that images are used for communication rather than for a documentary purpose.

Photo-taking activity can be classified in three major groups. This classification is based on the camera type and the user’s motive. First, images can be casually captured. An event that interests the person can be captured with the phone camera or digital camera. The second refers to images that are intentionally
captured. These images require the person to have digital or phone camera intentionally readied for an intended purpose. Birthday occasions, sports activities, and social gatherings are captured with the intention in the mind of the photographer. In most cases, these occasions require young adults to carry their cameras with them, and the intent of taking the photograph is clearly established way before the event is started. The images are snapshots of events using a mobile phone or a digital camera with a purpose in mind. The third type refers to images that are produced with a professional camera. Not only are the preparations made to take the images in advance, but also a professional camera can be used to take professional-looking images. Hence, the image is intentionally captured. Images for the yearbook or college magazine can be an example of these groups (Shrimpton, 2008).

Most interviewees stated that they are not concerned about the composition and the quality of their snapshots. The purpose of taking these images is to intensify conversation with friends and family. These images are primarily taken not to document a certain incident but to convey information to others. Sending messages in images depicts more about an event than using textual messages. In other words, images are condensed ways to tell stories. Picture messaging seems to be more frequently used in the United States than in Germany. Also, sending picture messages is more prevalent in places where users are subscribed to networks allowing unlimited text-visual messaging. Since the phone-camera is used to capture images for conversation, young adults record events and send them as a proof of what happens in a particular context. Digital Single Lens Reflex Camera (DSLR) cameras are employed for promotional purpose. One of the interviewees said that he uses a DSLR camera for serious stories, freelance work, or documentary purpose, but not for casual snapshots of everyday lives [refer to Table 2 Interviewee 3 on page 73]. Camera phone images are shared on Instagram with families and friends. These images are made “artsy” by adding certain colors that feel like classic images (Adatto, 2008; Furstenau & Mackenzie, 2009; Grosvenor, 2010; Van Dijck, 2008).

If mobile phone images have to be stored, they are kept on the phone, transferred onto the hard disc, or uploaded online. But the respondents state
that the majority of the mobile phone images are deleted after they fulfill certain criteria. Respondents have discarded images that lack user-defined qualities to free space and record new ones. It is important to note that the possibility of deleting images on the spot has sprung up with the introduction of digital camera.

Twenty years ago, adults or photographers used to take decisions regarding photographic images in a camera-scarce environment. Parents used to decide when and how the images should be taken. Today, young adults own phone cameras and have control over their pictures. They take decisions regarding what images to capture, where to store them, and which images to discard (Coblely & Haeffner, 2009). They capture most images and have exclusive rights to review, modify, or delete some or all of them. Image-taking has become more of a personal activity today than it was before.

Interview participants were also asked to reflect on their image-taking experiences. Despite individual differences, most images are captured spontaneously. Also, some young adults capture images more frequently than others. The majority of young adults, however, use mobile phones to satisfy personal needs and to promote social connections. Hence, images play a significant role in the lives of young adults. It is a great opportunity for them to communicate with their friends and acquaintances via images.

5.1.3. Postproduction stage
The process of storing a photographic image is another aspect of image production. During the analog photographic era, personal and family images were kept in albums and were shown to guests, relatives, or community members. In other words, the images in the album documented the life of the family (Adatto, 2006; Lister, 2004; Machin, 2004; Meurer, 2003; Sontag, 1977). Today, the way photographic images are kept has changed tremendously. Instead of depicting images from camera, camera phone, or personal computer or in the form of printouts, users either upload or send the images to other viewers on their own personal devices. Thus, most images are kept on the phone,
the hard disc, or the Internet. Most images are used for communication and social interaction purposes (Van Dijck, 2008).

Figure 3. Percentage of photo storage devices currently used by survey participants (n=90).

Note that some study participants use one or more devices to store images.

Images are kept in different places. Multiple ways of storing images helps the social network user not to lose images taken during different occasions. The more the electronic devices are used to store images, the more likely the image is safely stored. Image-viewing habits have changed considerably. It has become a more personal activity. There is no guide that shows the context in which the images were taken, as it used to happen while viewing the hardcopy family photo album. Photo viewing surpassed its old spatial and temporal dimensions (Müller, 2011; Tirohl, 2000; Sontag, 1997), and users view these images without contextual descriptions.

5.1.3.1. Image Quality

Individuals differ in the way they view photographic images. Everyone has a personal interpretation of what a good-looking image is. Facebook users defined good-looking images as snapshots captured for documentary or communication purposes (Andén-Papadopoulos, 2008; Chalfen, 2002; Lury, 1998; Van House, Davis, & Ames, 2005). In addition, good-looking images carry qualities that are worth sharing. These images should impress other network members. The
research participants gave elaborate responses on the attributes of good-looking images. Some of the most common attributes are based on the proper pose, adequate lighting, and absence of interference (Chalfen, 1987; Garry & Wade, 2005; Grosvenor, 2010). The eyes of the subject(s) should not be shut; the lighting should not be too dark or blurry; and the images should not carry unwanted noise that resulted from the camera or the photographer. When the subjects’ faces are not properly positioned, when the photographer’s finger is placed on the camera lens, or when the photographer did not shoot from appropriate distance, image owners ponder whether to keep the images or to discard them.

To dub an image good-looking is directly related to its worthiness. The requirement for an image to be worth keeping is the unrepeatability of the occasion (Andén-Papadopoulos, 2008; Adatto, 2008; Meurer, 2003; Murray, 2008; Sontag, 1977). If the event is to be repeated sometime in the future, it may not be necessary for young adults to store the image on the phone for a long time. So, the basic question is whether it is possible to have the same image again on another occasion. If the user believes to have the opportunity to take images with similar people and settings, the captured image can be temporary. Otherwise, bad-looking images with non-repeatable settings remain worth keeping despite the deficiencies in lighting, noise, or other issues. Lighting is not the only constraint that decides whether the image should be stored or discarded. Red-eye is a severe issue for some social network users. Yet, it is acceptable that many cameras produce red eye images when captured in low lighting situations. Both overexposed and underexposed images are not considered good-looking, even if the context determines whether the images should be kept or discarded. Moreover, the feeling created during that particular occasion attaches the young adult with the picture.

Android, iOS, or Windows images carry stories young adults want to tell viewers regarding their daily encounters. The interviewees said that they take lighting exposure, color, subjects, and the background into account when they capture photographic images. Therefore, good-looking images are produced with suitable composition of the background and foreground. When one of these
elements fails to fulfill users’ intentions, the picture is considered bad-looking. Moreover, it is reported that the face should be the target when an image is captured. The users believe that the face of the people is the most important of all parts of the body. This may be the reason for social networks to be full of images that show faces. A good-looking profile picture should not be necessarily artistic in its nature. It should only carry the message the image owner intends to convey. According to the respondents, the image contains ideas and feelings of the profile owner captured during a particular time in the past. Hence, the picture is a meaning sheltered in time (Tirohl, 2000); it is evidence of a certain incident (Adatto, 2008; Lury, 1998; Grosvenor, 2010; Sontag, 1977; Van Dijck, 2008; Van House, 2006). Interviewees believe that images for communication should look neutral, natural, and normal.

5.1.3.2. Discarding unwanted images
Discarding, like storing, a picture is a very crucial part of photographic image production. It is singling out the unwanted or less important picture from many other pictures. Deleting images necessitates the owner’s decision to destroy incidences captured for the purpose of communication, self-presentation, or documentation in the past. Certain images, which fulfill a user’s predefined criteria, are retained while others, which lack user defined-qualities, are usually discarded. In light of this concept, respondents explained the conditions in which they delete images that do not fulfill their criteria. They reported that deleting (discarding) images occurs in two ways. First, images can be discarded immediately after capturing. In this case, deleting becomes a spontaneous process. Decisions of whether to keep or discard images are often impulsive and intuitive. Discarding as a process may take a few seconds. A one-time glance is sufficient to decide on the fate of the image. In this case, users have developed a way of gauging whether a certain image is good- or bad-looking. Identifying a good image from a bad one is a spontaneous activity decided in a matter of seconds. The spontaneous deletion of photographic images from the (phone) camera implies that users have another opportunity to acquire similar images.

The second type of discarding photographic images is accomplished after users capture images and review them at a later stage. However, delayed discarding is
different from spontaneous discarding in that the former involves users’ longer time and thorough consideration whereas the later needs little time and thought before images are purged. Delayed discarding involves not only viewing the image repeatedly and probably on a bigger screen, but also analyzing the details of the image a few times. In other words, the different ways of discarding images are analyzed based on time and device. Some young adults discard images after viewing for a brief moment (spontaneously), whereas others keep them till they evaluate the pros and cons of each captured image on the personal computer. The delay in deciding on the fate of the image at a later stage blurs the nature of the event during which the image has been taken. Some social network users said that delayed deleting reminds them of the contexts in which these images have been captured. Discarding images immediately after the picture has been taken or later on personal computers are noteworthy image production rituals.

Hence, college students take few images of an event at a time and delete undesired images afterwards. They do not carry similar images. For each important scene, one or two best images are retained and the remaining are deleted. Deleting repetitive images would encourage users to capture more diversity. College students store about one thousand images on their phones until they run out of space. When the phone memory is full, they transfer or delete some of these images they do not want anymore. However, deleting occurs when the image is being reviewed immediately after the image is taken on the phone or later after it is transferred on to the personal computer.

Generally, young adults believe that lighting and focus are the primary components that make the image worth keeping. Blurry or shaky images, unless intentionally done, would be deleted. University students who have camera phones largely delete images taken at night or during low light situations. Yet, however the image appears, the social network users have time to view and later delete these images. Hence, images are taken and only fewer are kept as moments and mementos. Those images, which have high importance in the life of the individual, may be edited for further documentation.
5.1.3.3. Editing photographic images

Assessing the extent to which social network users employ editing software is a very important area that helps researchers understand the process of image production. Even if the majority of young adults do not edit Facebook profile images as discussed in Chapter 2, it is important to understand the skills users have acquired to correct the flaws due to the phone camera or other external conditions. As stated above in the preproduction section, Facebook network users affirm that they do not generally edit profile images. They argue that editing images dissembles the subject's appearance and conveys erroneous information (El Refaie, 2009; Garry & Wade, 2005; Greenhow & Robelia, 2009; Kirk et al., 2006; Tirohl, 2000). Yet, it is important to differentiate acquiring editing skill from un-posting edited images. The majority of social network users may have proficiency in editing images using basic software applications. They said that they have used editing software to correct some flaws of their images. Few have used packaged software such as iPhoto or Microsoft Office Picture Editor to edit their images, whereas others have been using highly professional software such as Photoshop.

Facebook users have acquired some level of knowledge of image editing. In addition to cropping and enhancing features of user-captured images, many users correct color intensity, brightness, and focus. Microsoft Paint and Microsoft Picture Manager on Windows and iPhoto and Preview on Mac or other third party software can be used to alter the property of camera phone images. Results of the interview indicate that both males and females have been editing some of the images they use for professional or personal purposes. In addition, filtering applications like Instagram are widely used to make the image look vintage. Image editing applications on mobile phones such as Camera Plus on iPhone/iPad or PicsArt on Android Phone/Tablet are the most common filters used by the social network site users. Different filters are added to the image to make them more appealing and provide a professional look.

Both the interview and online data reveal that social network users rarely edit their photographic images. Those university students who use camera phones to capture images state that they do not use editing software regularly; instead, it is
convenient for them to employ filters to modify their images. The users also stated that cropping part of the image without enhancing the photo is something that they perform whenever they work with images. In this case, cropping the image does not alter the nature of the photo, but it eliminates unintentionally captured sections of the image. In addition, young adults upheld that color images are changed into black and white for creative purposes (Furstenau & Mackenzie, 2009; Manovich, 2001; Ritchin, 1999; Wade et al., 2002; Wells, 1996), but they rarely merge or enhance images. In addition, saturation, hue, and lighting are some of the alterable properties that social network users employ in rare instances. Generally, both the interview and online participants agree that except one-button click editing techniques, professional editing (e.g. on Photoshop) needs an enormous amount of time, which students do not have during their stay in the university. Therefore, they do not spend their precious time editing photographic images. Rather, they touch up their phone images using Instagram and other apps, while images from DSLR can be edited on Photoshop for technical and creative purposes.

Some images may carry the emotions of the individual. These images are kept even though they might possess discardable attributes. The meaning attached to the image matters a lot to decide whether the image has to be archived or discarded. Hence, images that bear such characteristics are not deleted at all; instead, owners keep them with all associated flaws.

A very interesting point raised by all social network users is that they are against modifying or editing valuable pictures. An interview respondent from Jacobs University says, “It is a weird thing to Photoshop personal images because the photoshopped image does not represent the image owners” [see Table 2, Interviewee 3 on page 73 for more details]. Another interviewee [refer to Table 2, Interviewee 1 on the same page] from Duke University further explains,

Photoshopping the image is staging it as it happens in job interviews and other occasions. Accordingly, an image should not look too good or too staged, for candid photo conveys honesty and openness whereas staged image is a form of a trick. Photoshopping is tricking and does not work for personal images.
All the interviewees agree that personal images have to be candid and users should not photoshop their images. Another social network user strongly stresses that "one has to look like who he is or she is [on the image], not what he or she is not" [see Table 2, Interviewee 7 for details on page 73]. Nevertheless, photoshopped images are not completely marginalized. Social network users have different types of images for professional purposes. For example, images posted on professional sites should be crafted in a different way from images intended for a Facebook profile. Young adults can use edited images on professional sites such as LinkedIn, as the primary aim of professional sites is to promote the talent and charisma of the individual. Thus, two types of online images express the persona of the individual. The first type of image refers to the presentation of the individual with candid pictures. Candid images are used for social network communications such as Facebook, and enhanced images are used in dating and professional job-hunting sites. Facebook is a site that helps social network users present their details to family members and friends, whereas professional sites such as LinkedIn help users present their persona to unfamiliar people. A female respondent says, "You want to have that honesty, openness and all kinds of genuine stuff. If your picture does not convey that, people draw very quick conclusion of what kind of person you are" [Table 2, Interviewee 5 on page 73].

Concerning editing images, few other interviewees stressed that editing could be done as long as it does not obstruct the appearance of the subject in the image. For example, iPhoto and Windows Picture Manager can be used to change some of the properties of the image. However, the participants of the study stated that they would keep the image with all its flaws, for the flaws also leave blueprints of interesting incidents. The flaws carry the message the profile owners remember, including the setting and the photographer. Moreover, young adults question the significance of altering the property of the image. They ask: if people keep on fixing the image using Photoshop, where would this fixing end? Questions related to the extent an image is fixed further complicate the discussion of image editing.
On the other hand, digital technology efficiently provides a clue whether to keep the image on the spot; phone camera or digital camera owners notice right away when the image goes wrong or has some technical problems such as spots. When the fault remains unavoidable, the photo owners accept the image as it appears candidly. One of the respondents affirmed,

\[\text{Life is not perfect and we should not expect the image to be perfect. After all, the role of the image is to document life, not to sanitize it. The image may not be as perfect as you want it to be, but it resembles your activities and actions at that particular period of time. [Refer to Table 2, Interviewee 1 on page 73 for more details]}\]

Hence, the candid image with all its faults is a perfect way of remembering the event. It is a memorable image and should not be altered. Yet, in extreme cases, other mechanisms are usually sought.

Another type of image production is using analog camera. The salient attribute of disposable and film-based cameras is that it is difficult to know the nature and quality of the image until it is printed. The suitability of the image to take a spot in the album remains unknown until after the roll film is developed into a negative and eventually printed. In this case, time is a necessary requirement to tell the quality of the image.

5.1.3.4. **Uploading a profile image**

Uploading images on the Internet refers to young adults’ willingness to depict themselves publicly. They create a digital photograph to be accessible for others. Today, it is normal that the majority of young adults upload profile images on social networking sites, but the quality and the amount of images differ from person to person. For example, the overwhelming majority (70%) of 90 respondents said they have uploaded more than 100 images to Facebook albums [refer to Figure 4 on the next page]. Facebook is used to communicate their important encounters through both texts and images. Some users upload few images due to personal reasons; those survey respondents who have less than 30 images on Facebook account for 15.6%. This means that more than 80% of the surveyed subjects affirmed that they uploaded more than 30 images on
Facebook. The difference in image posting behaviors may pose a question as to how personality impacts visual self-presentation.

![Percentage of respondents who uploaded personal images to Facebook (n=90)](chart)

Offline encounters may affect the way social network users upload profile pictures. Yet, all social network users change their profile images once in a while. Two important questions were asked regarding changing one’s profile picture. First, online survey respondents and interview participants were asked how frequently social network users change the profile picture. Some users post images more frequently; others upload images less often. Second, users were asked to give reasons for changing their profile picture. The social network users provided several rationales for changing their profile pictures in the past. The responses from the online survey show that social network users change their profile picture most often on specific occasions. These account for 48.9% of the total survey respondents. These respondents do not have a specific time when they change their profile images. It depends on the upcoming occasions. Moreover, 26.7% of Facebook users update their profile pictures at least once a month. However, the remaining respondents seem to change their images either once a year (17.8%) or do not change them at all (6.7%).
Figure 5. Percentage figures that show frequency of changing profile pictures \(n=90\)

Changing one's profile image may be an important online social practice for the majority of the social network users. Most online activities are directly linked to offline social connections. Social network users are driven by their encounters in the offline world. Facebook users change their profile pictures not because the pictures are old, but because they have to show the currently relevant occasions. Hence, whenever there are occasions or events that are worth showing, social network users update their profiles to depict these events to their network friends and relatives. It is a way to depict how users spend their time at university and beyond.

5.1.3.5. The current profile image

Knowing the types of images uploaded on Facebook is as important as understanding the frequency of change. Online respondents and interviewees were asked what types of images they post online. More than 72.2% of online respondents affirm that they used unedited person images for their profile picture. Respondents who use edited images account for 21.1%, followed by copied images (4.4%) and manually drawn images (2.2%). Therefore, the vast majority of the social network site users like to present themselves or others in unedited images. Therefore, the majority of social network users depict themselves with candid pictures on Facebook profiles.
When participants were asked whether the subject in their profile images consists of persons, 91.1% of the respondents said that persons are the main subjects depicted in the image. The number of the subjects in the profile image was another important issue in this research. According to survey respondents, single-person images account for the highest percentage (56.7%), followed by Couple (20.2%) and group (13.3%). Therefore, the majority of Facebook network profile images consist of single persons, which primarily consists of the subjects themselves followed by the profile owner and his friends. Very few respondents of this survey posted images of celebrities and parents.
Even if social network users stress the need to use unenhanced images for their profile pictures, some of them altered their profile images. One of the research participants claimed that he cropped a picture of himself from an image of a trip to another country posted by a Facebook friend. The respondent stated that he cropped only himself from group picture, as he was not interested to post images of those people on his profile. He further said that even if the image was cropped, it was still a candid image as no alternation on the color and the other properties were made. The respondent emphasized that the image looked like him: “This is a candid image; it is not staged. I look like myself. It is pretty good as well. So, it is combination of things” [refer to Interviewee 1 on page 73].

Furthermore, social network users stress the danger of keeping many images on Facebook. They seem aware of the impact of posting many online images on offline communication. Interview respondents believe that changing many profile images may connote an exaggerated showcasing and trying to outdo others. The more images are posted, the more social network users reveal their identity to friends and acquaintances. Hence, Facebook users believe that showcasing more images may imply that the social network user is promoting herself or himself by revealing every detail of her or his appearance. They stress that females post more profile images on social networking sites than males. In fact, Facebook users believe that keeping many pictures does not guarantee the promotion of good friendship and connections. Instead, few honest images suffice to make connections among social network users. They also stress that profile pictures that show groups would not indicate the profile owner and are not genuine. However, proponents of those pictures which contain many subjects argue that group images convey social context but not the individual user. In other words, the context is more relevant in some instance than the profile owner.

The profile images are believed to show a single moment caught from the entire life of the individual (Adatto, 2008; Sontag, 1977; Sturken & Cartwright, 2005; Tirohl, 2000; Van Dijck, 2008). It is a moment captured at a certain time and does not indicate the social network user's status before or after that moment. The profile image shows occasions such as birthdays, parties, sports activities, or
trips that may be meaningful for the profile owner. Sometimes, these images are intended to show the mood of the Facebook user at that particular time, but they are not a referent of today's status of the profile owner. Therefore, the mood of the participants shown in the image is retained as a profile picture for a very long time.

The study participants agreed that their current profile image had not been intentionally captured. But all participants affirmed that the current profile picture is intended to show a certain quality of the profile owners. Accordingly, Facebook as a social networking site is intended for communication, not for promoting individuals (Harrison, 2002; Machin, 2004; Van Dijck, 2008). The research participants stress that, even though the profile picture does not show the user's complete behavior at that particular time, the profile image depicts a minute part of the user's life at a particular time in the past (Bock, 2004; Grosvenor, 2010; Van Dijck, 2008). They also argued that a profile picture should not necessarily be recent; instead it should be memorable (Kember, 1998; Sontag, 1977). The profile picture is an arena where users share good moments and avoid bad ones.

Selecting an appropriate image for the social networking sites requires a careful review of the image qualities and dimensions. The profile picture should not be too superficial or unscrupulous. Stating the type of images a social network user posts, one of the respondents said, "I don't want to post images in which I shut my eye down or images that are edited, even if I have those types of images. I don't want to look superficial. In addition, I want my friends to like it, too" [refer to Table 2, Interviewee 3 on page 73 for details]. The profile owners and network members should relish profile images. Some respondents stated that however images were produced, all images are staged. They believe that no picture has ever been candid because users make choices regarding at least the setting and timing. Profile images do not show a real subject in unpretentious situations because some objects in the setting are usually removed and others are included. Moreover, a profile image does not show the everyday life of the individual even though there are some resemblances between the image and the actual subject.
5.1.3.6. The perceived significance of a profile picture

One of the characteristics of the profile image is that the user spends time selecting one from many others. Social network users pick an image by considering its significance to building their online identity. It is the only picture that is available publicly and represents the social network user in the online context. The profile image also appears on Facebook chats in the form of thumbnail. The image carries a lot of connotations about the subject. For example, it may portray whether the profile owner is in a relationship or not. A photo of couples indicates that the subjects in the image may be in a relationship. The profile images carry intended messages. A female respondent says, "The profile image showed my status. People who do not know my boyfriend knew when they saw the profile image. The audience can see what is going on in my life." Therefore, by posting profile images, social network users fulfill their communicative intentions [see Table 2, Interviewee 2 on page 73].

A profile picture may also show the setting in which the image has been taken. The background may also show the context in which the image was taken. Some people implicitly convey the message through profile pictures. For example, one of the respondents said that she stood in front of her truck to show other viewers that the truck belongs to her. Profile owners like to show specific things in the image. For example, one of the survey respondents wrote he wants to show "a new tattoo [he is] proud of." Racial origin and certain things that define the subjects are visible and sometimes embedded in profile images. However, the profile image does not tell everything about the subject. Unless some cue is added either in the background or foreground, a profile image does not show the subject's occupation (e.g. student). Therefore, the profile picture shows some parts of the message that the profile owner selectively presents.

However, few other interviewees contend that profile images may not be as important as they are thought, for network friends already know most of the profile owners in the offline context (Van Dijck, 2008). Facebook friends, family, and acquaintances are the audiences of the profile owner, and the presence or the absence of the profile image may not fundamentally affect the way the social network user is perceived. The network friends are not profile owners' image
audiences and do not need the profile image to form impressions about the profile owner. Moreover, most social network friends also know each other in the offline contexts. The profile image may be necessary for those who do not know each other in person (e.g. distant friends) or have not had a reunion for years (e.g. elementary school friends). Hence, the profile picture is intended primarily for the people who are not close friends with the profile owner in the offline context or those who know him/her in a professional context different from friendship.

Interviewees believe that the profile image on Facebook should be generic. An interview respondent says that the profile picture is like a handshake in the offline context. He says that Facebook users do not want other users to judge them based on their profile pictures. Thus, a generic profile picture conveys the message, "People will say he is a decent guy by not having a modified picture; he is more comfortable and open to himself. It is a kind of a message, which is anti-message" [see Table 2, Interviewee 6 on page 73]. By posting candid images, social network users send a message to the viewers that they are decent individuals. In other words, decency is conveyed using a candid profile picture (Lister, 2004). Other research respondents state that the profile image connotes the positive aspect of the profile owner. A candid profile image conveys the positive, routine relation of the profile owner with family and friends. The facial expressions are staged to portray the profile owner as a cheerful individual. Users in many instances try to portray themselves as happy and cheerful in that particular context.

Though Facebook users can post any kind of profile image, the majority of young adults select generic pictures of themselves, as the generic image is appropriate for all audiences (close friends, acquaintances, parents, and other persons), including employers. As grownup and mature persons, university students are cautious about their personality and appearance online. They state that people might get a wrong conception of the profile owner if edited or manipulated images are used (Ellison, Heino, & Gibbs, 2006; Lister, 2004). This is particularly true with those who search for jobs. Another respondent [see Table 2, Interviewee 3 on page 73] states:
I am making [my profile image] as generic as possible because people should not make any judgment about me at all. They should not draw any conclusion from it. Generic profile neutralizes what people can discuss about me. In other words, I don’t want to be their topic of discussion by posting a profile image that does not look like my own.

The participants of this study do not believe that the profile picture is a substitute for offline communication exchange. Interviewees agree that the profile image complements users’ offline persona because it shows a certain behavior of the profile owner who is then affected positively or negatively in the offline context. Considering the role the profile picture plays in the online context, the respondents state that the image is a temporary, virtual substitute for the offline personality.

5.1.4. Changing profile picture

What prompts Facebook users to change their profile picture? Both the interview and online survey participants provided a number of reasons for changing their profile pictures. The following graph was generated from the online survey collected from 90 respondents.

![Figure 8. Reasons for changing profile pictures (in percent) from the online survey (n=90)](image_url)

A change of profile pictures happens when profile owners find new attractive photos (Strano, 2008). Changing a profile image due to a more attractive photo accounts for 42.2% of the total responses provided. Similarly, university
students change their profile picture after taking pictures of special occasions, which holds true for 20% of the total respondents. In addition, some social network users want to replace an old photo with a new one. 20% of online survey respondents said that they had changed their profile pictures because they found new attractive pictures. Very few change their pictures when they change their social status such as being in a relationship or going to university (2.2%). Important reasons for changing the profile pictures are given below.

5.1.4.1. Physical appearance

All interviewees believe that the current profile picture should be attractive. They mentioned attractiveness from two main perspectives. First, profile images have to be good-looking, and the subjects themselves can evaluate how they pose in the picture. In other words, they see the picture as if someone else were viewing the image. As people view themselves in the mirror before they mingle with friends, the profile owner evaluates the profile image before posting it. Second, the image is sometimes evaluated by significant others such as family members or lovers on whether it is generic enough or not to be used as a profile picture. The presence of invisible decision makers indicates that the profile picture on Facebook is chosen carefully compared to other images that are posted on social networking sites.

It is important to consider how significant others and family members view the attractiveness of the image apart from the profile owner him- or herself. The profile image is therefore closely monitored by significant others. When asked the reason to choose their current profile images, research participants say, "I look happy" or "I look pretty good," even if these pictures show other persons. Profile owners view how they pose and not how others pose in the image. The priority users mention is that they should look good. Research participants believe that the profile image illustrates their personality. Hence, users have to find images that really illustrate what they look like without exaggerating their appearance. The respondents argue that attractiveness and happiness are related. Terms such as "cool, attractive, good-looking, good, decent" were repeatedly used when Facebook users describe and evaluate their current profile pictures.
5.1.4.2. **Significant others**

Sometimes, the profile owners or other influential persons appraise the pose of the profile owner and eventually the suitability of the image for the profile picture. One of the respondents of the survey reported that "[in the picture] I look attractive; my boyfriend took it. I am smiling and feeding birds which makes it cute and endearing, and people will see the fun trips I take; so, I will seem like a more interesting person" [refer to Table 2, Interviewee 2 on page 73]. Accordingly, choosing a profile picture involves complicated mental processes that converge at a certain point to help the social network user decide a certain image is the right profile picture. The quote above implies that both the significant other and other friends were mentioned as influential persons in the process of profile image selection.

The Facebook users seem to be influenced by some people who invisibly evaluate profile images and influence decisions regarding profile image selection. In another instance, the respondents repeatedly mentioned that friends are important people who would influence the way decisions in profile image selection are made. Some students responded that they chose the profile picture just because some of their friends' like the image and wanted it to be the profile picture. According to the respondents, the images could be “cute,” “amusing” or “funny” for significant others who urge profile owners to replace the old picture with the new one. Lovers have enormous influence in the process of selecting profile pictures. Even if the profile owner does not like the image, he or she has to accept the suggestion to please his or her significant other. Hence, intimacy is one of the most crucial factors in decisions regarding the profile image.

5.1.4.3. **Picture quality**

Moreover, the respondents repeatedly mentioned the concept of “quality” during the interview. The quality of the photo refers to professional-looking images. Some define quality image as a crisp clear image without grainy spots. Picture quality means proper lighting, absence of external and internal noise, and proper camera position and pose. The interview participant says she looked "very pretty and dynamic" in the photo where she was tagged. She further stated, “I think I
look cute in it! I don’t consider myself photogenic, so it is rare for me to find a picture where I think I look good. Also I don’t like using pictures with just myself, so this one has a friend in it" [see Table 2, Interviewee 5 on page 73]. The picture quality – the picture having a professional look – matters a lot to some users. The more the image is vibrant and devoid of gritty spots, the better chance it has to be selected as a profile picture. However, social network users do not intentionally produce high quality pictures themselves. Sometimes, group pictures are taken with a professional camera and are tagged on Facebook. Such occasions may be rare. Professional images sometimes make social network users see their poses and appearances differently (Shrimpton, 2008, Sontag, 1977).

5.1.4.4. Time

Time is another crucial factor for Facebook users to change a profile picture. The longer the photograph stays as a profile picture, the more bored with it Facebook users feel. The profile owners stated that they changed their profile pictures because either the previous images did not look good, or the images did not show their present status. The old profile picture depicts them when they were a little younger than they are today. Some of the interviewees stressed that they change their profile picture because they do not want to be called kids. An Interviewee 7 says, "The past picture did not look as nice anymore." When people use a certain profile picture for a very long time and when they have a different outlook today, they change the old profile picture with a new one. Another online respondent wrote, "I changed my outlook and the old picture had been a profile picture for too long." Therefore, recent events urge students to change their profile pictures. According to Tirohl (2000), the meaning in the photograph is time.

Social network users post recent images while keeping the old ones in the Facebook profile picture album. Many users change the old profile images with a new one to show recent developments in their life. The events have enormous influence as to how they think about themselves. In fact, Facebook users post these profile images for the purpose of communication – to depict what happened in their lives recently. Tagging and sharing these profile images may
facilitate communication among friends and acquaintances. Moreover, commenting on the image implies that the image is used for the purpose of communication.

5.1.4.5. Specific event

Certain events can also urge profile owners to change the profile picture. Facebook users replace the old picture with a new one whenever there is a significant event. This is particularly true in universities and colleges. Some profile pictures are time-bound; they are posted when the event approaches and are replaced with another picture when the event is over. Those university students who participate in sports and social activities usually change their current profile picture with event banners or logos, and when the event is over, they repost their old profile picture or upload a new one. Interviewee 4 said, "I changed my profile picture after a specific event at Duke, and I chose from some of the most recent images, since my last profile picture was roughly a year old at that time." In this context, the profile image was changed primarily due to the upcoming event. The change of the profile picture stems from the connection between the profile owner and the event. However, specific events that last for a few days or weeks are necessary for these changes to happen.

5.1.4.6. State of mind

Social connections influence the way Facebook users manage their profile pictures. The primary purpose of the profile image is to communicate what happens in the life of the individual. Facebook users post specific profile images to remember certain incidences temporarily. In this case, the image is used to express the user's state of mind. The change in the profile picture happens when some important changes occupy the user's mind. For example, a survey respondent [see Table 3, on page 74] said that he replaced his profile image with that of a deceased friend to remember him on his birthday. Because they were very close friends, the young adult stated that it was important to remember him by changing the profile picture at least on his birthday. He states, "The birthday was coming up of a good friend who passed away, so I changed it to celebrate his memory." This shows that the profile pictures play a significant role in social connections. It functions as placing a bouquet of flowers on the gravesite of the
deceased friend. Such activity also shows to what extent the offline connection influences online self-presentation. The profile photos are used to remember friends and intimates. Moreover, getting bored of the old image is another important feeling in young adults that urges them to change their profile pictures. The profile owner wants to have an up-to-date image that shows his current status, but not an old image that existed for a period of time.

Some Facebook users change their profile pictures to reflect major changes in their lives. These changes can sometimes be personal. A research participant said that she changed her profile picture the day she broke up with her boyfriend. One other interviewee related a similar story [refer to Table 2, Interviewee 4 on page 73 for more details]. Her profile image with her boyfriend was changed because she could not stand the haunting memory of the "good old days". She says she is not interested in seeing the same profile picture with her boyfriend whenever she logs in to her Facebook page:

The third [image] came in response to the collapse of my long-term relationship, when I needed a second photo (which happened to be a picture of myself and this boy) not to be on my wall every day. This lasted about a year, at which point I decided that I was sick of looking at that darn picture, and I wouldn't be held down by the memory of him anymore; so help me God...

Hence, the research participant states that instead of depicting the failed relationship in images, it is preferable to upload another profile image of family and friends that can bring positive feelings. Social network users stressed that they do not change their profile picture unless there is some shift in their life. Changes in the mood urge the profile owners to change their profile image.

5.1.5. The motive of changing the profile picture

Facebook users post images of themselves and others as their profile picture to serve a certain purpose. Different profile pictures are intended for different purposes. For example, images are used to commemorate a trip; they are used to remember the past events. These pictures are posted to recall recent memorable events which are perceptible to the profile owner and other participants during a particular time. Funny and special moments in the past have to be remembered
at least for a while. An interview respondent [see Table 2, Interviewee 6 for details on page 73] stated, "I chose my current profile image because it will remind me of a great special occasion with friends." Thus, young adults post some profile images to reminisce about the past. The image is used as a memento (Lury, 1998; Grosvenor, 2010; Murray, 2008; Van House, Davis, & Ames, 2005). Facebook users remember places they visited years ago; those exotic trips would provide a nostalgic feeling to the participants. The meaning embedded in the image urges young adults to choose past images to be profile pictures. These occasions may be organized with friends and families who make these events memorable. A twenty year old survey respondent [see Table 3 on page 74] said, "I like to remember the fun time I had with my friends when it [the picture] was taken, I like the way I smile; it shows how happy I am."

Profile pictures are also used for other purposes. Some survey and interview respondents said that their profile space is used to advertise an event during specific times. Students at university participate in sports and social activities. When events are organized, they need to be publicized to attract more viewers or to recruit more volunteers. The placeholder is used for posting pictures that promote these events. One of the online respondents stated, "My sorority is doing a fundraiser, so I changed it [her profile picture] to the flyer to help publicize" [see Table 3, on page 74]. Hence, publicizing an event via one's Facebook profile image has become an important communication rituals for social network users. The more profile owners publicize an event, the more attention the event receives. Being aware of this development, the social network users provide the placeholder to publicize the event they support. Short-time events are also displayed on the Facebook profile picture placeholder. For instance, the basketball game held between the University of North Carolina and Duke University was an interesting event that prompted some of the profile owners to change their profile pictures in favor of the Duke University team. In this case, the image has to be eye-catching in addition to showing an event.

Similarly, the Facebook profile image is used to express one's cultural identity. The profile images can commemorate certain socio-cultural events. Users change their profile pictures to depict events pertinent to certain groups. One of the
survey participants stated that he posted the image because he wanted to remember the Irish parade that makes him celebrate his identity. Showing culturally peculiar occasions to network friends is online representational practice. In addition, some Facebook users post images that show particular cultural identities: flags, cuisine, attire, or cultural practices favored by the profile owner. These images are used for representational purposes.

On certain occasions, profile images are used to forget the past events. This is particularly true with respect to relationships. A survey participant stated that she changed the profile picture in response to the collapse of her long-term relationship. The day-to-day encounter of social network users with their personal issues influences the way they post profile images. Looking at a picture that is highly nostalgic and memorable may sometimes produce a feeling of melancholy and dejection. The profile owners may not like images that depict these feelings.

Facebook users change the profile pictures to nurture the current social connections. This can be called promoting the self (Cobley & Haeffner, 2009). The change of the picture happens in response to the socio-cultural influence of the social network users in certain contexts. For example, a respondent [Table 2, Interviewee 2 on page 73] who planned to join Duke University a year ago stated, "I changed my profile picture when I was accepted to Duke and thought people might actually care what my face looks like for rooming situations and the like." Therefore, the image is used to nurture future social connections. Graduating students change their profile pictures when they start searching for a job. In certain situations, job applications directly influence by the Facebook profile. It is reported in some research findings that companies investigate the Facebook profile of the applicant during the screening process.

5.1.6. Subjects in the image

The number of subjects in the image matters a lot in online self-presentation and impression formation. Why do Facebook users include others in their profile images? The majority of social network users post profile images of themselves; few others include best friends, siblings, or lovers. The number of the subjects in
the image may to some extent indicate how sociable and outgoing one is. However, this is not always the case. One online research respondent argues that her profile picture is “cool” because she went for a vacation unaccompanied by her family. This image was made to be the profile image as it spoke her independence.

Homesickness is another motivation for students to change their profile pictures. As the majority of the students are away from their families and lovers for the first time, they may be missing these important people. After joining the college, students post images to remember their beloved ones. A survey student reports, “I wanted a picture with me and my dad because I miss him and I like having a reminder. We are pretty close.”

Posting a certain image can be relevant to some of the social network users. Facebook users can choose non-representational images of pictures for themselves (Astheimer, Neumann-Braun, & Schmidt, 2011). The subjects can range from artifacts to personal images. Some images are posted because they are “cute” and the caption embedded in them is significant. A survey research participant says, “I thought the cartoon was cute ‘it’s of two snails and a tape dispenser; one snail says, “ I don’t care if she’s a tape dispenser; I love her.” Similarly, those Facebook users who posted musical instruments, such as guitars, believe that the image shows their musical side. Friends and lovers who could not see each other for a very long time could also use common profile image to show closeness and intimacy.

Logos or images of a specific group can also be posted as profile pictures. These images are directly linked to offline social connections. For instance, having a profile picture of a group (team) poster can get the social network users more social points. In this case, what is promoted is team activity. The communication among social network users can result in communication among group members. Moreover, social connections may urge students to change their profile images. Social groups such as Duke Scavenger Hunt or Country Information Days at Jacobs University can provide groups that present their cultural shows. For such occasions, students post group images to promote not
only the group spirit, but also the connotations connected beyond these denotations. The more they use the profile picture, the more fame they earn.

To sum up, the discussion has elaborated on photographic image production in general and profile image production processes in particular. It has shaded light on socio-cultural contexts users take into account when they produce their profile pictures. The profile picture owners consider the appropriateness of the profile images to validate their social connection to specific groups. Using images that define group disposition help users retain group cohesiveness. The study also shows that family members and significant others have substantial impacts on the way images are produced and used though the profile image may not be that much significant to them. Because of public or semi-public nature of profile images, profile owners are aware that their profile images should be appropriate for all audiences. Failing to provide a neutral image puts the profile owner into a closer scrutiny by family members and close friends.

The data for profile image production processes were generated from interview and survey data. The next section explores profile image typology that was generated primarily from 1028 profile pictures collected from Jacobs University and Duke University institutional networks. As stated in the methodology section, images have been labeled in respective categories that best fit them. The major categories identified in this study are methods of acquiring profile image production (Image Acquisition), Visual Motifs and Photographic Perspectives. Image acquisition elaborates on the types of images posted on the social networking sites. The concepts are generated from the characteristics of profile images and the traits they display in terms of composition, color and modification. Visual motifs are generated from the contents of the images, whether the profile image contains persons, infographic or non-person objects. Photographic perspectives analyze camera distances and angles from which the image has been taken. All these are thought to impact the meaning the profile image connotes. The following figure shows profile image typology posted on Facebook.
Figure 9. Profile image typology
5.2. Methods of acquiring profile images

Images posted on social networking site profiles are broadly classified in two mutually exclusive categories: photos and non-photos. Profile images in this category vary from realistic-looking to semi-realistic, to pseudo-realistic, to idealistic. There are four ways in which these images can be produced (acquired). Photos are realistic-looking images taken with the help of the camera. They may be unenhanced or enhanced. Unenhanced images are those pictures that have not been intentionally manipulated by the cameraman or the profile owner. Enhanced images show the properties of images are somehow manipulated. Change in the color, montaging two or more images, or enhancing pictures using application filters are signs that the images are enhanced intentionally. These enhancements are generally identified from images [see Annex 1 for definitions]. The color, the non-photo, on the other hand, category includes images that are either drawn by the profile owner or borrowed from other sources. Cartoons, infographic images, and maps are classified under the non-photo category. Even if most profile owners produce their profile images using the camera, some may copy these images from other users or sources.

Considering the differences in user image production skills, this section explores the processes users go through to obtain their current profile image.

The first step in analyzing profile images is identifying differences in the way young adults at Duke University and Jacobs University portray themselves in profile images. Attempts are made to identify if there exists any difference in profile picture usage among students of both networks. Students’ background may affect the way they use the social networking sites and choose profile images. Despite cultural differences, these young adults may have similar social networking behavior.
The research has generated interesting results. It shows that more than 95% of students from both institutions use photographic images. 95.3% of Duke University and 95.5% of Jacobs University students have used edited and unedited photographic images as their profile pictures. Less than 5% of the young adults use non-photographic images in both institutional networks. Therefore, photographs are the most frequently used visual components on Facebook profile on both institutional networks. The result shows that there are no differences in the way students of the two institutions post profile images. However, this result is not the end by itself; some social network users modify (enhance) their profile images; others do not. Further investigation is necessary to understand if the pattern is the same for all types of images. Important distinctions are made to differentiate unenhanced from enhanced photographs. The result may provide a clue why some social networking sites (un)enhance their images.

5.2.1. Unenhanced photographic images

As it is stated above, a social network user may upload personal images to the Internet; the uploaded image can be candid or enhanced. Uploading candid photos does not require the profile owner to get involved with manipulating the image. So, an unenhanced photo is a realistic-looking image of a person, an animal, or an object captured by making use of the digital camera, camera-phone or webcam. It is identified as color, natural, and authentic. Today most digital cameras take color images unless users intentionally manipulate them. Hence, the unmodified photo category includes candid color photographs of persons,
animals, artifacts, or other identifiable objects. According to Sturken & Cartwright (2005) and Fernández-Dols & Carrera (2011: 44) photographs are distinguished from other forms of images in that they replicate the real-world objects more accurately, and they disclose a more absolute truth and a more perfect identity of the object in focus (Adatto 2008). Also, the image quality of a photograph differs from other forms of images.

Social network users select and upload candid profile pictures of themselves and others to Facebook to depict their online identity. If the selected picture does not seem to conform to users’ standards, it is usually replaced by another picture. The results generated from the data show that the majority of Facebook users post candid profile images of themselves and significant others. In this study, 84.2% of students at Duke University and 81.7% at Jacobs University Bremen posted unenhanced profile images [see Figure 10 on page 118]. The figure shows the total percentage of images from the randomly selected data. In general, genuine photographs are used as profile pictures by the majority of the social network users.

Unlike dating sites where the majority of users enhance their profile images, the majority of Facebook profile owners seem to be less interested in manipulating their profile pictures. A considerable number of Facebook users own cameraphones, iPads, tablets, iPods, digital cameras, or personal computers which are capable of taking pictures [refer to Figure 2 on page 83]. These devices may also be loaded with preinstalled or commercial software, which helps the owners to edit their images. Despite the proliferation of these facilities, the result of the visual analysis indicates that more than 80% of Facebook profile owners do not seem to edit profile pictures for personal reasons.

Figure 11. Unenhanced profile images
For the purposes of this research project, unmodified profile photos are defined as color and natural, without a noticeable trace of modification. Unenhanced images show no sign of montaging or framing. In the case of two or more subjects coexisting, no trace of edited layers should be identified. In addition, unenhanced images have been posted with background cues. The objects in the foreground are not decontextualized from their background. Moreover, the subject (the target in the foreground) takes the central position of unenhanced image unless intentionally kept in the periphery [see Annex 1 for the definition of unenhanced images].

The data show that most Facebook users post profile pictures without changing the properties of these images. Facebook users do not seem to be interested in posting images that show the enhanced self. Instead, they upload candid images taken by one of the available photo-taking devices. They post these profile images to depict themselves without modification. Consequently, photographic images are used for communicative rather than promotional or publicity purposes. Unenhanced profile images reflect users’ social encounters in offline contexts visually rather than promoting or publicizing the profile owners online. Facebook users narrate past encounters, gatherings, incidences, or feelings through candid images without hiding unwanted aspects of themselves. Narrating one’s encounters visually serves a communication purpose.

Promotion is accomplished by hiding certain features of the profile photo while highlighting other desirable aspects. However, more than three-fourths of Facebook users in the sample do not seem to conceal unwanted features of themselves by posting edited images. Unenhanced image depicts certain incidences in the daily lives of users rather than exhibiting the present or future benefits of the individuals. Profile owners use profile images to communicate past encounters. These images serve a narrative function and convey what happened in the past rather than showing off the profile owner at present or in the future. However, this does not mean that profile images are all-authentic looking and belong to the social network users. It also does not mean that these images represent the profile owner. There are a number of instances in which
social network users post images of themselves and others such as parents and lovers.

5.2.2. **Enhanced photographic images**

Another type of photographic image category covers to enhanced images. Some social network users intentionally manipulate their images either on the camera or the personal computer. As can be seen from the graph [see Figure 10 on page 118], the percentage figures for enhanced images account for 11.18% and 13.75% of Duke University and Jacobs University students, respectively. University students who edit their images are very few compared to those who post candid profile images.

Modifying or enhancing refers to changing one of the properties of the photographic image. It is changing the color, the size, and the shape of profile images. It may also refer to the change applied to the entire image or part of the image. Major enhancements made to the photographs are visible; for example, black and white images are considered as enhanced, for cameras usually take color pictures unless the photographer changes the properties into black and white. Enhanced image refers to the digital altering of the tone and color of the image (to black and white or sepia), or creating composite photomontages either on the (phone) camera, iPad, personal computer or online [see Annex 1 for definitions]. Profile owners are sometimes engaged in altering the color, saturation, or tone of the visuals and/or combining these images to produce a different type of image. An image-editing package that comes with personal computers can also be used to accomplish this purpose. Users can install other professional image editing software (e.g. Photoshop) or use online photo-editing tools (e.g. http://enhance.pho.to/).

Though it is relatively easy to identify most of the modifications applied, enhancements could be subtle, and it may be difficult for viewers to recognize the changes made to these images. In addition, minor adjustments made in color, contrast, exposure, or sharpness are difficult to identify. Therefore, this research does not claim that all images labeled "unenhanced" have never been enhanced. Sometimes, the owner of the image may subtly fix red-eye problems created
during lowlight shooting. Corrected red eye may not be identified from the image itself, as the software can seamlessly fix the problem.

Enhancement in this context refers to a noticeable change made to the properties of the photograph. Beyond these attributes, it is hardly possible to tell from the photograph as to whether, for example, the red eye was corrected or the image layers were slightly changed. Professional and amateur photographers may apply highly complicated enhancements. However, it is unlikely that the majority of social network users alter the properties of their profile images. Another challenge that could make the images appear enhanced is the type and quality of the camera, particularly in low light situations. Some cameras take fuzzy, grainy images in low light conditions or fuzzy blurred images during daylight; others take sharp, superior quality images. Some of the images remain darker due to problems of insufficient lighting. The fuzziness of the images poses a difficulty to identify whether images are candid or enhanced. In this study enhancing images is generally classified into three principal categories: montaging two or more images in one canvas, altering the colors (e.g. to black and white or sepia) of images, and using filters to soften the images [refer to Annex 1 for the classifications of enhanced images].

5.2.2.1. Montaged images

Montaging refers to putting two or more images on a canvas so that they can be merged together. Similarly, juxtaposed or superimposed photographs are classified under modified photo category. The user may obtain two or more images from others sources (e.g. the Internet) or use personal collections to produce a single image. Such activity may also involve user inspirations such as putting decorations, making picture borders, using wrought colors, shapes and lines in the foreground or background. A montaged image is created when Facebook users want to depict few events taken during different occasions. When young adults want to show these meaningful occasions for others in the form of profile pictures, they juxtapose these images before they upload them to the Internet. Birthday parties and memorable trips are some of the most significant occasions that are montaged. Facebook users may own images taken during various occasions to show as a profile picture. They may also want to
condense incidences visually. For example, some college students may be interested to depict visitors, presents, or cake, taken on a birthday in a single profile image.

Some Facebook users merge few images to form a collage because they earn social gratification by depicting contextual occasions visually. The story is told in a chain of images collaged in one canvas. Each image has its own setting and motive, but the chains of images create a visual narrative. Merged images serve the purpose of communication. For example, the images shown below include one or more recorded occasions intended to form a certain impression in the mind of the viewer. Images are juxtaposed together because depicting a single image may not convey the whole context. The juxtaposed image is likely to include not only the profile owner but also close friends or relatives. However, all components of the montaged image do not necessarily take equal space in the shot. Some images are taken in medium-shot; others in close-shot, etc.

![Montaged images](image)

**Figure 11. Montaged images**

Montaged images depict how the profile owner spends time with significant others, friends or acquaintances. Images in this context act as narrative essays intended to inform particular temporal contexts of the profile owner. Those images that show personal occasions are merged together so that the intended message can be conveyed to other network friends. Hence, the collection of images shows a mini ‘documentary’ made about the profile owner. These images are not primarily intended to reveal the identity of the individual, but they are deliberated to communicate how the profile owner interacts with other friends and acquaintances. In montaged images, it is the quantity, not the quality of the image that matters. Hence, the collaged image is used as a textual narrative that carries settings and storyline. A montaged photo of different occasions reflects
the extent to which the profile owners spend their time together in the offline context. It is remembered not as a mere picture but as a text that tells a great story. A single image would have been sufficient to depict the identity of the person, but collaged images display the different contexts that are worth showing or telling.

Facebook users may have numerous reasons to enhance their profile images. They may be interested to experiment with image editing software where the end product, the profile image, becomes an interesting item to post online. They may also want their friends to see the changes made to their images. In addition, they may be interested to make a ‘historical’ image that visually depicts important occasions in a single image. Furthermore, the social network users may want to see themselves and significant others in a single image. Sometimes, young adults are motivated to create montages of themselves or others, for montages convey to other network friends the different facets of life the social network user encounters. They may be interested to depict some activities by montaging images. Hence, images are enhanced with a purpose in mind.

5.2.2.2. Color-manipulated images
As it is shown above, some Facebook users merge two or more images to form a single image while others change the color photographs into black and white or sepia. They attribute certain meanings to the changes they make to these images. There are several reasons as to why Facebook users enhance their profile images. Young adults enhance images either to complicate or to simplify the visual message. Images are enhanced based on the assumption that added photographic traits complicate the intended meaning. Facebook profile owners can also simplify the meanings of these images by eliminating unwanted details. Thus color manipulation may enhance the photo that suffers light deficiency. For example, images that are shot in natural light produce a different type of color compared to images that use incandescent light.

In addition to the changes made to the color, the background cues of the image play an instrumental function in providing clues about the image. Images that seem color-manipulated may also be scanned pictures of parents or siblings.
They may also be images whose colors are intentionally manipulated by the profile owners to create a special effect. The image might have been changed to black and white or sepia to reminisce the pre-color image era. Hence, toning is one of the most important activities of photographic production of university young adults.

![Duke and Jacobs](image)

*Figure 13. Color manipulated profile images*

Black and white images may mean different things to different people. Some users relate black and white images to certain periods in the past. Hence, a black and white image connotes nostalgic events. Color images could also be changed to black and white to create a special effect. In this case, changing color image to black and white creates less realistic resemblance between the photograph and the referent object. The more the color of the image is manipulated, the more it loses its resemblance to the real object. Hence, black and white photographs connote a distance in time and space. They also show less resemblance of the profile owner. Therefore, black and white photography is partly associated with the photographic practices that were prevalent before the introduction of color imaging. Pre-color photographic images were generally black and white whereas the modern black and white images are intended to create certain effects. The color change implies that the subjects in the image have changed a lot physically. In a similar manner, black and white movies take the viewers back to the pre-color era.

Social network users intentionally change their pictures to black and white to depict the reminiscence about the past. They may like to recall childhood memories, and remember the time spent with parents or friends. University students who are away from home for the first time may experience a feeling of
homesickness. One way to relieve the haunting, nostalgic feelings is by posting black and white image or sepia as their profile pictures. Hence, changing the color of these images to black and white or sepia would take the profile owners back in time. Yet, the black and white or sepia photo makes the past illusionary, for the image resembles the real subject less than the color image does. Today, black and white photography is more artistic than realistic, as traits that do not resemble the real world subject are added to the image. Social network users keep on experimenting with images that have been produced in color and natural light. Hence, black and white or sepia pictures are a human creation; it is an art processed with the help of a software application. Black and white or sepia isolates the profile owner from reality, which is usually expressed in natural colors. People keep on remembering the hazy past with black and white images to remember a certain important but irreversible past. Facebook users foster their social connections through profile images that contain sentimental moments.

Facebook users also post black and white or sepia photographs of themselves or significant others as profile photographs. The profile picture may belong to siblings or parents who were brought up during the era of black and white photography. Of course, the subjects selected for this study are college young adults who were brought up in the era of color photography, and it is unlikely that their pictures have been taken in black and white or sepia from the outset. The user might have modified the pictures to attract viewers’ attention, for enhancements are made to create some form of impressionistic effect on the part of the viewer.

Nostalgic pictures are also usually framed either in sepia or black and white. Few social network users changed a color picture into sepia to give a warm antique feeling. Sepia gives an impression of a certain time in the past. It is taken to cinematize the past events and encounters. Facebook users can use applications on mobile phones or software on personal computers to add effects to their photographs. In some cases, changing the color of the image adds interesting visual attributes because color change eliminates unwanted acnes from the profile image and adds up other user-intended qualities. Depending on the
interest of the user, applying filters can make profile images softer, artistic, or blurred. Such images are intended to depict a nostalgic past and generate a feeling of innocence of childhood and past times. Both montaging and changing color may need user skills and familiarity with photo-editing software.

5.2.2.3. Filtered images

Young adults enhance their images by making use of commercial software such as Adobe Photoshop on personal computer or other applications like Instagram on iPad, tablet, or phone. The software helps users modify their pictures in different colors and styles. Similarly to the black and white or sepia images, users change the natural color scheme into morearty types. The image partially resembles the real world object. Filters help users manipulate the image so that they feel the image as an artistic rather than candid representation of the individual. Filters simplify the way images are manipulated.

Social network users should not necessarily have expert-level skills to enhance their pictures. Preinstalled or customized phone or online filter galleries can be used to enhance these images. Numerous options are also available to crop and retouch images or remove spots. Filters help social network users correct the lighting of the images, de-blur sections of the photo, adjust color and saturation, de-noise grainy spots, or fix red eye. Facebook users change the properties of these images to create a different look than the original images by applying one of these methods. Filtered images can be produced in varieties of ways. Similar to sepia, filters give pictures a cinematic look.

Moreover, Facebook users may apply filters to decorate profile pictures. Many young adults use filter applications on their phones and computers to change the
properties of their photos. In the same way an optical filter (glass) is used on DSLR cameras to produce images of desired colors, software applications on smartphones and online filters can do the same job. Other applications on Windows, iOS, or Android create DSLR filter type of images. This software comes as a package on some devices or is installed later. Third-party commercial software could also be used to enhance profile images in the same way.

5.2.3. Copied images
Profile images can also be copied from other sources. The percentage figures [refer to Figure 10 on page 118 for more details] show that 2.2% and 3% of profile images from Duke University and Jacobs University Bremen student profiles, respectively, are copied (borrowed) images. Some images are copied from known sources, for they are well-known images in other contexts. For instance, people copy images from a recognized international body, an institution, or a company with (out) consent. In a few instances, internationally known symbols are used as profile pictures. It is not clear whether these institutions allow their images to be used as Facebook profile pictures. Facebook in its Statement of Rights and Responsibilities state that users own images they upload to Facebook, and it is up to them to control how they want them to be viewed (Facebook terms, December 11, 2012). In fact, using logos of companies as profile pictures may promote the reputation of these institutions. An image is labeled as copied when more than one person uses the same image for their profile pictures. It is practically impossible for different persons to produce an image similar in content and format. Hence, in this study, images which are used by two or more profile owners are labeled as copied (borrowed) images.

Attempts have been made to find out if the social network users post profile images that belong to other companies and organizations. The randomly selected data do not show many copied images. However, there are some interesting results concerning an image-copying trend among Facebook users. A copied profile image reflects the interest of the user. The Facebook users may not have the technical skills to produce some of these images themselves. Sometimes, it is easier for the profile owner to copy from other sources. Moreover, it may be difficult to produce a technical image at the individual level; the young adult may
not have the time and expertise to conjure up a particular image. The user, therefore, prefers to copy the image and use it as his/her profile picture. Professionals need sophisticated equipment to provide proper shape and size of these images. Those who are interested in using such images can find them from other sources. Hence, these types of images remain copied images.

![Figure 15. Copied images](image)

Individuals or groups of experts produce, view, and evaluate the appropriateness of some of the images for a particular purpose. Copyrighted images are categorized under this section. Images with complicated structures are considered as copied (borrowed) from other sources, for an individual may not produce the image himself or herself. These images are crucial for the profile owners who want to display certain events. Each image carries user intents. For example, the Olympic logo as a profile picture implies user interest in athletics and sport events. Images that depict television series are very popular among Facebook users. In addition, educational institutions and company logos are used to endorse these institutions. Moreover, Facebook may like to promote a certain product, place, or organization. In certain instances, few Facebook users posted edited maps as profile pictures that display their hometown or current residence. Maps are considered as copied because it is very difficult for a single person to produce a map of a certain place. Maps are designed by making use of complex scaling techniques that connect nodes, and such complex connection is difficult for an amateur person to produce.

Cartoons, institutional logos, and placeholders can be copied from other sources. Images of other persons are also shared among social network members. Facebook members copy these images, to promote causes, persons, or announcements. Hence, the primary purpose of copied-images is to promote or
endorse a certain institution, person, or product. By posting these promos, Facebook users not only disguise themselves but also inform others. By posting those profile images, they may initiate a certain type of communication among social network users. The copied image creates a sense of familiarity and interconnection Facebook users have towards the advertised entities.

5.2.3.1. *Copied-enhanced images*

As elaborated above, enhanced images refer to the changes made to the property of the profile image after the snapshot is taken. It is common practice for university students to post modified or copied images of others to endorse a certain activity. They post profile images that advertise an event, a cause, or a place. However, the primary target audiences for these profile images are close friends in the network; they are the ones who are intended to view these images. The more these images are distributed, the better they influence network friends. The use of a single image to endorse a particular candidate, cause, or idea among Facebook users is a very important one in social communication. Even if the profile images in these contexts are intended for specific user consumption, other social network users view these images beyond a given context. All acquaintances, relatives, friends, and other contacts of profile owners could see and discuss the profile image. Any Facebook profile owner who is in the same network can view the public profile image.

![Figure 16. Copied-enhanced images (all images are from taken from Duke network)](image)

These images are made up of at least two types of cues: texts and images. Some of them are predominantly constructed from text. Others are made up of photographic images and captions that tell what the image is about. The primary focus in these images is the textual descriptions that tell more about the background cue. These images are primarily intended to create awareness
among Facebook users who are participants in the network. The user associates the text and the color to generate meaning. Hence, the images promote individuals, campaigns, organizations, and places. Several social network users may use the same image to advertise the point in focus. Hence, Facebook placeholders are used to promote a particular action to be taken, promote a certain place, person or ideology.

The copied-enhanced images carry the caption that sets the context of the primary subject of the image. Copied-enhanced profile images can be edited photographs, but at least the textual element is added to each image to tell more about the image’s primary object. The purpose of posting these images as profile pictures is indicated in captions. These images should fulfill the characteristics of both edited and copied images. Social network users post the picture to promote a person, a product, a cause, or an incident. Knowing that the central subjects in the image alone do not explain the purpose, most profile owners superimpose a textual caption to state the purpose of posting those images. These profile pictures explain group beliefs most of the time. The textual element is used as a context from which meaning can be generated.

Social network users do not necessarily represent themselves with a candid image of themselves. Sometimes copied images serve a communication or promotional function rather than representative function. Copied profile images indicate the likes, beliefs, and inclinations of the social network user. Therefore, the primary role of an enhanced profile image is to initiate communication among social network friends. The image is used as a tool to persuade others. Facebook users seem to be aware that the profile image can generate exciting discussion among other social network friends when it is used as a profile picture due to its wider reach, for profile images are public images; they are also searchable, unless intentionally disabled from search engines.

5.2.3.2. **Promotion through profile image**

As I stated above, the most interesting development is the use of the placeholder to endorse friends and acquaintances, promote institutions, and advertise products. The more people use spaces for advertisement, the more people know
the advertised products shown on the placeholder. Social welfare activities are endorsed on Facebook placeholder. Announcements are also made on profile images urging friends to RSVP for certain occasions. In this context, the social network profile placeholders are used as billboards to advertise and promote products, individuals, causes and institutions. Advocacy for a certain event is also advertised, organized, and performed using a profile picture.

Advertisement is an occasional activity to support friends or nominees by posting their profile pictures. The football fans post images of the club they support; but when the match is over, Facebook users reset their profile pictures. Students also support and promote the student presidential nominees. The university student government presidential election is one of the highly contested events, and individuals with Facebook accounts posted the images of the nominees to help them get endorsed and eventually elected. Events are also promoted on profile pictures. Instead of using their candid photographic image, social network users download images from other sources and advertise them in the place of the profile pictures. In other contexts, a screen copy of a certain event is used for promotional activity.

During the time of data collection, student government presidency candidates campaigned on several Facebook profile owners’ pages. Each social network candidate’s supporters posted profile images of their favorite nominees and urged other network members to vote for them. The social media profile images in this context contribute not to user identity formation online but to promotion, communication, and social ties among social network users and beyond. Endorsing network friends by posting their profile picture strengthens communication and social cohesion. The image was posted to show similarity of ideology and beliefs of the profile owner with the subject promoted in the profile image. The purpose of using another person’s image in the place of one’s own profile picture helps other network friends to ponder more about the promoted person in that particular context.
The profile picture is used as an advertising space to promote individuals, services, and causes. Promoted profile pictures are explained via captions. Short statements tell the purpose of the profile image. Person images are captured in close-up shots for detailed identification, and captions are written in bold for emphasis. The caption introduces who would perform better in the student government presidency. This avails a new type of endorsing individuals in social settings. Despite the fact that promoting individuals for a certain position online is not a new phenomenon, using profile image space for campaigning is like campaigning for the individual in the offline context. Hence, a new type of publicizing individuals, products and institutions has emerged online. Such practices avail the possibility of using a profile picture for communication purposes rather than identity formation.

Generally, in a university community students endorse others on social networking sites. The profile image is used as an advertising space for a certain ideology, product or person. Social network users persuade their friends through pictures to support a cause. Profile picture has become an important space to communicate these events. They seem to be aware of the power of profile pictures. It is recalled that president Barack Obama has used the social networking sites (particularly Facebook and Twitter) extensively for his presidential campaigns. The undergraduate students might have adapted this endorsement trend from the American presidential elections. Yet, some students never used profile images that promote other persons. Instead they used their creative ability to produce images. The next subchapter discusses manually created images.
5.2.4. Manually created images

Some social network users copy other persons’ drawings and post them as their own profile pictures. Few other users draw images themselves. In this study, the result of the analysis shows that a small percent of profile pictures were manually created on computers or other electronic devices. Data show that only 2.4% of Duke University and 1.5% of Jacobs University students have used manually created profile images [refer to Figure 19 on page 118]. This is a very small group compared to photographic images posted on Facebook profiles.

It is important to know why Facebook profile owners post manually created profile images. To begin with, some Facebook users are interested to depict their creative ability for friends and acquaintances. The drawn image can be either spontaneous or planned. Few young adults draw images from personal interest on personal computer, tablet or paper. These young adults may draw images not because they want to promote their work, but because they are passionate about sketching. Various encounters with other social network users would impress them to draw and post images. It is not mandatory that Facebook users should be experienced in drawing to produce these images even though some of them may have expert-level skills in drawing images on both paper and electronic devices.

Moreover, young adults are interested to show their talents for the rest of the social network members, which would earn them a certain type of gratification. There are few instances where Facebook users post manually drawn images, and friends comments beneath the image. In this way, social network users earn gratification from posting manually created images. The majority of image creators may earn positive comments from friends, families and acquaintances. Infographic images are also used to earn a certain type of gratification. Some Facebook users may upload images manually to impress others, explain certain incidences or how a certain process works. Manually produced images can be copies of student presentations, greetings or portraits of someone important.
Cartoons and sketches are also manually drawn images. These images are used to depict some of the most common social events and activities. Hence, manually created images are used to depict or mimic certain social activities and events. Even though the motives of these images differ from person to person, manually drawn cartoons are the mechanisms through which people express their feelings, emotions, and desires. Some profile owners prefer to use manually drawn, candid pictures for their online self-representation due to personal reasons. The images indicate what young adults think, like, or promote. Cartoons can be drawing using the available devices: paper and pencil, personal computers, iPads, tablets, or mobile phones. Software can be employed to produce these images. For example, a picture can be turned into a drawing on a tablet.

The line of demarcation between copied images and manually created images is very blurred, for copied images can be manually created and vice versa. It is difficult to identify whether an image has been actually drawn by the profile owner or has been copied from another source unless the profile owner explains how he or she has acquired it. More specifically, many social network users sketch images that are conventional in form and content compared to borrowed images. Copied images may be highly abstract compared to manually drawn images. Yet, it does not mean that all copied images are complicated. Certain images may be candid portraits.

The criteria used for labeling copied images in this research are based on the author's background knowledge and the repetitiveness of the images. A typical example is the logo of a company or the images of a certain international organization, which many people know. Copied images can be identified due to
our familiarity with these images. Individuals, companies, or organizations hold copyrights to these images. Internationally recognized images are easily identifiable, while others need to be interpreted in a certain social-cultural context to be fully understood. Profile images used by more than one profile owner are considered copied images. A banner about a certain place is known only to a certain group of people in a particular context. Beyond a given socio-cultural context, copied images may not be recognized.

To sum up, manually produced images are used as communication cues about issues and things that the social network user encounters. These images are used to express users’ feelings, emotions, and desires but not to identify the individual profile owner. Certain images express what users like; others tell the feelings of users at a particular time. Other images depict what the social network users are interested in. As can be seen from the analysis, the vast majority of the Facebook network users at Duke University and Jacobs University have posted candid or candid-looking images without visible enhancement. The data analysis indicates that more than 82% of collected images are unenhanced. The modified image category constitutes a very small percentage (less than 12%). Manually created and copied images constitute less than 5% of the total. Despite the fact that the amount of collected images is a very small portion of the population data, the randomly selected images show a similar pattern in the way young adults select their profile images. Hence, the hypothesis, “The majority of Facebook profile images are realistic-looking photo portraits than modified, drawn or infographic images,” is confirmed. Moreover, the hypothesis, “Images using a technique different from photography are rare.” Is confirmed. The most preferred profile image-acquiring mechanism for Facebook profile owners is to upload unenhanced, candid profile images than modified, copied or manually produced images. The more than 95% of profile images are photographic.
5.3. **Visual motifs**

The visual motif investigates major visual patterns of social network site profile images. Facebook users may select their profile images based on personal and many others’ (e.g. religious institutions) perspectives. Peer groups are believed to influence the social network users in choosing group-favored profile images. In addition, they may take significant others’ or family members’ opinions into account. The profile owners carefully choose images they post on Facebook. Hence, every image carries a visual motif – the message that the profile owner wants to convey. The visual motif investigates the pattern of different images social network users choose to frame from personal perspective.

Social network images under visual motif category are classified in two main groups: Person and Non-Person. The first group, person image, includes human being(s) as the object of image. Persons in this group may range from a single person to couple, to group. Non-person images include animals, plants, artifacts, landscapes, and creative images. This research has used the work of Astheimer, Neumann-Braun and Schmidt (2011) as a springboard to formulate visual categories. Few concepts from Hum, et al. (2011) and Strano (2008) have also been taken into account.

5.3.1. **Person images**

As elaborated above, this research investigates the pattern of the images on Facebook profiles. The collected data show various motifs. Generally the result shows a similar pattern in the way Facebook users select images. On both Duke University and Jacobs University institutional networks, person image constitutes the majority of the social network profile images. The primary visual elements for user self-presentation for most of Facebook users are persons, which may range from single to couple, to group. Young adults may choose high quality image to allure others, or they may intentionally select casual snapshot to fill in the placeholder. In this study, more than 90% of Facebook users chose person images for their profile pictures. The percentage figures show that person image decreases with an increase in the number of subjects in the image. The highest percentage of users posted single-person image (45.8%) followed by couple-person image (30.3%) and group-person images (15.5%).
As it can be seen from the graph above, 62\% of the profile images in the Jacobs University network constitute single-person images; followed by couple-person images (21.8\%) and group-person image (7.3\%). Compared to Jacobs University Bremen, the percentage figure for single-person image is low in the Duke University student network. Duke University's Facebook student network indicates very little difference between single person and couple-person images. In fact, single-person image is a bit lower than couple-person images (Compare 35.5\% and 35.7\%, respectively). One can infer from the data that couple-person images are as important as single-person images. Group-person images constitute 20.7\% of Duke University student networks.

**5.3.1.1. Single-person images**

Visual motif can be explored from the perspectives of the existing subjects, as the number of subjects in the image has its own impact on the identity formation and self-presentation of the social network user. Facebook users choose profile images based on their motives of using the social network. The number of people, animals, or things in these images matters for the profile owners, and the way these subjects are chosen can define user intentions. Thus, a single-person image shows the person’s individuality where the profile owner claims profile ownership. It also shows detachment from other members of the network. In
other words, when a profile owner composes his or her profile image with a single person, he or she claims uniqueness and independence. A single-person image expresses selfhood, and the profile picture is meant only for revealing the unique identity of the individual. Individuality is emphasized in a single person profile image.

Single-person image shows the identity of a particular person often in close or medium-shot. Nevertheless, the use of a single person profile image (such as a passport photo) does not imply that the individual is not interacting with the social network friends online. It also does not imply that his or her offline contacts are devoid of social interaction; instead, the user has social connections in online and offline contexts that he or she interacts with. The use of single-person image for social network profile shows that a particular social network space belongs to the individual. It reveals that a person with such identity exists in the offline context. In this case, the subject reaffirms and claims his offline identity by posting his/her image online. Therefore, the profile owner reflects his or her offline self online and vice versa. In other words, single person profile image promotes the presence of one’s offline self in the online world and affirms that the online identity expressed in images actually exists online. The identities created both online and offline remain complementary.

![Single-person images](image)

*Figure 20. Single-person images*

When a Facebook user posts the photograph of another person on his or her placeholder, the space is dedicated to speak more about the preferred person. The act of posting the image of others demonstrates the extent to which young adults share his/ her feelings, emotions, and desires with significant others. These images are copied from someone who may be too close (e.g. a family member or a lover) or distant (e.g. a student president candidate or a celebrity).
The image of a family member is posted to depict the emotional attachment the social network user shares with the person in the image. Social network users also post images of inspiring people. For example, during university student presidential election, candidates' images were distributed among friends and acquaintances to be used as profile pictures.

Similarly to the US national presidential election held in the last two terms, the university presidential candidates have extensively used social networking sites for their campaigns. Many social network users posted profile images of nominees whom they vote for or want to get elected. In this context, single-person image does not reflect the intimacy of the profile owner and the subject shown in the picture; instead, it is the common vision the two individuals share that plays an important role. The social connection is intertwined through a common ideology and principle of a certain cause the profile owner holds with the person in the photo. Therefore, those opinion leaders who exert a significant impact on the profile owners are depicted on the profile images. Irrespective of the socio-political background, the profile owners support some people who want to accomplish certain causes. The profile images display not only the self and significant others, but also the ideological connections that are implicitly communicated.

Single-person images are analyzed from the perspective of the age of the person. Even though the majority of the profile owners posted personal profile pictures, a small portion of Facebook users posted children's images. These images can be their own childhood images or their siblings' images. Single person profile pictures play the role of both the representative function and memory function. Single-person image that contains the profile owner alone serves as representative function. The social network user posts the image to depict his identity to other network friends. Memory function in this context refers to remembering the childhood life of oneself or significant others. Hence, these images are used to remember past moments or childhood years, but they do not reflect the present life of the social network user.
There are instances that the profile owners use images of other persons whom they appreciate or are exemplary. The picture may contain a subject that may range from the profile owner to a significant other – sibling, family member, lover, or inspiring person. In addition to the background cues, the subject in the image is the only source of information. However the profile image is posted, its most significant component is the main subject indicated in the foreground of the picture. A single-person image shows the self or the opinion leader the picture owner endorses. In the case of the latter, the image carries ideology, sympathy, interest, or principles one shares with the person in the image.

5.3.1.2. **Couple-person images**

Sometimes, Facebook profile owners post profile images that show two persons in the foreground. Couple-person images refer to same or different sex persons in a photograph. The subjects in the image can be lovers, siblings, friends, or acquaintances. The image may also contain inspiring people with the profile owner. As stated in Astheimer, Neumann-Braun, & Schmidt (2011), body language and intimacy play an important role in this kind of picture. The authors stated that the most important issue in this type of image is the communication between the two people in the picture. The non-hierarchical appearance shows their intimacy.

The combination of subjects in the image may be extremely diverse, and it is difficult, if not impossible, to deduce all connections between the two people in the photograph. A considerable number of university students used profile pictures featuring two persons. The percentage figures of couple-person images for Jacobs University Bremen and Duke University are 21.8% and 35.7%, respectively [For more details refer to Figure 19 on page 138]. For the Duke University student network, the percentage of couple-person images is almost the same as that of single-person images (35.7%). On the other hand, the figure for couple-person images at Jacobs University Bremen is far lower than the percentage of single-person images in the same network. Hence, couple-person image is as important as single-person images for Duke University student networks.
Couple-person images can be analyzed from the proximity of poses of the subjects in the image. Sexual partners, who can be the same or opposite sex subjects, pose differently from friends, acquaintances, or relatives. They are depicted posing intimate. The more intimate social network users are, the more likely it is that they use couple-person images for their profile picture. Such an image signifies oneness and inseparableness. This is particularly common among young sexual partners. A loose type of social connection is displayed among friends who are not as intimate as a romantic couple. The body proximity of the subjects in the image shows closeness, but the image may not show physically close persons as intimate as that of lovers. The more intimate people are, the closer they stand in the picture physically. In fact, physical intimacy on the photo is the reflection of the offline relationship. Using couple-person images as profile pictures, lovers show oneness; close friends show cohesion, siblings and parents love, acquaintances memory.

Couple-person images can also be analyzed from the point of view of the identity of the subjects in the image. The identity can be explored from family hierarchy (parent-son; parent-daughter, elder-younger), gender (male-female; male-male; or female-female), or peer group (friends of equal or different age) relation. There are few profile images that show elder-younger relations. The majority of images depict gender and peer group relation. As college students, a significant number of young adults are in relationships with partners from the same or the opposite sex [see Annex 4 for the percentage figure]. Those with high physical proximity are likely to be intimate lovers, followed by family members and very close friends. Acquaintances are not expected to pose in the way lovers do. They are also not expected to be in physical contact with each other.

Figure 21. Couple-person images
Facebook users have to find appropriate images for the profiles. In the case of couple-person images, they usually include significant others. Hence, the social network profile pages have become an arena where offline social connections are depicted online. Couple person profile images offer a way for the family (such as siblings and parents), friends (such as classmates), or lovers (opposite sexual partners) to share the space of the profile owner. Instead of uploading a single person profile image to the Internet, Facebook users post profile images that illustrate social links. For some people, the depicted image displays the profile owner and the moment spent with others. Hence, closeness and intimacy are the driving motives that urge Facebook users to portray their social connections. Using two persons for one’s profile pictures entails that the two subjects in the image have equal status and are complementary in generating the intended message. The "other" person in the images is as important as the profile owner.

The profile owner prefers to post images with someone not because he or she does not have a single-person image of oneself or others but because there are other attributes that he or she wants to convey when the other is incorporated. Therefore, online social territories can be shared with close persons. The "other subject" shares the profile – playing his/her role in visual self-presentation online. The role of the other person makes the identity of the profile owner complementary. In addition, the "significant other" in the image generates a new dimension for online identity formation. The subjects remain symmetrical, as the image does not represent one person but two who contribute equally to the overall online identity of the profile owner. In most cases, the viewers may not identify the profile owner. This is particularly true when the subjects are of equal social status.

Assumptions about the profile owner cannot be proved unless the profile owner is identified by his or her name, or other cues are taken into account. Many profile viewers make distinctions based on age, gender, proximity, or cultural origin. Viewers carefully analyze these characteristics to evaluate the profile owner. However, important connections are usually made, as it is not possible to single out a portion of the image from the whole. In this case, singularity and duality are negotiated at the same time. The identity of the profile owner is
usually implicitly assumed, and viewers keep on predicting the characteristics of the profile owner. They negotiate the meaning they generate every time they find new input. The "significant other" is also taken into account during this process. Moreover, the identity of the profile owner is intertwined in a single profile image even though there are two subjects in the image.

The offline world connection plays a significant role in young adults' online communication exchange. Couple person photographs taken during offline encounters reflect the contextual embedding of the profile owner and the significant others during the offline communication. Therefore, profile images are results of offline encounters and are replications of offline communication encounters that happened at a particular time in the past. Their existence is based on the offline contextual events that happened between two people. Hence, the purpose of selecting couple person profile images is to recall the past as well as earn gratification from other network friends and participants in the event. The Facebook users post profile images that ascertain the nostalgic events of family members, lovers, close friends, or acquaintances. By displaying the image, they reiterate that a particular moment in the past was once real. The event has to be remembered using profile pictures which are documents that tell a story of the past. Hence, time and space stand still, and the event at that particular setting is digitally recorded to serve as a profile picture. Generally, couple-person images show not only the profile owner but also the significant others in the picture. These images promote the belongingness and engagement of the people depicted in the profile image.

5.3.1.3. Group-person images
A significant number of Facebook users post group person profile images that contain three or more people. Group-person images show very loose intimacy among group members compared to couple-person images. These images depict the activities of the profile owners and families, friends, or acquaintances. Group-person images express social occasions at a particular time. These include adventurous trips, birthdays, or get-togethers. Even though the profile owner is a single person in the group, the event (group socialization) is more relevant to depict for a certain time period than the identity of the individual. Friends like to
share occasions (holidays, parties, or ceremonies) expressed in group pictures. The purpose of posting group pictures as a profile picture implies the relevance of these contexts for the current profile owner. The most remembered event in this context becomes the group spirit, not single or couple person activity. A certain incident urges the Facebook user to upload a new profile picture. By displaying group-person images, the profile owners attract the attention of not only the people who participated in the event, but also non-participant network friends.

The group-person image is chosen to be a profile picture when the group feeling outweighs individual or couple sentiment. Many young adults are socially connected to their friends and may need them to fill the void created due to the absence of family members. Group images, which are mostly captured in medium or long-shots, convey the meaning generated from group members as a whole. Similar to single person or couple-person image, the primary role of group images is to recall a certain incident in the past, not to depict the present scenario or identity of the profile owner.

Many Facebook users include personally significant others (e.g. family members) or socially significant others (e.g. friends) in their profile image. However, the interpretation of the image depends on the type of connection among subjects in the profile image. A profile image with parents or siblings creates a unique bond among family members. In this context, the profile picture shows user's origin and connotes affection and protection. The profile image with friends shows loose connection among subjects in the image. An image from a trip with friends shows a temporary encounter of group members.

Figure 22. Group-person images
Group person profile images demonstrate strong ties among family members or close friends. Nevertheless, the temporalities of these ties depend on group composition. Group-person images lie anywhere between images that depict intimate and loose connections. Group-person images with family members are built on a long-lasting connection, whereas group-person images with friends indicate temporary encounters. In the former case, the recorded image shows a long-lasting offline connection built on an extended temporal space, whereas images that establish friend connections are founded on a relatively momentary temporal space. A group-person image with friends is used for a relatively brief period of time. For example, a one-time trip with friends to a certain place is momentary and short lived. Family connection, which is built on love and support, remains perpetual and long-lasting. Group-person images among distant friends depict a certain incident momentarily, but group-person images with family members document family history.

Profile owners and profile viewers generate different thoughts when they view profile pictures. In the case of parents, the family members (particularly parents with siblings) could be seen as inseparable entities recorded permanently. The day-to-day offline connection of the family built for many years on support and love creates the strongest bond among family members, whereas social connections with classmates (friends) are relatively time-bound which change in the future. In the latter case, social connections can be modified anytime, sooner or later. Therefore, most group person bonds are not as strong as family attachments. The momentary nature of the encounter reflects the temporality of the incidence and events. Thus, the image would not remain as significant as that of the family.

Similar to the images that contain couples, group images are understood by scrutinizing the picture as a whole without giving special importance to a particular subject. All subjects in the image are complementary. The social bonding among the subjects in the image remains minimal compared to couple images excluding family images. In this case, the family images reflect strong social bonding compared to friendship images. Hence, the purpose of depicting the family image is to reveal the permanent identity of family life. Friendship
group images, on the other hand, remain temporal and connote a one-time encounter among social network friends. Group person profile images help users recollect a certain incident that happened in the past, for sometimes the subjects in the picture may not have close emotional ties among themselves as that of couple-person images, for example. The event can be memorized when recorded images are displayed as profile pictures. The identity of the subject expressed in group-person images is considered as an asset to the individual profile owner. Group images build the gratification of the profile user and facilitate wider social connection.

5.3.1.4. **Identity-oriented and activity-oriented person images**

In this study, person images have been categorized by the number of human subjects in the image. These images show various visual motifs of social network users who have chosen them consciously according to some standard. The function of each image differs from other images depending on the motive of the Facebook profile owner. The analysis in this study has yielded the main functions of person images, i.e., images that show individuals as they pose and images that portray photographic subjects engaged in a certain activity. Thus, action-oriented images portray activities the subjects perform whereas identity-oriented images show people at rest without depicting an action. Activity-oriented images show photographic subjects carrying out a certain task. Identity-oriented images, on the other hand, focus only on the individual.

5.3.1.4.1. **Identity images**

As stated above, identity-oriented images exhibit photographic subjects that are not engaged in activity. They are profile pictures that resemble passport photos. In the case of group images, identity oriented images show persons who do not interact among each other. In other words, identity oriented images show who the persons in the image are, not what these persons do during particular occasions. The primary role of identity-oriented image is the identification of individual subjects. Identity-oriented images show individuals gazing at the camera. The purpose of identity images is to identify the person who poses in the profile picture.
Identity-oriented images may also show casual shots of subjects in a passport photo format without depicting what the subjects in images do. These images are primarily intended to show the uniqueness of the individuals for the profile viewers. The majority of identity-oriented images are close-shots of persons. Emotional expressions on the faces of the subjects can be identified from these images. The background is sometimes obscured to eliminate the distraction, which may alter the intended motive of the visual. Yet, identity images at times carry both background cues and the foreground subjects. In either case, the main focus is on the foreground and the background may contribute little meaning. The central position the subject holds reduces the contribution of the background cues. This is due to the elimination of the background cues since the foreground subjects fill in the space. Social network users do not necessarily take the background information into account when they view identity-oriented images.

Duke

Jacobs

Figure 23. Identity-oriented images

Facial expressions are common emotional displays in identity-oriented images. The subjects pose in styles that range from neutral to smiling. Unlike activity-oriented images, identity oriented images do not depict any form of activity; the subjects pose still. The emotional expressions (smiles, frowns, or neutral gazes) compensate for the movement missing in identity-oriented images. These images engage the viewer with smiles, frowns, and gaze. The body is at rest and the subjects seem to be communicating with the viewers or the cameraperson. The subjects in the images may be aware that their image is recorded at that particular time. The motive of the profile image is to indicate the identity of the individual without specifying the context in which the image has been taken. The close-up or medium-shot is intended to demonstrate emotional displays on the
face. Hence, the profile viewers can see the expression on the face of the subject but not what the subject is doing.

Subjects in identity images differ from photos of social gatherings, sport activities, or adventure trips in their poses. Similar to a studio or passport photo (Astheimer & Neumann-Braun, 2011), subjects in identity images are sometimes seen displaying emotions on their faces. Therefore, some images show smiling subjects; other show neutrally posed subjects. Photographic images that depict the body at rest are generally identity-oriented rather than action-oriented. Identity images indicate the uniqueness of the person and display the attributes on the face of the individual. Thus, the face is the most important part of the body in identity formation and online self-presentation. Users strive to direct viewer attention by confronting the camera directly.

5.3.1.4.2. Activity Images

Images that show actions/activities are intended to convey a message that someone (profile owner, relative, acquaintance or celebrity) is capable of doing something. Instead of posting close-up passport photos that verify their identity, some Facebook users upload images that depict their talents. Hence, the images are taken when these profile owners are engaged in some important occupation. The profile owners show little interest in portraying the unique facial identity of the individual. They may not be interested in displaying the emotions on the face of the subjects. In some of these images, the profile owners are participant subjects, and in others, they take pictures of those inspiring people they meet during a certain event.

Action images depict the subjects juxtaposed with inanimate objects (such as flowers or guitars) or two or more subjects performing a certain activity. The principal subjects in the activity-oriented image are human subjects and/or other non-human inanimate objects, which equally contribute to the meaning the images are intended to convey. Activity-oriented images give less focus on the individuals. Sometimes, the human subject is seen highly absorbed in the activity. The subjects do not pose for the camera unlike identity images, but they are absorbed in the action. In this way, they avoid directly gazing at the camera.
An example of activity-oriented image is a picture that shows a music group. Profile owners do not seem to be interested in showing the pose of the subjects in a music band; instead, the ritual of playing music in a band is the priority that has to be depicted in the profile image. The profile owners post these images just because they are interested in the aggregate meaning the image yields. The images do not necessarily depict the identity of the musical band's members; instead, these pictures show that the subjects in the image are performing.

Figure 24. Activity-oriented images

The identity of the individuals who carry out certain tasks (such as playing music or sports) may not necessarily be recognized in these images. What is intended for communication in this context is the action, not the self in the image. The photographic image has been posted as a profile picture for the reason that the profile owners have passion for such kind of activities. The images are posted because such events are relevant in the present context. In other words, these activities reflect the interests and hobbies of the profile owners. Hence, recognizing the identity of the person may not be necessary; yet, the moment that the profile owners spent during a specific occasion is of higher significance.

In these images, it does not matter whether the Facebook profile owners are participants of the activity. What is important is the circumstance in which a certain moment was spent and the passion the profile owners have for such events. Therefore, the subject in the image may be a profile owner, a relative, an acquaintance, a close friend, a celebrity, or an unknown person. The profile owner and sometimes his close friends can reveal the identity of the person in the profile picture who is captured in most cases in a medium or long-shot. In some instances, information can be sought from the captions or comments given with the image. Consequently, the profile picture serves as a way of articulating
the connection one has with the others, but not necessarily depicting the identity of the subject in the image.

The picture quality is another important issue that needs to be addressed. Many Facebook users may have better quality pictures compared to the current fuzzy snapshots that show action-oriented images. The profile owners capture these images primarily using mobile phone cameras or low-quality digital cameras. However, young adults post images that express their feelings at a certain period of time. One of the most significant criteria for young adults to post images as a profile picture is the role the subjects play in the image. Music bands, sports, game shows, and adventurous trips are interesting events for social network users to display online as their profile pictures. These images are more suitable candidates for the profile picture than the formal studio images. Most activity-oriented images involve group persons even though single persons are common. An activity or action image is intended to share memorable moments from the past. The tastes and preferences of the individuals (the profile owner, and the significant others) impact the longevity of activity-oriented profile images. An image that shows group members doing a certain activity shows users’ desire towards those activities. The whole context is more important than specific individuals. Many of these images carry similar motifs that focus on the different facets of everyday lives of the subjects.

Some images are posted as profile pictures because the profile owners have a passion about the activity depicted in the image. The action of the subjects is more important to the profile owner than the person depicted in the image. These images may show one of the profile owners or other person(s) (e.g. celebrity) to the profile owner. Activity-oriented images on the social networking sites portray users’ engagement in certain activities during particular occasions. Hanging out with friends is an occasional activity photographed and posted on the social networking sites. The social gatherings depicted in the image help young adults recollect shareable experiences in time and space. Facebook profile owners describe these memorable incidences through the profile pictures. Providing the message through the profile image has become a very important social phenomenon.
5.3.1.5.  Understanding the photographic intent

In this study, two types of photographic intents are generated from profile pictures. The passport photo is used to reveal the identity of the individual. The foreground cue primarily depicts the main subject. Since the primary goal of these images is to reveal the identity of the subject, the face is the main element in these images. In addition, other objects may be present, but they do not interact with the central subject. The photo may also contain more than one person. These subjects may pose frontally, or they may interact among themselves. For example, a Facebook profile owner may post an image that depicts certain people playing music. In addition, adventurous group trips can be depicted using images. These are examples of action-oriented images.

What makes activity images different from identity images is that the subjects do not pose in the same way the formal photographic images are depicted; hence, the activity images are not formal studio photographs. Most of these images are informal snapshots that reveal the hobby of the profile owner and his or her group. The social network user has a special attachment to these activities beyond the subjects shown in the image. Despite the deficiencies of the camera and the skills of the photographer, these images convey the emotional association and involvement of the profile owner towards the activity. In some instances, the profile images may show what the profile owner is capable of undertaking.

If more than two people are engaged in an activity shown in the profile image, how do the profile viewers recognize the profile owner? What is the role of profile images? These are interesting questions that need to be addressed. The more people are captured in the activity image, the more difficult it is for the profile viewers to identity the profile owner. Yet, all subjects play a complementary role. The position from which the image is taken and the distance of these images to the camera express the complementary status of the subjects found in the image. The social network viewers invoke their background knowledge to identify the profile owner. They use every input in the process of
the communication transaction. For example, youngsters cannot sign up for a Facebook profile. Facebook Statement of Rights and Responsibilities informs that teenagers less than 13 years of age cannot sign up for a Facebook account. Hence, social network users deduce that the likelihood of the ownership of the profile picture goes to the young adult. But this is not always the case. It is not always possible to guess the age of the profile owner from the profile picture, for the image may refer to profile owner’s past life or a sibling. In other words, the image can be one of the childhood photographs of the profile owner or his or her siblings. Hence, profile viewers may resort to use other demographic inputs to identify the profile owner. The viewers keep on employing additional cues to unlock the puzzle of the profile owner. This may not be a gradual process. The whole activity can be accomplished within very few seconds.

Profile images carry powerful personal messages. Both the profile owner and the viewer implicitly communicate using these images. In other words, the profile owner leaves a message in the placeholder, and it is up to the viewer to understand and interpret it accordingly. Interpretation of these images may need some visual analytical skills. This is particularly true with person images. The way people pose in the image connotes some type of message social networks users wants to convey. In this case, a single-person image indicates one’s personal identity and is intended to communicate his or her existence both offline and online. The Facebook user may post a person image, which is not his or her own, to emphasize the impact of the subject on the profile owner. The most influential people in this context are parents, siblings, sexual partners, opinion leaders, or friends. In addition, people consider the most loved ones as those who should be remembered in the profile pictures. It is evident that some social network users post images of siblings. In this case, the Facebook profile is the place where users can remember the time spent with parents, siblings, or friends. However, such feelings do not occur for all social network members. The profile image may be intended to depict occasional activities of friends. Group images are posted to emphasize a certain event for a certain period of time. Therefore, these images are intended to remember the participants of the special events. They convey the viewers that certain things are worth doing. By
displaying these images, Facebook users earn publicity and promotion. Hence, profile images are used as arenas to reveal user identity, remember significant others, and depict certain incidences.

5.3.1.6. **De-identification of the profile owner**

The profile picture is one of the communication prompts that facilitate connections among the social network users. However, not all social network users depict themselves in candid photographs. Some of them may have privacy concerns. In addition, personality traits may exert a powerful influence on the way Facebook users handle their profile images. Thus, some social network users may not be interested in revealing their visual identity using profile pictures. Others may be in dilemma either to disclose or hide themselves. Three types of profile images are identified that can be analyzed from the profile owner's point of view. A Facebook user may be caught up between revealing identity with candid pictures, disclosing his or her identity partially, or disguising his or her identity completely by making use of other images. Those who show their identity post candid images on their Facebook profile, whereas those who do not want to show their identity completely use non-human images in the place of their profile picture. Those who are in dilemma or those who do not want to reveal their complete identity in photographs disguise themselves partially by depicting part of their body. They may post these images to fill in the placeholder that demands they upload the profile picture. Profile owners also know the significance of the profile picture and they take steps that partially depict their identity. The profile picture is used as a primary visual input for social network connection.

![Figure 25. De-identified images](image-url)
Images that show partially faces and poses of the social network users are different from placeholders and other non-person images. The owners of these images have gone to the extent of producing photographs that partially represent their presence and disguise their identities in the online context. An unidentifiable part of the body is shown in the placeholder that may keep people in quandary of whether the image actually represents the subject who posted the profile picture. Also, it puts the viewers in dilemma if the image belongs to the significant others who have close connections with the profile owner. Few college students disguise themselves with images that do not show their real identity. They partially disguise themselves by showing parts of the body that de-identifies their individuality. They partially, not completely, anonymize their identity by posting edited, cropped, or silhouetted images. They may also employ other methods to disguise themselves.

The examples above show that the visual identities of these social network users have been intentionally concealed. Part of facial identity is anonymized, and the viewers may not identify the identity of the person by looking at half of the face or part of the body. Knowing that everyone should not essentially recognize them, Facebook profile owners show part of their body or use other images that disguise their identity. In other words, the offline familiarity of friends with the profile owner is required to recognize the person in the image although the majority of the profile owners may doubt whether the image belongs to the profile owner.

5.3.2. Non-person images

The non-person category comprises non-human images social network users utilize for online self-presentation. Facebook users mask themselves behind these images. The profile owners use animals such as pets because they have a passion for them and they want to conceal their identity. Moreover, they use artifacts to express their feelings. They may want to project their behaviors to fellow friends and members of their network they know in the offline and online contexts. Hence, the motive for using non-person images depends on the individual user. Since the aim of this study is to elaborate on the image utilization
behavior of social network users, understanding both person and non-person images is crucial.

It is evident from the collected data that the non-person images are very few compared to person images in the two institutional networks. Non-person images make up less than 10% of the total images collected for the study [see Figure 19 on page 138]. However, the motive of using these images should be thoroughly investigated, for these images are as important as human images for some social network users. It is necessary to understand why and how some social network users post these uncommon images. Understanding the photographic intent of the users who post these images is crucial to identify the motives of using social network profile images. The non-person category includes images of animals, plants, landscapes, infographic images, and artifacts. Each of these categories has its own characteristics.

5.3.2.1. Animal images

Though very rarely, wild and domesticated animals are used as profile pictures. The percentage figures for Duke University and Jacobs University Bremen are 1% and 1.5% of the total images sampled, respectively [refer to Figure 19 on page 138]. The figures indicate a similar pattern in the way students at both institutions use animal images as their profile pictures. Facebook users try to express their feelings and emotions by making use of animal images. Hence, animal pictures are used not to form personal identity and self-representation, but to express users’ sentiments, likes, or concerns. The profile owner is either very close with the depicted animal or has already been endorsing the protection of animals. The care or passion of humans for domestic animals may be given the highest significance. The images of animals also express users' personal feelings and moods.

Both wild and domestic animals are posted as profile pictures. Dogs are believed to be emotional, anxious and socializing. They seem to have human characteristics. In this context, few social network users posted dogs in particular as their profile pictures. Pets are companions who might have a close connection with profile owners. The profile image indicates intimacy and
conveys cuteness. Sometimes, social network users may encourage the adoption of pet animals. But most of these images may be based on pure personal passion.

Some youngsters who are passionate about wild animals post profile images that primarily contain wild animals. Few Facebook users might have an exciting experience visiting wild animals, which triggers them to share their experience with the other network members. In this context, animal images are intended to create attentiveness among social network users. These images strengthen the campaign to promote the safety and conservation of wild animals. Social networking sites are also arenas where people discuss endangered species. People use social network profile placeholders as a forum to promote the safety of wild animals. In certain situations, the profile owner may want to direct other network friends to visit his or her profile pictures, so as to learn more about these animals. The image is used as a publicity and awareness creation tool. Hence, these social network users act as animal philanthropists.

Animal profile pictures are intended to promote the wellbeing or conservation of domestic and wild animals. They show the passion the social network users have towards these animals. Moreover, these images are used to express profile owners’ feelings. The profile owners with these images use their placeholder to advertise issues relevant to the discussion of animals in the present context. Yet, the individual person has different feelings for different animals. Displaying wild animals as a profile picture is completely different from displaying domestic animals. The image explains passion in the case of the former and intimacy in the case of the latter. It may also be true that some profile owners use wild animals to disguise themselves from the profile viewers. The animal image is used as a
mask to hide their identity. These feelings could be shared and communicated with other network members.

5.3.2.2. **Plant images**

Similar to animal images, plant images are sometimes used as profile pictures. As it can be seen from the analysis [refer to Figure 19 on page 138], profile images that contain plants are rare. The percentage from randomly selected data shows only 0.3% of the total image sample collected for each institutional network. The social network users gain some benefit from posting plant images. First, Facebook users conceal or mask their visual identity by making use of plant images. The motives of using plants for a profile images is to hide one's identity, to fill in the placeholder or to create awareness about the natural world. Plant images such as flowers can also be used to illustrate the symbolic feelings the profile owner wants to share with other social network friends. Images that primarily depict plants are used as diversionary visual cues to distract the profile viewers from knowing the identity of the individual. The photograph is posted to divert the viewers who try to investigate the visual identity of the social networking site user.

![Plant images used as Facebook profiles](image1)

*Figure 26. Plant images used as Facebook profiles*

Network friends may not identify the identity of the profile owner since he or she intentionally hides it. Plant images may also be intended to convey a different message: the forest should be conserved or deforestation has to be deterred. Conservationist or environmental aficionados are usually vocal in promoting the conservation of precious flora. The conservation of the forest means providing home for the wild life and maintaining the natural flow of life. It is necessary to keep the natural habitat functioning. The profile owner promotes the green revolution that is thought to have a positive impact on the healthy life
and advancement of our world. Creating awareness of a healthy environment is important for the survival and the existence of humanity.

The purpose of plant profile images can be to create awareness among the social network users about environmental conservation, thereby hiding the identity of the individual profile owner. The picture may be intended to make a statement about regulating the natural habitat. When such images are used as profile pictures, some social network users may be aware of the issues of global warming and environment degradation. Facebook users post these images at specific times of the year; for example, on the International Day for Biological Diversity celebrated on May 22 every year. Saving trees has become an important campaign in many world forums. Facebook users follow world news and views on global warming, environmental degradation, or deforestation. However, the meaning attached to each image is based on the motive of each social network user.

5.3.2.3. **Infographic images**

The next category of non-human images is infographic images. These images are non-photographic images. Infographic (information-graphics) images account for 4.5% and 4.3% of the total images collected from the Duke University and Jacobs University institutional networks, respectively. Infographic images are further classified into two main groups: manually drawn by the profile owner and images copied from other sources. They essentially involve the manual production of images on paper or on the computer with(out) the help of the camera. Experienced people produce these images that vary from simple sketches to technical drawings, to abstracts images and textual descriptions. What makes infographic images different from (un)enhanced photographic images is that the latter employ realistic-looking photographs in the production process, whereas the former use drafting materials or computer software during the production process. Paintings, drawings, and picture sketches are all included in the infographics category, for these usually involve the user's imagination and special skills. Moreover, data-generated images, hand drawn images, textual images, and sketches are all included in the infographic category.
Infographic images are used for a variety of purposes and may range from screen shots of maxims to advertisements about certain events. Some infographic images are used to promote an institution. For example, the banner "Jacobs Rocks!!" connotes the activities related to the institution. The image might have been used to reveal social connections the social network user enjoys with the university community. The short statement may refer to the university administration, the students, or the social life of the users. Beyond the short statement, the Facebook users promote the university as a whole. The image implies a positive feeling one has towards the institution. The individual gains some form of benefit from posting these images. He or she informs network friends that the university is prestigious. Studying in such institution earns the social network user respect and dignity. The university may be considered as an asset among his/her circle of friends. This indicates personal gratification the profile owner earns. Second, the social network user tries to advertise Jacobs as a great educational institution. The image carries the suitability of the institution for educational and extracurricular activities. By posting the image, the Facebook profile owner tries to convince network friends that the institution is worth joining.

Text images are also used as profile pictures. The infographic images carry persuasive or informative messages. Persuasive infographic images urge social network users to take a certain action before something detrimental could happen. For example, some Facebook users in North Carolina urged other Facebook users to vote against Amendment 1, a law that allows same sex marriage. Inciting Facebook users to vote against the amendment was intended to curb the law. Hence, textual infographic images urge the social network users
to either support or reject a certain cause. Similarly, Facebook users post images to advertise events. Musical festivals, student-inspired events, or other invitations are posted on the placeholder.

Moreover, some young adults are inspired by the storyline of a particular television show. The cartoon image is posted not to represent oneself, but to tell the viewer that they are inspired by the plot structure or the storyline of the television series or newly released movie. These cartoons are not used as identity markers; instead, they are posted to mark favorite television shows. Facebook users may earn gratifications from posting the highest rated cartoon shows and keeping up-to-date with the story structure of the television (movie) shows. The profile pictures are not only the places to reveal one’s beliefs; they are "billboards" to advertise users' beliefs and persuade social network users to accomplish social tasks. However, infographic images should be interpreted and understood in a given socio-cultural context. The textual infographic image is intended to promote, endorse, or inform about a certain incident within a particular cultural boundary.

### 5.3.2.4. Logos, emblems and flags as profile pictures

Some profile images may carry traces of one’s identity and origin. For example, Facebook users upload images of flags as their profile pictures. Some young adults use a certain logo that implicitly expresses Facebook users’ institutional associations. It is common practice to see images that entail user's identity or feelings associated to institutions. In this case, the profile picture has become an arena to express one’s desires and inclinations. Company logos are used to express one’s association with the institution. Other images reveal the connections of the social network users through identifiable symbols. For example, some images not only indicate a user's country of origin, but also reveal the identity of a user. It is sufficient to see the flag of a country to understand the intention of the social network user. The representation of the self by using flags and logos is to reveal the user’s background and identity.
Figure 29. Emblems and flags used as profile picture

The flags of these countries or emblems of these institutions convey that the motive of the image is to express the identity of the individual and his or her attachment to the depicted. Flags and emblems are intended to promote one’s national or institutional identity. Those university students who post such images as their profile pictures are perceived to have attachments to the countries or institutions represented by the flags or logos. The intention of the profile owner in posting the profile image is to promote a certain ideology, institution, or identity.

Similar to emblems, flags and cartoons are drawn manually by the profile owner or are copied from other sources. Some social network users post a copy of their favorite television show as their profile picture. A certain section of the television show is frozen, copied, downloaded, and probably edited to make it a profile picture. Similarly, movie posters have been uploaded as a profile picture. The social network users download these images from the Internet, copy, edit them on personal computers, and upload them to the placeholder.

5.3.2.5. Copied-edited infographic images

Even if the majority of social network profile owners produce infographic images that can be used as profile pictures, some of them may copy these images from other sources. In the context of the latter, young adults “copy” copyrighted images (or placeholder) and modify in a way that suits their needs. They save these images on their computers, edit them using commercial or preinstalled software, and post them on the placeholder. Sometimes, they make major modifications. For example, some students screen-copy the placeholder and enhance it as copied-edited image. Hence, the placeholder, which does not have a profile image, becomes an image. In this case, a blank placeholder has been
changed from a non-image to a profile image. The image is screen-copied, inverted, and modified. Hence, the placeholder lost its original form and content. The social network user inverted and modified this image with a personal intent. Otherwise, the placeholder could have been used without modification. They change the imageless placeholder into imaged space. Like any other photo-editing activity, creating a screen copy of the placeholder and modifying it are very interesting image production processes.

*Figure 30. Copied-modified image*

It is noteworthy to explore the motive of posting copied-edited images as a profile picture. The most interesting argument in using copied-edited images is not why the social network users do not use the placeholder as the profile picture; it is why they changed the property of the placeholder when they could use it by default. The main question is why Facebook users produce an image from the non-image placeholder. In addition, the image orientation has been inverted implying to what extent the Facebook profile owner has been experimenting with the screen copy to create a different type of profile image. Changing the properties of the profile image is associated with users’ feelings and moods at a particular time. Moreover, intentionally inverting the profile image may be associated with something negative: anger, sadness, or stress. Specific interpretations of the infographic images can be sought from the profile owner. But the important point worth mentioning here is that the profile image has gone through all the processes of image production: screen-copying, editing (turning upside down, modifying picture sections), and uploading.
5.3.2.6. Landscape and seascape images

Facebook users also post panoramic images that depict landscapes, cityscapes, or seascapes. However, the percentage figure of these images is very small. It accounts for only 1% (Duke University) and 2.8% (Jacobs University of the total images collected for the survey [see Figure 19 on page 138 for details]. In this research landscape/city/sea images are defined as images that do not include people, animals, or things either in the foreground or background. Long-shot images with people in the center are not labeled as landscape images. The procedure followed during the coding process considers the foreground subject as the primary content. Hence, the presence of a subject (people, animals, or things) would automatically categorize the image in one of those labels. Facebook users like to post images of their recent trips, famous places (such as mountain ranges), or peculiar spots as their profile images. They may like to travel to distant places and gather adventurous experiences. The image are shot and posted on social networking sites to reflect such experiences.

Why do social network users post profile images that show landscapes, cityscapes or seascapes? First, young adults earn a certain gratification from posting these images. They may be considered as adventurers with unique worth. Some profile owners promote tourist attraction spots for local and international viewers. Others remember their places of origin. Some Facebook users may like to recollect childhood memories of certain places. In addition, homesickness may trigger them to use cityscape, seascape, or landscape images. Few people may be obsessed with the sheer artistic quality of panoramic images; images that show sunset, sunrise, or horizon can be considered as artistic images. Therefore, the landscape images carry a similar photographic intent as plant and animal images. Users choose these pictures not only to mask their identities but also to uphold what they believe important.
As stated above, landscape, cityscape and seascape images are intended to depict a panoramic expanse that might have been taken during a visit. Facebook users may have been impressed by the way these image are taken. They may have copied these images from the Internet. Viewing the panoramic landscape is a very interesting visual experience. It is also likely that young adults are driven by a passion for panoramic photography. Beyond the meanings attached to these pictures, the images connote interest and camouflage. While showing impressive, panoramic views, profile owners also camouflage their identity. Others use these images to fill in the placeholder while they disguise their online identity. Sometimes, keeping the default placeholder may generate a feeling of monotony. Hence, young adults find panoramic images from the Internet or other sources and enliven their feelings by posting it as their profile pictures.

Most landscape images exclude subjects in the background. But it does not mean that human subjects should always be avoided in landscape images. It depends on the social network user how he or she wants to compose his or her profile picture. Yet, the landscape, cityscape, or seascape images primarily depict a certain context, not individual subjects who own the image. Young adults sometimes borrow these images from other sources. The primary purpose of landscape images is to show the wider context of a certain area for personal, artistic, or promotional reasons. People, animals or things are not the main focus. These images depict particular settings believed to be worth seeing for personal reasons. In this case, there are no background and the foreground subjects in the image.
5.3.2.7. **Artifact images**

Artifacts are other non-human images used by social network users to be their profile pictures. The percentage figures for artifact images for Duke University and Jacobs University are almost similar: 1.4% and 1.3%, respectively [refer to Figure 19 on page 138]. Like other non-person images, the percentage figures for Duke University and Jacobs University follow the same pattern for artifact images. An artifact in this context is defined as a type of photographed belonging or object. Artifacts can be historical, cultural, or personal items valued as very significant by the social network users. Artifact images are captured during specific occasions such as when the social network user visits a certain place. Facebook users post these images as their profile picture, for they have personal attachments to these images.

People preserve artifacts due to their historical, cultural, or personal significance. An artifact can be very precious and may have some historical significance. It can also have some impact on the day-to-day life of the individual. Facebook users post artifact images to depict their feelings and passions for these objects. They post pictures of instruments or outfits that are related to a particular social, cultural, historical, or personal event. In some cases, these images convey the hobbies and interests of young adults.

Artifact images may range from personal belongings to historical objects. The role of these images is to depict the feeling of the social network user towards these items. These items are available to other social network members. As it is with the animal, plant, and landscape images, artifact images are used to disguise the identity of the individual profile owner. The personality characteristics of the profile owner may impact the way social network users depict their profile.
pictures. When Facebook users do not want to show their true identity to others, they conceal themselves by making use of these types of visuals. One of the characteristics of artifact images is that they are candid photographs of things that disguise the profile owner but imply his/her hobbies and interests. These images may reveal what the user likes to see. These images may also have other proposes: promoting certain historical and cultural places and the passion the profile owner has towards a particular thing.

Generally, previous discussions show that images are analyzed from the dimensions of person and non-person categories. Each major category also contains sub-categories that pertain to particular characteristics of the individual image. Previous researches (e.g. Autenrieth, Neumann-Braun, & Schmidt, 2011) mixed the form of the image with the content of the image. The visual motifs category have been framed a new to avoid conceptual overlapping by creating mutually exclusive image categories. The result of the analysis indicates that 91.5% of the social network users upload person profile pictures [refer to Figure 19 on page 138]. The non-person category constitutes only 8.5% of the total images collected for this study. Person image has been divided into a number of other sub-categories. Results show a difference in the way Facebook users post their profile images. The highest percentage of profile owners affiliated to Jacobs University posted single-person images (62%), followed by couple-person images (21.8%) and group-person images (7.3%). The case for Duke University is quite different. Single-person images and couple-person images account for 35.5% and 35.7%, respectively [refer to Figure 19 on page 138]. Group-person image category also constitutes a sizable portion (20%). Hence, the hypothesis, “Young adults project their social network identity through real profile photographs than they do through non-person profile images,” is confirmed. The vast majority of the social network users posted person images. However, the other hypothesis, “Single portrait images are the most frequent profile image categories” is only partially confirmed. The data analyses show that the social network users at Duke University who post single person and group person profile images constitutes almost equal percent. Group-person images also take a great share of users. Moreover, there is a
difference in the way students at Jacobs University and Duke University select their profile images. Social network users at Duke seem more heterogeneous in selecting person profile pictures compared to students at Jacobs.

5.4. Photographic perspective

Researchers in the field of visual communication and psychology acknowledge the relationship between photographic perspectives and emotional displays (Kress & Van Leeuwen, 1996; Messaris, 1997). Some scholars contend that visual imagery produces emotions no other medium can produce (Biele & Grabowska, 2006). The attributes of the image affect the way people understand photographs that contain human faces, which carries resources for emotional displays (Biele & Grabowska, 2006; Krumhuber, Manstead, & Kappas, 2007; Mullen, 1997; Müller & Kappas, 2011; Tagg, 1988). Graber (1996) argues that facial expressions and body language are thought to show emotions, confidence, integrity, and empathy. That seems to be the reason why the majority of young adults on social networking sites show their faces (Krämer & Winter, 2008).

Image shot perspectives may influence how people perceive and understand the subject(s) in the image. In this context, camera angle reveals the relationship between the photographed and the viewer. Messaris (1997), citing other sources, reported that direct gaze of the subject might heighten the chance of compassion and affinity. Yet, Müller & Kappas (2011: 316) argue that emotions are solicited and interpreted in specific contexts.

The photo perspective refers to the camera position social network users prefer when taking a snapshot. Photographic perspectives in this context are applied only to photographs; non-photographic images and landscape images are excluded from this analysis, as these images do not have reference points to measure the photographic perspective. Few factors complicate photographic perspectives. When the image contains a single individual, it is relatively convenient to code the subjects in the image in one of the defined photographic perspectives. However, when the image carries more than two subjects, the photographic perspective may become mixed (some people in certain occasions
pose in different ways than others in the same image). Hence, new categories were added to complement the existing conventional photographic categories.

Profile images carry messages social network users intend to convey to profile viewers. Shot perspectives (the angle from which the images are taken) may be instrumental in this respect. Surprisingly, it seems that no research has so far investigated shot perspectives of social network profile images. Investigating image shots types (shot-perspectives and image proximity) is essential to understand the underlying visual motives of users to choose particular profile images. In other words, camera impacts coupled with user choices may reveal the message the social network users intend to transmit through their profile images. The combinations of horizontal and vertical angles with shot distances can generate enormous visual cues that help users to form impressions about the person in focus. According to Messaris (1997: 38), the combination of low-angle and direct gaze may be interpreted as self-aggrandizing, intimidating, or menacing, whereas the rear view (the back of a depicted person) indicates exclusion or turning away from a situation. The scholar further argues that rear-shots of people can be long-shots of landscapes or mid-shots or close-ups of bodies in seascapes (Messaris, 1997: 24-7). Photographic perspectives are very crucial to understand human corporeal displays (Astheimer, Neumann-Braun, & Schmidt, 2011). This study, therefore, may be an important milestone in the exploration visuals in online communication settings.

This section of the thesis discusses different types of images perspectives. The first section explores camera distance. The distance between the subject in the image and the viewer impacts the way Facebook profile image viewers understand the subject in the image. For example, if the image is taken in a close-up shot, viewers can evaluate the emotional displays on the face of the profile owner. On the other hand, when the image is taken in a long-shot, it may be difficult to identify the subject in the image; instead, viewers may gain a better understanding of the surrounding environment. The second part of this thesis investigates horizontal camera angle – the way the Facebook users pose in front of the camera. Some pictures are taken from the sides, others from the rear, and still others from the front. Each of these poses has different interpretations and
conveys different meanings. The last section of this research elaborates on the vertical camera angle – the height of the camera from the subject. Low, eye-level, and high-angles can be used to take pictures. As it is with horizontal camera angles, vertical camera angles yield different meanings and interpretations when images are captured in different ways.

5.4.1. Camera distance
The distance of the subject from the camera varies from close to medium to long-shots. A photographic subject can be brought closer with the zooming ability of the camera. The profile owners make decisions whether they should emphasize the background context (the space provided for the background image) or the foreground subject (the central subject filling in the photographic frame). Sometimes both the foreground and the background are balanced by allotting equal space. Therefore, the camera distance may connote the photographic message. Many young adults may make conscious decisions regarding the distance from which the central subject should be placed in the image. This can be done by choosing the best image or by cropping or editing the existing image. Facebook users also make the decisions as to how the subjects should pose in the image.

<table>
<thead>
<tr>
<th>Close Up</th>
<th>Medium</th>
<th>Long</th>
<th>NA</th>
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<tbody>
<tr>
<td>56</td>
<td>27</td>
<td>9.8</td>
<td>7.2</td>
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<tr>
<td>59</td>
<td>22.8</td>
<td>9.5</td>
<td>8.8</td>
</tr>
</tbody>
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Figure 33. Camera distance (percentage) (Duke=634; Jacobs=394)

Figure 33 above shows the percentages of long, medium and close-up shots. The data collected from both institutional networks tell that the majority of the social network users posted images of close-up shots, followed by medium and long-shot images. The data show a consistent pattern in both institutions. It is recalled
that more than 91% of the randomly collected profile images are human photographs, most which are close-ups followed by medium and long-shots [see Figure 10 on page 118].

Not all images are classified in the image distance category. Both photographic and non-photographic images have been excluded from this category. The unassigned category consists of images that are mostly non-human objects with missing reference points. The landscape, cityscape, or seascape images are not assigned in the image distance category, either, because there are no central reference points to classify them. Moreover, creative images, cartoons, or plants and artifacts are not assigned in this category. The “Unassigned Image” category accounts for 7.2% and 8.8% of Duke University and Jacobs University institutional networks, respectively [see Figure 33 on page 170].

5.4.1.1. Close-Up Shot Profile Images

Shot distance impacts how the profile owner conveys information through the profile image. It refers to the extent to which the photographic subject is close or distant from the camera. In close-up shots, the subject in focus takes up the whole frame. In most cases, a close-up image primarily shows the subject from the shoulders to the top of the head. The purpose of taking close-up shot is to depict the details of the object in focus, but such technique of capturing images ignores the context in the background. According to Mullen (1997), close-up faces are intimate and self-revelatory. They indicate intimate relationships – what Kress & Van Leeuwen (1996) call personal mode, because they show the person’s feelings, reactions, attention, and involvement. Also, the visuals people recall the most are close-up shots of faces (Zillmann, Gibson, & Sargent, 1999). Hence, in this study, close-up shot refers to photographic representations of the subject that cover at least three-fourths of the picture frame.

The data analysis shows that 56% of Duke University and 59% of Jacobs University Bremen student network profile images are taken in close-up [see Figure 33 on page 170]. The percentage figure indicates that more than half of Facebook users prefer to depict details of the persons’ faces. The social network users choose close-up shots to show emotions on the faces of the person. In
addition, close-ups are intended to eliminate the contextual setting that may
distract the profile viewers. Close-up shots that show the full face of the person
depict that person’s identity. A typical example of close-up shot is a passport photo.

An extreme close-shot does not tell the context in which the image is produced. It
does not provide clues related to the setting. It may sometimes be difficult to
know whether the image has been taken indoor or outdoor, and at night or
during the day. The context is mostly eliminated, therefore. This is because the
subject covers most of the frame. In other words, no distractions in the
background prevent social network viewers from comprehending the identity of
the individual. On the other hand, extreme close-up shots may be used to
disguise the identity of the user, as they do not show the entire face of the person
but a small portion in great detail. This is detailed in De-identification of the
Profile User above. A close-up shot signifies intimate feelings the subject wants
to share with the viewer. The shorter the camera distance, the more the viewers
can see the details of the body as if they are standing close in offline context.
Facebook users, intentionally or not, allow viewers to see the details of the faces
in the image. However, more detail does not mean better viewer recognition. The
more details are generated, the less the context and vice versa.

![Close-up profile images](image)

**Figure 34. Close-shot profile images**

In the absence of background information, it is difficult to know the context in
which the profile images have been taken. Some pictures are intended to express
users’ emotions, feelings, and desires the user displays towards a certain action,
incident, or idea. They communicate everyday life experiences with friends and
relatives using profile images. The profile image is therefore a communication
tool that expresses the mood of the individual. In close-up shot images,
emotional expressions on the face are more prevalent. Students convey visual messages such as rest after work, enjoyment in their leisure time, or satisfaction after a certain activity. These experiences are expressed in close-shots so that the facial expression of the individual could relate the intended meaning. Most university students express their feelings through the profile pictures. Key challenges in university life are depicted using profile images. All types of emotions are portrayed in this context: stress, surprise, and smile.

More than half of Facebook profile images contain human subjects whose details are vividly depicted in close-up shots. The shot space usually accommodates up to three subjects. If more than three subjects are included in the image, the intended details will be missing, for the distance disguises the faces that carry emotional displays of the subjects. The basic emotional displays that are depicted on in these pictures may be happiness, surprise, anger, fear, disgust or sadness. It is also important to note the communication between the subject in the image and the profile viewer. The reason Facebook users like to show details of their faces is that they aim to reveal their candid feelings in detail at that particular time. It is customary to smile in the offline context when people greet others. Most people smile when they meet friends or acquaintances. Hence, the close-up shots reflect everyday life of the profile owners or significant others in smiling and neutral faces.

The close-up profile image is used as a communication tool for emotional displays. A profile image in close-shot conveys what the profile owner has felt during a certain period of time. When the mood of the profile owner changes, he or she changes the profile picture, too. These moods are transmitted using the emotional displays on the face. Hence, the data in this study indicate that most Facebook users depict facial expressions either in medium or close-shot. The best way to tell the social network users’ moods and feelings is by showing faces that contain emotional expressions. Hence, the profile image is used as a text, or a caption about the routines and feelings of the individual. It is a way to communicate what one feels to others visually.
5.4.1.2. Medium-shot profile image

In photography and film production studies, medium-shot refers to the subject’s mid-section body to the top of the head. This type of shot negotiates the limitations of close-up and long-shots. According to Kress & Van Leeuwen (1996), medium-shots indicate social mode – a type of image that does not ignore either the subject or the surroundings. In medium-shots, some sections in focus are visible in detail, as in some cases it may not be necessary to show everything of an entity. Second, it may also be necessary to have a visible background that may provide viewers with contextual details about the subject in the image (e.g. indoor or outdoor situations, daylight or darkness). When the subject takes up about half of the picture frame, the image is categorized under medium-shot.

The medium-shot accounts for 27% and 22.8% of Duke University and Jacobs University Facebook networks, respectively [refer to Figure 33 on page 170]. Medium-shot images imply that the social network profile owner depicts the subject in close-up shot and the surrounding context in long-shot. Compared to close-up shots, fewer emotional details on the faces of the subjects are shown in medium-shot. However, there is adequate background information that shows the setting in which the image has been taken. Hence, the background information and the details of the subjects could be inferred at the same time. This does not mean that emotions on the face of photographed subjects are as intensely observed as they are in close-up shots, and the contextual settings are as clearly visible as those of long-shots. Medium-shot is a compromise between these two extremes.

Figure 35. Medium-shot profile images
The subjects in medium-shots range from single to few. Most medium-shots images contain a couple or three subjects. A single subject can also be taken in medium-shot. In certain instances, group images can be included in medium-shot. The ways the subjects in couple or group-person images pose differently. While the picture is being taken, they communicate among themselves. Communication in the case of a single individual is dyadic. It occurs between the subject and the photographer or another person that may be different from the photographer. In couple or group images, the communication is triadic; i.e. the communication may occur among the profile owners, other persons, the photographer, or all of them at the same time.

Facebook users may sometimes use medium-shot to include one or more subjects in the image. Group images convey the intimacy of the social network users. Couple images in medium-shot depict intimacy in context. Intimacy is identified by the way the persons pose. Very close pose between the subjects expresses highly intimate behavior. However, single person medium-shot images show the subjects in a certain context either at rest or in action. What makes the medium-shot photo different from the close-up passport photo is the presence of context. However, it may be challenging to identify whether the medium-shot image is a candid picture of the profile owner or not.

The concept of "medium-shot" is relative to the size of the photograph. In some cases, medium-shot refers to the distance between the head and the waist of the subject. However, different types of poses could be measured in different ways. When people are seated, it is difficult to measure the distance as it is traditionally done. In this context, it is difficult to tell if a given photograph fulfills the criteria of long or medium-shot. People may be seated in a way that their whole pose can be captured in a frame. The social network users posing seated does not make the image a long-shot. Therefore, the conventional trends of measuring shots have to be revised.

The traditional yardstick, "from head to waist" cannot be applied to images with unusual poses. In fact, the space the users occupy in the photograph may provide a clue as to how photographic shots can be measured. The foreground-
background ratio may be helpful to identify the setting. Hence, the primary motif of the medium-shot image is the foreground subject. The context also contributes its share of meaning. It also expresses both the emotional feeling of the profile owner as well as the background context in which the image has been taken. In other words, both the subjects' feelings and the background cues are negotiated in medium-shot images.

5.4.1.3. Long-shot profile images

The long-shot refers to the full view of the context and the individual. Long-shot image helps the social network user to view the entire setting in which the snapshot has been taken. However, the disadvantage of the long-shot is that it cannot give detailed information about the subject depicted in the image. In some contexts, it may be difficult for the viewers to identify if the image actually contains the profile owner. In long-shots, subjects are not necessarily recognized (identified), and the facial expressions and poses are partially obscured. Hence, the central subjects remain unrecognizable in long-shot images, which are intended to show primarily the surroundings where the main subject is. This takes us to another hypothesis: the long-shot image is intended to show the surrounding (the context), not the tiny subjects in the center or the periphery. Long-shot is also called impersonal mode (Kress & Van Leeuwen 1996). It gives space for non-personal things around the individual than the subject projected in the picture. Sometimes it may be difficult to recognize the subject in the photograph or the type of emotional expression the main subject in the photograph displays. In this study, a central subject that takes up less than one third of the space will be considered long-shot.

Even if it is very difficult to verify the identity of the subject in extreme long-shot images, profile viewers may still recognize it. Identifying the facial displays of the subjects in the image is hardly possible, however. Very few details of the person in focus may be recognized. Gestures are used to compensate for the missing emotional displays on the face. Extreme long-shots are related to landscape, cityscape, or seascape images. They give priority to the background cues than the foreground subjects. Moreover, identifying the subject is very challenging in
long-shot images, for the image in the foreground remains less important compared to the huge space of the context.

![Figure 36. Long-shot images](Duke_Jacobs)

In extremely long-shot images, the subjects become inconsiderably present. That is one of the reasons to give more weight and priority to the background cues in long-shot images. Moreover, silhouetting an image is a way of depersonalizing and concealing the identity of the subject. Silhouette lighting in long-shot is used to intentionally disguise the subject’s identity. The tiny individual in the foreground signifies that the subject intentionally disguises himself/herself even in natural daylight situations. Recognizing the identity of the subject is unnecessary in extreme long-shots. Both the profile owner and the viewers understand that such an image is taken to emphasize the background cue more than the foreground individual. Since the identity of the subject is not clear, the background gives more clues about the person in the foreground.

In fact, long-shot images focus on both the foreground and the background cues. The setting is usually recognized in long-shots; it is possible to tell whether the image is indoors or outdoors. Viewers can differentiate the nature of the background image: whether it is landscape, cityscape, or seascape. Hence, higher emphasis is placed on the background cues of the image. Yet both the background and the foreground images contribute their share to convey the context in which the image was taken. The social network viewers are required to invoke cultural and historical background knowledge to understand the context in which the image has been taken. Consequently, the foreground and the background cues carry varying power in long-shot images. Even though the background and foreground cues remain very important in a long-shot, these inputs are sometimes complementary and at other times unequal.
Complementary status happens when the identity of the subject is clearly displayed in long-shots. In the case of extreme long-shots, the subject acts as one of the background components and remains subordinate to the background cue. Silhouette images show that the background subject is more informative than the foreground cues. Yet, candid images that show the subjects in the foreground are as important as the context or background cues in the same image.

5.4.2. **Horizontal camera angle**

Photographic perspective refers to the examination of photographs with horizontal, vertical and proximal dimensions (Kress & Van Leeuwen; 1996; Mullen, 1997). Horizontal angle ranges from frontal (directly straight), profile (full face), and three-quarter or rear (back of the talent’s head). Scholars have showed that different ways of capturing photographic images create a sense of intimacy or distance and contribute a share for self-disclosure or nondisclosure. According to Kress & Van Leeuwen (1996), different photograph angles have different connotations. For example, frontal angle represents involvement whereas oblique angle signifies detachment. Previous studies by Tagg (1988: 37) show that frontality is associated with working class – a documentation that showed some form of inferiority.

![Figure 37: Horizontal camera angle (percentage) (Duke=634; Jacobs=394)](image)

Profile images can also be classified from the perspective of the photographer’s position. Nearly half of profile images show the frontal faces of the social
network users. The percentage figures for the Duke University and Jacobs University Bremen student networks are rather similar. The results show that 48.6% of Duke and 49.8% of Jacobs University students use frontal shots for their profile pictures followed by three-quarter shots and mixed shots. Only a small portion of the Facebook users posted rear-shot images for their profiles. Hence, frontal shot is the most widely used of horizontal camera angles. Frontal shot images depict a direct gaze of the subject towards the camera. However, in some cases, the profile owners may be interested to show only the side of their faces or their back due to personal reasons. When the image contains a group of persons, the pose becomes more complicated. When some subjects pose in frontal shot, others appear in three-quarter pose. The more subjects appear in the image, the more diverse their poses can be. Hence, mixed-shot image is introduced in this study to refer to the presence of two or more human subjects who pose in different ways in the same image. When a profile picture carries more than two persons, it is likely that the subjects in the image pose differently.

The percentage figure for mixed shots is a bit higher for Duke University students due to the fact that more Facebook profile owners at Duke University used group person profile images. It is recalled that 20.7% of the sampled Duke University profile images are group-person images, whereas the percentage figure for Jacobs University Bremen is only 7.3% [refer to Figure 19 on page 138]. The percentage of mixed shot images constitutes 16.8% of the Duke University student network, whereas the figure for Jacobs University Bremen is 11.3%. Infographic images that contain maps and drawings are excluded from this category. Infographic images constitute 8% and 9% of the institutional samples.

5.4.2.1. Frontal shot

Frontal shots are common visual displays for the passport type of photographic presentation. The majority of social network users post frontal images as profile pictures. The collected data show that 48.6% and 49.8% of Duke University and Jacobs University Facebook users choose frontal images [see Figure 37, on page 178 above]. Hence, both institutional networks show a similar trend in the way they use profile images. Facebook users can have many reasons to select frontal
shot images. These images facilitate neutral communication between the subjects and the viewers. The subjects gain attention by confronting the potential viewers face-to-face. Profile owners reveal their identity to their utmost knowledge by showing the most distinguishable parts of the face. Such revelations can be accomplished by emotion-generating features such as smiles, frowns, surprises, etc. The frontal shot is the commonest and the most conventional way to reveal one's identity as in passport photo.

![Figure 38. Frontal image shots](image)

The most common ways of depicting one's identity online is through frontal photographs. Single subjects or couples show the emotional displays on their faces. Facebook users post images that show their faces, for the face is the most powerful body part that reveals the person's state of behavior. Both halves of the face are shown in a balanced way. Hence, social network users take frontal images to express their emotional feelings in a close-shot. In Frontal images, most social network users pretend to be cheerful, neutral, or incongruous. The profile images, particularly in close-shots, are intended to convey the subjects' intended messages to the viewer. The close-up shots show the facial expressions of people, and these expressions indicate that they are determined to encounter the viewer straight. The social network users (who are either in groups or alone) are ready to give attention to whoever views their profile. The direct gaze is very crucial in offline face-to-face communication exchanges. The majority of profile image gazes are not neutral; they convey messages through smiles, frowns, or other forms of facial expressions.
5.4.2.2. Three-quarter shot

Facebook users do not necessarily pose in passport photo or rear photo formats to display their online identity; there are other poses that can depict what they intend to convey. Hence, some Facebook users post three-quarter images to represent their offline identity online. The percentage figures of three-quarter shot images from Duke University and Jacobs University account for 24.2% and 27.2%, respectively [refer to Figure 37, on page 178 for details]. The pattern for Duke University and Jacobs University is also similar. In total, more than a quarter of profile images have the characteristics of three-quarter shots.

![Duke](image1.jpg) ![Jacobs](image2.jpg)

*Figure 39. Three-quarter images*

What is the motive for posting three-quarter images on a Facebook profile? This is an important research question worth investigating. Before looking into central arguments about the three-quarter profile images, it is essential to describe the common characteristics of these images. Three-quarter profile images display a different kind of pose compared with the conventional, frontal passport type images. Subjects are seen smiling, curious, or absorbed in three-quarter images. They are aware that their images are taken, but they pretend otherwise. The majority of three-quarter images are in close-shots so that the emotional displays on their faces can be clearly identified. The subjects in these images are either communicating with the photographer who takes the image, being absorbed in thought, or conversing with a third party who may stand outside the shot.

A number of assumptions can be made as to why social network users upload three-quarter images for their profile pictures. The three-quarter image contains a subject turning a bit to the side from frontal view. The image is intentionally taken to highlight the depth and the volume of the body. Three-quarter images
depict part of the face in extended detail that cannot be viewed in frontal view. In other words, one side of the subject’s face gets detailed emphasis when the other part is ignored. Therefore, the social network user posts three-quarter images to create a dramatic view of themselves. They stage their poses to reveal the details of their faces thereby transmitting peculiar characteristics that make them unique looking. Communication is expressed in smiles, frowns, or other facial displays. Many times the subjects in the image may also avoid gazing directly at the photographer or the viewer to ignore face-to-face confrontation. The images may range from complete avoidance of the photographer (because they are engaged in talk with someone else) to involvement of the subjects within the image or the unseen party located on the side of the photographer. Partial avoidance indicates some form of engagement with invisible persons outside the camera frame. The viewers of these images think that the subjects are engaged in some form of activity and are not giving proper attention to them.

The frontal shot image remains compressed, whereas three-quarter image shows the segment of a particular part of the face in great detail. When the frontal shot shows full but compressed face, the three-quarter shot shows some portion of extended face. For example, the chin and the ears may not be properly visualized in frontal shots. Since the left and right half-faces are relatively similar, the profile owners depict one section of their face (including the ear) in detail rather than showing frontal face in a compressed format. As it can be seen from these images, the profile owners are interested to depict one part of the face with profound detail than displaying both parts of the face in frontal shot. This may be used to partially reject the viewers by not directly gazing at the camera (and, hence, at the viewer). It may also be the case that the profile owner is trying to extol or hide some of the characteristics visible on the face. But such glorification may not be implicit. The three-quarter becomes the best pose for some of the social network site users. Whereas the section of the face is clearly identified, a partial section of the face indicates loss of attention and interest. The subjects in the image seem to be interested not in the camera that takes the picture, but in other things that exist outside the photographic field. Therefore, the camera is placed some 45 degrees from the frontal side of the subject.
5.4.2.3. Rear-shot

The rear-shot accounts for the least percentage. It constitutes 2.5% and 2.8% of the total images sampled from the Duke University and Jacobs University Bremen Facebook networks, respectively [see Figure 37 on page 178]. Rear-shot images are the opposite of profile images because the face of the person is turned away from the camera. The subject in frontal images confronts the photographer and the profile viewer squarely; whereas the subject in the rear image escapes and retreats from the viewer or the photographer. The main subject, like the photographer, turns towards the same direction except that the subject adds another dimension for the photographer; the photographer views what the subject sees. Similarly, the profile viewers see what the photographer and the subject in the image see. Also, the rear image shows that the profile viewer sees the landscape in the online context, whereas the photographer sees it in the offline context. The turning away of the subject from the photographer shows that the profile owners escape the face-to-face interaction with the photographer and the profile viewer. In other words, the viewers of the profile image and the subject in the image turn away towards the same direction to observe the landscape beyond the rear image.

The rear images show that the subjects are detached from the real world. Instead of confronting the viewer face-to-face, the subjects in the image ponder beyond the seascape, landscape, or cityscape. Most rear-shot images are taken either in long or medium-shot, and the background is usually visible. The subjects do not gaze at the person who is expected to view their image; instead, they turn their back in negligence or abandonment. This image may result from an unpleasant situation the social network user has experienced which made them to select

Figure 40. Rear-shots images
rear-shot images. The subjects also seem to be disinterested in seeing the photographer and the viewers. Such disinterest is expressed by evading the eye-to-eye contact with the cameraman or the profile viewer. Confronting the viewer is not an option for these people. The image may also symbolize the future. The subjects concentrate on their way ahead instead of communicating and facing the photographer or the viewer. Rear-shot poses signify to what extent users can express their messages in images. Bored of the present, the subjects seem to focus on something distant, unexplored, or unseen. They focus on unfathomable horizons. In some cases, the silhouette lighting can facilitate the construction of a different kind of natural environment that signifies immersion in thought.

Rear-shots can disguise the identity of the subject. Viewers may, in certain instances, identify whether the profile owners are the subjects themselves. The subjects disguise their identity by concealing their face. They are seen pondering and heading towards unknown locations. The purpose of rear image is to depict escape from friends and others who can investigate every part of their face. Hence, the rear-shot image signifies an escape from the face-to-face encounter. For some social network users, it means disinterest to confront the profile viewers in face-to-face communication transaction. A rear-shot image fills in the placeholder with a message, a complete avoidance of the facial contact that can potentially happen between the viewer and the subject.

5.4.2.4. **Mixed horizontal camera angle shot**

Photographic images are analyzed from the angle and distance of the camera. It accounts for 16.8% and 11.3% of Duke University and Jacobs University of the collected data respectively [see Figure 37 on page 178]. Group pictures are difficult to control and anyone can pose in a different style when images are taken. In pair or group shots, the subjects should show intimacy and closeness, and this can be expressed by one of the subjects changing the pose in either frontal, three-quarter, or rear-shots.

Some subjects can be taken frontally facing the cameraman, while others from the sides or rear to create an interesting composition. Such photographic angle is applied to the photographs that involve only one subject in focus. However,
when there exists more than one person in the image, deciding on the type of horizontal camera angle is challenging. Coding the photographic perspective of an image where multiple subjects exist needs a new type of label. Subjects in the image pose in different horizontal angles. Hence, images that carry multiple subjects can feature poses in different ways and styles. In this case, some social network users pose in profile shot and others in three-quarter. Still others could be seen posing in rear-shots. Therefore, coding all these subjects in one image calls for a new category. As I stated above, group images do not provide clues about the profile owner without taking the contexts into account. Hence, the mixed category is created to include group poses. This category is created to include different poses of subjects in a single image.

Similarly, photographic images are shot in various ways, and sometimes it is difficult to decide whether a given image is frontal or rear-shot. For example some image contains both rear and frontal human subjects. Though one may argue that the focus is on frontal image in the center, the rear image is equally important and contributes to the overall meaning. The action of the subjects expresses the visual motive. Few social network users posted these types of images out of their personal interest and curiosity.

Therefore, the increase in the number of people in the image creates a difficulty to decide on the horizontal camera shot. Such images also override the traditional classification of horizontal camera angles [see Figure 37, on page 178]. Therefore, revising the traditional classification of shot perspective is necessary to understand the horizontal and vertical visual frames. When viewing an image that contains rear and frontal subjects, the viewers would recognize that these images are measured not by the shot types and perspectives (because the image contains both) but by the activities of the subjects in these images (the
message conveyed). Also, when both the rear and frontal shots are featured on
the profile picture, the coding scheme becomes more complicated, for there are
no concepts that have been framed to categorize such kinds of images.

Facebook users employ different types of camera angles to make their images
more artistic and appealing. Some Facebook users may not be interested in
having passport-type of profile images where the subject remains at rest in front
of the camera. However, few images are shot differently, and it is difficult to
categorize these images in one of the categories that are traditionally known.
Such types of snapshots are completely different form the conventional profile
picture-taking practices which measure images from a single person's
perspective.

5.4.3. Vertical camera angle
The meanings associated with the camera angle may also indicate how viewers
understand images. The vertical camera angle could be categorized in the low-
high continuum (Low, Eye-level, High) (Mullen, 1997). High-angle features the
person as tiny and unimportant, whereas low-angle makes the person superior
and powerful. According to Kress & Van Leeuwen (1996: 146), the high-angle
implies the symbolic power of the photographer (and the viewer) over the object
shown in the image. Low-angle, on the other hand, suggests the mightiness of the
depicted over the photographer (the viewer). The camera angle shows the
relationship between the photographer and the photographed, the viewer and
the subject, whether the viewer has authority over the photographed or vice
versa. Low-angle makes the depicted individual more powerful and energetic,
whereas higher angle indicates the opposite: the depicted object remains meager
and flimsy (Kress & Van Leeuwen, 1996).
No research so far has investigated why social network users choose different types of vertical camera angles for their profile pictures. Articles on vertical camera angle mostly focus on professional video film production. Today, however, many of the social network users post personal photographic images on social networking sites such as Facebook. Social network users employ vertical camera angles for different purposes. The availability of the camera phone and digital camera encourages them to produce their own images. Hence, as it can be seen from the analysis [refer to Figure 42 above], the most frequently used vertical camera angle is the eye-level shot. More than three-fourths of the total collected images on both institutions are eye-level shots. Both high-level and low-level images are also used as profile pictures, but they are very few compared to eye-level shot images.

5.4.3.1. High-angle shot

High camera angles are employed for different purposes. Figure 42 shows that 9.5% of Duke University and 4.5% of Jacobs University Facebook network members used high-angle images. It is important to investigate why such a percent of student are motivated to use high-angle shot. High-angle image refers to the extent to which the camera is raised above the head to capture images. This is to mean that the camera shoots the subject from above. High-angle is important when one wants to see the overview of what something looks like or want to emphasize the subjects from above. The size of the subject is compressed when a picture is taken from above.
Social network profiles images show that the cameramen interact with the subjects in the foreground. In mainstream photography, high-angle image is used to make the subject powerless. Yet, no one wants to post a profile image online which makes him or her appear helpless; instead, people try every opportunity to promote themselves. The very essence of using the social networking sites is to assert the existence of oneself in the online environment. But, people use high-angle images even if they may not realize the meaning they connote. One of the characteristics of high-angle profile images is that the subjects are seen smiling when the snapshots are captured. Such smiles make the social network profile image different from other images. In fact, most high-angle images are observed with emotional displays. In other words, since emotions are communicated in these images, Facebook users may be using high-angle shots images to promote friendliness sociability and approachability. Therefore, the traditional definition of high-angle shot conveys a different meaning in the context of social networking sites.

Figures 43. High-angle images

In this study, attempts have been made to identify the characteristics of high-angle images and the motives of posting them online. High-angle images are taken to separate the target subjects from other subjects around. For example, during public events, it may be difficult to capture frontal images. The same is true in overcrowded domiciles or during festivities. During these public events, sufficient space may not be available for young adults to get their frontal pictures taken. The social network user is caught between taking a memorable picture while lacking sufficient space. Hence, the available option is to use a high-angle from the nearest distance and take the desired image. In this case, the photographer stretches his/ her arm above the head and takes the image from
an elevated spot. In the context of professional photography, long tripods or camera cranes can be used to take these types of images.

However, as stated above, the compelling condition to take high-angle image is the context in which the image is taken. The social network users like to depict their participation and presence in crowded spaces. The context is needed for the social network users as a document and to communicate with other friends that they have been to these events. However, the space available to take pictures may not be sufficient due to the movement of people. To affirm their presence visually Facebook users may need to devise a different mechanism. Some Facebook profile owners may use high-angle to depict themselves in smiles at a close distance. Moreover, most high-angle images are close-up shots. Users cannot go backwards to take medium or long-shot, lest there would be uninvited ‘guests’ in the foreground. The subjects in these images face the camera from below implying that the subjects are conscious of when the images are taken.

The purpose of high-angle image in this context is to depict exciting social events that Facebook users cherish in a particular context. The profile images in these contexts show obedience, conformity and tameness in various social contexts – sports, parties or casual occasions. Social network users show some form of involvement in the context they participate. This is accompanied by smiles seen on the face of the social network user. Subjects are actively involved in high-angle shots. Usually they turn their face upwards towards the camera to indicate that they are aware of the picture-taking moment. So, in the context of high-angle shot, an active engagement of the profile owners with the viewer is clearly observed. A high-angle image is constrained in a small space that may provide sufficient contextual background. The intentionality of the image is also indicated in individual or group smiles displayed in images. Hence, most of the time high-angle shots are taken during public events.

5.4.3.2. Eye-level angle shot

The most frequently used Facebook profiles pictures are eye-level shots. In both institutions, more than three-fourths of images are frontal shots [see Figure 42
on page 187]. The percentage figures show that 75% of Duke University and 82.5% of Jacobs University students used eye-level shots. These images may depict emotional displays that range from neutral to smiling. Unlike high-angle shot, eye-level shot is not constrained in space. The image is placed in a tight space in the case of high-angle image even though the subjects may seem relaxed during the event. Unlike the high-angle images that use less distance to take images, the social network site users in eye-level images have ample space. The cameraman has to stand on an elevated place to capture the high-angle profile picture. In this context, the profile image is taken in a tight space usually in close-shot. The eye-level image, on the other hand, shows an unrestricted space. The photographer has ample space from which the photograph can be taken. This may range from close-shot to long-shot.

![Duke Jacobs](image)

*Figure 44. Eye-level shots*

Unlike high-angle shots, the eye-level shots may have contextual background. The little available space in the background depicts the setting in which the image has been taken. Therefore, the background conveys an important message in eye-level shots. Most high-angle images are taken during special occasions but eye-level shots show images taken during casual occasions. The high-angle shots depict a happy mood, whereas the eye-level shots connote casual, serious, or relaxed mood. That seems to explain why the subjects in eye-level images are relaxed in wider space.

The absence of people in the background image in many of the eye-level shots indicates the image is usually taken during mundane occasions. Most of these images do not show the background in eye-level shots because of the close distance of the images. Eye-level shots demonstrate how social network profile viewers interpret things around them. Due to the absence of social gatherings,
the context remains calm and neutral. In other words, the images connote life as it is. Thus, eye-level shot shows neutral mood. The majority of the social network users post eye-level shots as their profile picture to view other friends and acquaintances as they see them in the offline, normalized context. The images connote that the profile owners are there to communicate, not to dominate or be dominated. That seems the reason why the majority of the social network users use the eye-level images. However, this research does not contend that there are no social network users who want to dominate other social network members in online context. In fact, cyber-bullying is one of the most important concepts that received scholars’ attention in recent years.

5.4.3.3. Low-angle shot

Some social network users in both networks use low-angle images as their profile pictures. The percentage figure is 7.2% for Duke University and 3.8% for Jacobs University [see Figure 42, on page 187]. Low-angle shots indicate that the picture is taken below the eye-level of the subjects in the image. Low-angle is intended to show the power and dominance of the individual, couples, or groups. In addition, low-angle shots are intentionally used to connote implicit success.

Low-angle shooting is a common technique in film production and photography. When the villain appears in low-angle shots, he/she seems powerful and sinister. Knowing these connotations, few social network users choose low images that express their power and charisma. The background is meant to be smaller when the foreground subjects appear taller and powerful. The emphasis is on the power of the foreground subject rather than on the background cue. The background serves the complementary function to increase the power of the individual.

![Figure 45. Low-angle images](image-url)
Though most of the low-angle shots are believed to convey the power of the individual, group pictures can promote group supremacy and potency. A low-angle image makes the individuals appear taller and more powerful; it conveys the power of group members in accomplishing a certain task. Hence, individuals promote their own powerful persona through low-angle profile pictures. They try to show their charisma as invincible and energetic. The primary focus in low-angle images is the foreground subject, but the background image is also taken into account.

Low-angle shots, like high-angle shots, are not common among social network users. This shows that Facebook profiles are for social connection and communication. When low-angle images are used to show the power of the individual, high-angle images show submissiveness. The majority of the social network users try to avoid using both low-angle and high-angles images as their profile pictures. The low-angle images connote elevation, glorification, success and triumph. Similarly, images shown in low-angle produce perspectives of strength, power, and invincibility. Hence, the profile image in low-angle conveys the confidence of the social network user. Low-angle images indicate that the subjects are satisfied in the present scenario and this is often expressed in smiles. Hence, images imply that the social network users are delighted just because they may have visited a certain place, are members of certain team, or are happy at a certain occasion. All these are expressed in social settings, which are communicated implicitly across other social network profile members.

5.4.4. Foreground subjects & background cues

5.4.4.1. Complementary status

As stated in the previous discussions, profile images are shot in different ways to convey different meanings. Some social network users post images to represent their identity online; others want to express their feelings, ideas, or emotions; and still others post the images to express their current or future experiences. Thus, it is important to identify what profile image show. What does the Facebook user want to show? What proportion of foreground to background does an image contain? And does it have an impact in impression formation and
self-presentation? These are crucial questions that need to be investigated in this section.

The previous discussions indicate that both the foreground and the context are crucial for meaning attribution. Even if the foreground image may be sufficient for some pictures to generate the intended meaning, the context remains very important for other contents to convey the desired message. Hence, the intention of the image is to show the subjects in the foreground or the background. The foreground depicts the identity of the subject whereas the background conveys the context in which the image has been taken. Thus, both the setting and the subjects are taken into account to understand the complete meaning embedded in the image. This is the reason why the shots include the background and foreground information. Profile images that carry the background context and the foreground subject demonstrate that the image has been taken to emphasize the meaning. The cameramen and the profile owners are aware of both cues in impression formation and self-presentation. The intentional shot styles negotiate the power of the background and the foreground cues.

It is evident that the profile owner makes decisions as to why she/he chooses a certain image for the Facebook profile. The user's motive is expressed in the background and foreground cues intertwined together. Sometimes, the way the profile image has been shot creates skepticism among viewers. The camera distance creates ambiguity if the image is a long-shot of a landscape or medium-shot of a person. In this case, does the image primarily show the subjects, the background, or both? The difficulty arises when both the landscape in the background and the person in the foreground hold complementary positions. In many instances, the subject in the foreground and the landscape in the background occupy comparable positions. Therefore, labeling medium-shot images as primarily background or foreground is contentious. This is because the intention of the image owner is to depict the details of both without giving a priority for the background or foreground cues.
Some social network users may intentionally include the context in the background. For others, the background image is unavoidable unless Facebook users decontextualize the foreground. The background image also depends on the type of camera used to take the profile image. Professional DSLR cameras blur the background cue and give priority to the foreground subject. However, most social network users are likely to use their cell phones or digital cameras to take candid pictures. These photo-taking devices do not blur the background cues as it happens with DSLR cameras. In addition, modern cameras have facilities including zooming and image manipulation. The photographer decides the distance of the subject depending on the emphasis he/she wants to give. Though it is likely that the background is taken as a subordinate cue, it contributes its share of meaning for the overall intent of the photograph.

In many long or medium-shots, the duality of the photographic intent is evident. Both the background and the foreground subjects equally contribute for the overall message users generate through the image. The intended message is complete only when the subjects and the background elements are viewed synchronously. It is not necessary to reveal the identity of the foreground subject. Long-shot images with an emphasis on the background and foreground cues are captured to generate an unambiguous message. Both the subject and the background are intentionally made to take contextual and complementary positions. The subjects are also intended to share the cues embedded in the image. In extreme long-shots, the context is much more important than the foreground image, which is the reason the background cues take more space than the foreground subjects.
Identifying the photographic motif of Facebook profile images is one of the aims of this thesis. Nevertheless, only the profile owners could explain why they chose a certain image over others. The background and foreground cues are very important to know the motive of using particular images. In addition, shot distance plays an important role. Close-shot images show the meaning ascribed to the foreground image. The foreground subjects are primarily used to interpret close-shot images, whereas the extreme long-shot images depict the opposite; it is the background that is very relevant to understand the essence of the image. The medium-shot negotiates the meaning that can be generated from both the foreground and background images. The significance of the background cues can only be discerned in the context of the long and medium-shot. However, the background cue may provide little information in close-shot images. Hence, long-shot and medium-shot images carry additional cues a close-shot image does not have. In addition, high-angle and low-angle shots are mostly related to the absence of background cues, whereas medium-shot is related to the presence of rich background cues. Camera angles are correlated positively or negatively.

The background cue is equally vital as that of the foreground in medium-shot images. What is displayed in long-shot images is not the facial expression of the person. The activity of the subject and the background cues are given priority than the subject's facial expressions. For example, the profile owner with his/her friends may be having "fun" in a certain context. The activity is depicted in a beautiful, natural background. These images emphasize the background cue and the subject's activity, rather than depicting his or her identity. Identifying the person is difficult in long-shot images but the activity can be clearly visualized. The existence of the foreground image in the center is necessary to understand the motif of the profile picture. The background image alone does not provide a complete picture and the state of the profile owner. Hence, the background and foreground cues are equally important to provide the information about the social network user.

5.4.4.2. **Unequal status**

The distance of the image from the camera is one of the most interesting areas to study photographic representation. Why do people like to portray themselves in
extreme close-up or long-shots? Why is it necessary to take images in medium-shots? To answer these questions one has to explore both user intentions and camera distances. The social network users post profile images that range from extreme close-up to extreme long-shots. Obviously each of these image types is taken with a photographic intent. The balance and power between the background and the foreground change with a change in the type of the shot. Hence, the background and foreground cues of the profile image are important ingredients to identify the visual motifs. Message is conveyed through these interrelated cues.

The distance of the camera from the central subject has always been implicit message. The way these pictures are taken in close, medium, or long-shots signifies the motif of the social network user who negotiates the meaning between the foreground and the background cues. When the background cue takes more space, the interest focuses on the environment (the context); less background gives a weighted meaning for the foreground context; and, therefore, dependence on the foreground input. The equilibrium is the medium-shot where both the background and the foreground cues play complementary role in generating meaning.

Within the profile image, the background and the foreground cues can be analyzed along three dimensions. The background and foreground photographic cues have an inverse relation. When one is dominant, the other inevitably becomes subordinate, or when they take equal space, both may take complementary positions. Hence, both the foreground subject and the background cue take either dominant, complementary, or subordinate positions. Dominance of the background cue over the foreground subject is maintained in long-shot images. This happens when the background information is more important than the foreground subject. In other instances, social network users may balance the background and the foreground cues. However, this does not mean that the background and foreground images should always occupy equal space. Usually the background and the foreground image inputs are varied in size. The background of the image may have a complementary status with the foreground.
The above images show that the background and the foreground visual cues can take different statuses. In some images, the emphasis is on the background cue, in others the foreground cue. The background is as important as the foreground. These types of images communicate a certain activity of the social network user. The evidence, the photographic image, in the form of the profile picture is the best way to exhibit these scenarios. The profile owner in the foreground intentionally provides sufficient space for the visibility of the background, which equally plays a complementary role with the foreground subject. The position of each person shows the centrality of the background cue with respect to the foreground.

However, some social network users overemphasize the importance of the background. In this case, the subject in the foreground remains tiny and invisible and is overshadowed by the vast sea/landscape that stretches to the horizon. The proportion of the subject in the foreground with respect to the landscape in the background is negligible. The less space allotted for the central subject in the photograph compared to the vast landscape denotes that the background is thought to be the dominant visual input. In addition, the subject disguises him- or herself not only by being diminished on the photographic canvas but also by turning away from the camera (i.e., in a rear-shot) or changing his/her image to silhouette. In this case, it is difficult to affirm whether the subject on the profile actually represents the profile owner. Sometimes, it is difficult to even locate the subjects in the photograph. The purposes for which social network users post images depend on the type and quality of the image. Usually the foreground and the background cues are viewed synchronously to attribute the meaning embedded in the image. Sometimes, the background may be the context; it acts
as a stage where the foreground subjects pose. The setting can be explicit or implicit. In some instances, knowing the context is crucial for the viewer to understand the setting. The background information indicates that the profile owner considers a certain setting as an important information source.

![Figure 47. Background-foreground cues](image)

The emphasis on the background image reinforces the context in which the image is taken. Once social network users decide to include the background cue, they strive to find a space either by posing on one side of the image or taking long or medium-shots so that they can balance the background information with the foreground subject. This indicates that the profile owner is aware of the unique contribution of the background cue. The notion that the foreground image is always important may not be right. Background information can be as important as the foreground information. However, in some instances, the background information is much more important than the foreground cue. For example, the foreground subject is silhouetted to disguise the profile owner. The depiction is intentionally defaced so that the subject should not be recognized. Hence, the background seems more significant than the foreground. The silhouette lighting coupled with low lighting conditions conceals the identity of the subjects further. It has to be noted that these pictures are intentionally taken to create different moods that express the intentions of the social network users.

The motive of the image can be explained in different ways and different contexts. The use of silhouette image for a profile picture shows some form of disguising. However, the image gives a clue as to what the subject in the image is doing. The background image, which shows sunrise or sunset, in some cultures may be interpreted as a sign of love and friendship. Sunset connotes an incidence beyond the horizon. It refers the power of romance, which can go beyond the
limit of an unexplored world. Yet, it is difficult to know which one of the two subjects is the profile owner.

![Figure 49. Background-foreground relationship (all images are from Jacobs network)](image)

Background cues are very important to understand the relationship between the subject and the setting. The background of the image aids the viewers in knowing whether the setting is indoor or outdoor. In the context of medium and long-shots, Facebook users can identify the setting of the image. However, the challenge occurs when the image is taken in close-shot. In this case, the background cues may be partially or completely eliminated. The background cues in the context of long-shot and medium-shot exert meanings associated to the image: the viewer understands whether a given image is a historical monument, a landscape, a seascape, or a classroom. The background setting may be totally absent in enhanced and decontextualized images. Extreme close-up shots and nighttime pictures can disguise the background setting, for they can remain either dark or decontextualized. Hence, each profile image contains visual elements that can influence how the image is understood or interpreted. Generally, the background images can divulge the setting of the photograph; it informs the viewers when (time of the day) and where (the place) the photograph has been taken.

5.4.5. Human-non-human interactions

The profile image is complicated in that not only the background and foreground cues exist but also the distance of the camera influences how viewers attribute the meaning to the image. Sometimes all subjects appear in the foreground. These subjects can be voluntary included or unintentionally captured by the camera. In some occasions, the profile owners include pets and historical artifacts in the image. In this context, the foreground subjects that can exist in an image can be categorized in to two main categories: human-human or human-
nonhuman interaction. The status of the subjects can be analyzed from these visual perspectives.

Similar to the human-human or human-animal interactions in profile images, the status of human-non-human subject interactions can also be analyzed on unequal and complementary statuses. A banquette of flowers is as important as a human subject portrayed in the foreground of a photograph. The meaning generated from photographic images is composed of all subjects of the image functioning in unison. Hence, the side-by-side subjects in the image take equal importance with that of the central subject.

Some profile images are posted to express passion and love one has towards non-human subjects. These interactions show the deep emotional connection one has towards things, animals, or antiques. It can be accomplished in any setting: indoor or outdoor. The motive for posting these images on the Facebook placeholder is to express the user's close connection with certain things or animals and the satisfaction that results from these interactions. The image owners show other profile owners how they feel about the non-human subjects by acting in a specific way. Hence, humans are active interactants whereas the non-human subjects do not respond in the way humans do. The important issue in this context is to understand the extent to which social network users are engaged in the interaction with non-human subjects. Social network users post these images to show unique affection they have towards the things they prefer or love. The inclusion of non-human subjects in the image helps them partially share their photographic identity with the non-human element depicted in the online context.
Hence, domestic and wild animals are as significant as human subjects. The inanimate objects such as a statue have also similar significance to that of the human subject posing in the foreground. The way the subjects pose next to these animals or inanimate objects shows their intimacy and affection with non-human subjects. All non-human subjects carry a different connotation when they are used with humans. Human interactions with non-human subjects imply adventure, involvement or passion. Furthermore, Facebook profile owners can also show the present interaction with non-human subjects. Pets are considered as companions. Flowers signify love, happiness, and life. The complementary status can be inferred from the amount of space these non-human subjects occupy and the level of intimate activity they display in the image. The action of the human subjects indicates a significant thing happening when the image is captured. In the case of inanimate objects and pets, it is the human subjects who try to show intimacy, not the non-human subjects.

The motive of sniffing the flower and touching the statue is the same. Passion is what the profile owners are trying to express or convey. The sculpture carries the same power as that of the flower in terms of its function. Even if the feelings of touch and smell may feel different in essence, the flower and the statue provide a delightful experience for the profile owners. Facebook profile owners use different senses to express their feelings and to explore their curiosity. In other words, human interaction with the inanimate objects is equal to the human subject in the image in terms of contribution to the overall meaning. The images indicate how humans appreciate the special qualities imbued in these images. The inclusion of animals (e.g. dogs and apes) and plants (e.g. flowers) with humans complicates the meaning generated from the image. Moreover, when two or more subjects are seen in the image, it is challenging to decide the connection between them. The more subjects are included in the image, the more complicated it becomes to categorize the image.

5.4.6. Gratification through profile images
As elaborated above, images are interpreted differently in different contexts. For some social network users, the context is more important than the subjects in the image. For others, subjects are more significant than the background context.
Other times, the context and background are complementary. The profile picture carries the context during which the image is taken. The smiling mood that most social network subjects display suggests the existence of a certain type of social communication. Birthday celebrations, music festivals, and sports events are the most important occasions that need to be communicated visually. Such images qualify to be profile pictures and remain powerful inputs in online identity formation and self-presentation.

Social network users post images to show social gatherings and activities. A certain contextual occasion can generate a number of feelings for the profile viewers. The color has far more important implication that reveals the identity of the individuals. For example, the hokey team that plays for Duke University usually dresses in blue, and people color their body with blue – a typical way of supporting a certain team. In this context, the profile picture serves to promote the team profile owner supports. It also shows to what extent the fans belong to the team. In these images, the profile owner can be in the group.

Social network users post images to show their adorable siblings or pick one of many childhood photos of themselves to remember their childhood lives. For other young adults, the time they spent with friends and relatives is an exciting phenomenon to be remembered by the image taken in groups. Sometimes, the participation in meetings and conferences can be used as a profile picture. These images increase the status of the friends circle. Facebook users earn a certain gratification from posting the image of the meeting, and this could be relayed to the social friends circles through the image. The type of image Facebook users choose can help the social network users to earn a certain gratification. This is an important step in identity framing and formation in online self-presentation.

Figure 51. Images that show certain gratification

Facebook users post images to show their adorable siblings or pick one of many childhood photos of themselves to remember their childhood lives. For other young adults, the time they spent with friends and relatives is an exciting phenomenon to be remembered by the image taken in groups. Sometimes, the participation in meetings and conferences can be used as a profile picture. These images increase the status of the friends circle. Facebook users earn a certain gratification from posting the image of the meeting, and this could be relayed to the social friends circles through the image. The type of image Facebook users choose can help the social network users to earn a certain gratification. This is an important step in identity framing and formation in online self-presentation.
To summarize this chapter, shot perspectives are the least explored areas in image production, self-presentation, and impression formation. With the proliferation of social networking sites, profile owners on Facebook have been using different images for different purposes. Photographic perspective is one of the most important concepts that have rarely been explored in this specific research context. Three main perspectives were considered for analysis: camera distance, horizontal camera angle, and vertical camera angle. First, attempts were made to identify the camera distance from the photographed subject. Results show that 57% of the social network users posted close-up shots followed by medium (25.3) and long-shots (9.6%) [refer to Figure 33 on page 170]. The non-person category, which accounts for almost 9% of the total collected image sample, has not been considered for analysis, as it is difficult to pick a point of reference for measuring camera distance in these images.

The analysis of horizontal camera angle shows that 49% of the social network users posted profile (frontal) images, followed by three-quarter (25.4%) and mixed (14.6%) [refer to Figure 37 on page 178]. The rear-shots are very few. They account for only 2.6% of the total images. Mixed image category indicates the presence of different types of poses in a single image. Mixed poses are prevalent in couple or group person profile images, for people in couple or group-person images pose in different ways. It is difficult to categorize mixed pose images in one of the existing image labeling categories. Some subjects in the image pose in three-quarter, others in frontal angles, and still others in rear angles. However, this category is applicable only for couple or group-person pictures.

Vertical camera angle is another important image perspective that has been analyzed in this research. Results reveal that the vast majority (78%) of Facebook users posted eye-level profile images followed by high-angle (7.4%) and low-angle shots (5.8%) [refer to Figure 42 on page 187]. Some non-person images were excluded in this section, as it is difficult to determine the angle from which the image was captured. These include infographic, landscape, and plant images. The result demonstrates that the vast majority of the social network users posted close-up, frontal, eye-level images. The hypothesis, "Young adults
prefer frontal-close-up images than high or low camera angle with long or medium-shots for their profile images” is confirmed. The vast majority of Facebook users in the sample chose images of persons who pose neutrally. The majority of young adults use Facebook for communication purposes, which needs clearly visible, close-up, direct-gaze profile pictures.
6. Results

This research has been conducted based on the notion that Facebook users spend a considerable amount of time selecting, editing, uploading, and viewing their profile images. It provides an in-depth analysis of what images users select, why they select those particular images, and when they select and upload these images online. The interview and survey results reveal that social network users make use of their mobile phones and digital cameras to capture images that validate their presence and participation in social events. The results also uncover that the vast majority of research participants is familiar with both picture-taking devices and image-editing software. Ninety survey and seven in-depth interview participants said that they are producers and consumers of images created in different contexts; they tag other friends who in turn tag them in other images. In this way, they communicate their social encounters visually.

When research participants elaborate on their image capturing experiences, they affirm that the first condition they consider before capturing the image is to check the appropriateness of the setting (place and time). Outdoor settings are preferred over indoor settings to capture photographs due to the poor performance of the phone camera in low-light conditions. Digital images taken under poor conditions may be considered acceptable even if they are grainy, blurry, or dark, though. Since the research participants use images for self-validation and communication (Bock, 2004; Grosvenor, 2010; Lury, 1998; Van Dijck, 2008), low quality does not necessarily affect their communication goals. Valuable images that carry unrepeateable events are stored for records (Bock, 2004; Grosvenor, 2010). Interview participants seem to be more concerned about the events they capture, not what image quality they produce.

The analysis has revealed that picture-taking can be broadly classified into three categories that relate to the type of camera used and the users’ intentions. Casually captured images are informal and amateurish, shot primarily with camera phones or webcams. Intentionally captured image, on the other hand, refer to a less formal image-taking activity with prior thought about the purpose, the setting, and the device. Another type of intentional picture taking refers to
professional photographic practice. Prosumer camerapersons may produce professional-looking images. However, young adults prefer to use a phone with built-in camera to capture less structured events like birthdays, parties, festivities, and trips, for it is a very convenient, portable, multi-purpose device.

In relation to this, interview and survey Facebook users were asked about the types of images they use for their profile pictures. The respondents contend that the profile images carry specific messages that are embedded in the foreground and/or background. For example, the image of a couple conveys the message for other network members that the profile owner is in a relationship with the other person depicted in the image. An image of a person standing in front of a car conveys that he or she owns that particular car. Therefore, profile images are carefully perceived, evaluated, and interpreted to provide a certain meaning.

Profile images are not necessarily intended for significant others who know more about the profile owner in the offline context but for acquaintances and newly added friends in the online context.

The participating social network users have been asked why they change their profile images. Responses vary depending on the individual user. Nonetheless, they mention different reasons which lead to changing profile images. First, good-looking poses may encourage them to change the profile picture. Second, some Facebook users may want to add another person to their profile picture. Intimate friends, siblings, boy- or girlfriends may impact the choice of profile picture. Third, a better quality image prompts social network users to change the existing profile picture. Moreover, pictures that have been used for a very long time can be replaced with any other picture, for profile owners sometimes get bored with old pictures. Fifth, specific events, temporary or otherwise, may motivate the Facebook users to make a change. Young adults often use as their profile pictures images of contests, ads, or festivals. In some instances, the profile owners change the profile image to remember certain events, activities, or people. Finally, a change in the profile image may result from a major life event or a shift in the mood of the individual profile owner. A broken relationship triggers users to exchange profile images showing a couple with any other available image that excludes the ex-boyfriend or girlfriend.
Different Facebook users have different motives for changing their profile pictures. To begin with, some may want to commemorate a trip; others remember a certain event. Second, profile images are used to advertise events and causes. Publicizing a social event has become one of the most significant social activities displayed on Facebook profile pictures. Third, the social network profile owners use pictures to visualize their identities and backgrounds. They may post not only flags but also images of specific events that are intelligible only in their own contexts. Fourth, profile pictures are sometimes changed to remember or forget some incidences. Some profile owners replace their profile image with a new picture to escape from the haunting feelings and thoughts of the past. Furthermore, the users change their profile picture to nurture the existing or future connections such as searching for a job or meeting people in the offline context.

Hence, the interview and survey data results answer the first research question: “What are the fundamental processes involved in the production of profile images?” The data show that there are a number of processes involved in profile image production. Social network users take several issues into account to choose the profile image, for the image validates the visual presence of the profile owner in the online context (Uimonen, 2013). Profile owners consider not only the setting suitable for the profile, but also picture traits and the social connections. Sometimes, they intentionally choose pictures to show certain things and events. Other users edit their profile images to fix flaws and make the picture suitable for public display. Sampled Facebook users do not necessarily decide that they should capture profile images in particular contexts. Yet, the offline context dictates what images to use and for how long. The profile owners consider the impact of a certain event in the past and use images from such events. They consider that the profile picture carries an important message, apart from representing the individual online. It should be noted that profile images are chosen based on the users’ motives which differ from person to person.

Similarly, the second research question, ”What perceived functions does a profile picture play in the context of social networking sites?” has been elaborated in
this research. The profile image conveys different things to different people. The interview and survey results show the different roles of profile images. The image primarily shows the identity, feelings, emotions, or desires of the profile owner. While the profile image is relatively unimportant for close friends and relatives, it is crucial for new acquaintances, distant friends, or future connections. Apart from informing significant others on the state of the profile owner, the profile picture does not provide detailed clues, as the significant others know him or her well in the offline context. On the other hand, the profile picture shows the interests, developments or identities of the profile owner to new acquaintances and distant friends to a much greater extent.

The collected visual data yielded four types of profile image acquisition techniques: candid, enhanced, manually drawn, and borrowed. The data analysis shows that candid images are the most widely used profile pictures among sampled students. The candid image category constitutes 83.2% of the total collected images followed by edited (12.2%), manually drawn (2%), and copied images (2.5%). The visual data result shows the same pattern with the survey data [refer to Figure 6 on page 101 and Figure 10 on page 118 for comparison]. Hence, the majority of sampled Facebook images and survey results show the characteristics of posed appearance; yet, social network profile owners may not want to present exaggerated images for online friends who may know them very well in the offline context. Exaggerations and enhancements made to candid profile photos may generate a backlash of criticism by close friends and family members, who may, in turn, consider enhancing profile images as a reflection of deviant behavior. Hence, genuine profile images are the most valued and carry the most appreciated information that the studied young adults want to convey to the social network.

Nevertheless, interview and survey results demonstrate that the social network users at Duke University and Jacobs University sometimes edit images for other purposes different from profile picture presentation. Picture editing apps are the most commonly used applications on digital cameras. Microsoft Paint and Microsoft Picture Manager, iPhoto, and Preview are some of the image editing software programs that are used by the participating young adults. In addition,
some research participants say that they use third-party commercial software (e.g. Photoshop). However, research participants affirm that they rarely edit their profile images, for they believe edited images are perceived as misleading [refer to Figure 6 on page 101 and Figure 10 on page 118 for more details]. Enhanced images cease representing the profile owner. Editing eliminates nostalgic cues captured at a particular moment.

Sometimes, Facebook users enhance their images to fix flaws related to the camera, lighting, or color. They may consider editing as the last resort to increase the quality and fix the shape and size of the images. Social network users can montage their images to create visual narratives of events condensed in space and time in a particular context [refer to figure 12 on page 123 for details]. Moreover, users may apply alterations that indicate complete deviation from the photographed object (e.g. changing the color) or partial deviation (using filters) [see images on pages 121 and 123]. In fact, editing can subvert reality on an unprecedented scale (Adatto, 2008: 65-66; Garry & Wade, 2005; Sturken & Cartwright, 2005).

Young adults may also copy images from close friends, acquaintances, or strangers with or without consent to promote individuals, organizations, products, companies, causes, or events [see copied images on pages 128-131]. In some instances, copying and posting an image of a person, an inanimate object, or an infographic can serve a promotional function. The process of using copied profile images conveys the intricate complexity of social communication, which can also mislead the viewers.

The collected visual data indicate that handmade profile images are rare compared to other types of profile images. Manually created images included not only screen copies of textual elements but also hand-drawn cartoons and sketches [see manually created images on page 135]. Users draw images when they want to express their feelings. Depending on the context, manually created images may be copied from other sources. Yet, images were also copied from other sources depending on the interest of the user. It is necessary to know more about the background of the profile owner to fully understand the reason he or
she draws images. Generally, the hypothesis “The majority of Facebook profile images are realistic-looking photo portraits of modified or infographic images.” is accepted. 83.5% of the research participants used unenhanced images. Moreover, images that use different techniques are very few. The hypothesis, “images using different technique from photography are rare,” is confirmed. The sampled visual and survey data show that very few users posted manually created and borrowed images online. In other words, 95% of profile images are photographic.

One particular result of this study is a new typology of profile images, i.e., their visual motifs. Visual motifs are patterns of image content that can be identified from referents on the image. The category single-person image refers to images of unique, detached individuals in the foreground [see single-person images on page 139]. Depending on the type of the image, single person profile images have a representative function in the case of the profile owner, and a memory function in the case of a person other than the profile owner. The category couple-person image, on the other hand, shows a complementary portrayal of two persons on the profile picture [see couple-person images on page 142]. These images are primarily posted to depict the connection between two people who can be lovers, siblings, friends, or family members. The motive of posting these images is to recall past events or, in some cases, to earn some form of gratification. Group-person images contain more than two persons and show loose connection among the subjects compared to couple-person images that depict relatively stronger social bonds [refer to Figure 22 on page 145]. Generally, most social network users posted single-person images, followed by couple-person images and then group-person images. Both survey and visual data affirm this pattern. The hypothesis, "Young adults project their identities through real profile photographs than they do through non-person profile images” is confirmed. Yet, the hypothesis that single portrait images are the most frequent profile image categories” is partially confirmed. The visual and survey data confirm that a considerable number social network users post couple and group-person images as their profile pictures.
The category person image was explored from a different dimension: engagement of the subjects in the image. Profile images that contain humans portray either the identity or the activity of the individual. Identity images imply the uniqueness of the individual at rest in close-shots. The who is the most important concept in identity images. Activity images, on the other hand, demonstrate the subjects who are engaged in some form of action. In activity images, the identity of the person is partially depicted. Activity images are captured in medium or long-shots. In rare cases, the identity of the person may not be discerned, or it may not even matter. One may find a guitar, a basketball, or a pet with the human subjects on the image. These images may also depict actions such as wrestling, playing, or singing. Both activity and identity images are analyzed from the perspective of the foreground cues.

Furthermore, some profile owners may not want to reveal their visual identities for all network members [refer to images on page 150]. They may depict a part of their body to be identified by family members and only close friends but not unfamiliar people. In this way, the profile owners make sure that close friends and family members can identify them with particular attributes whereas distant friends and acquaintances should not recognize the profile owner. These images put strangers and acquaintances in potential dilemma or confusion. The motive of using these images is to allow access to the in-group friends by revealing some qualities while shunning distant friends and the public in general.

Few social network users in this study have posted non-human images as their profile pictures. Non-human images comprise animal, plant, infographic, and landscape images. The total percentage of non-person images in the sample was less than 8.5%. Animal images are used to convey affection. Flowers symbolize love and affection, too. Infographic images promote certain causes, organizations, or products. They are intended to communicate the attachment of the profile owner to what is advertised in the image. Artifacts and landscape images express personal interests. Generally, the non-human images hide the identity of individual profile owners while they reveal users’ interests and likes at the same time.
Social network users convey messages to the viewers by posting profile images in which the subjects interact among themselves. Interactions can be made between humans (human-human interaction) or humans and nonhumans (human-nonhuman interaction). Human-human interactions can be explored from the dimensions of the family, peer group, or sexual partner. Human-nonhuman interactions are made between humans and flowers (plants), humans and inanimate objects (artifacts), and humans and animals (both wild and domestic). The purpose of posting profile images that contain these interactions is to express users’ feelings towards these objects or living things.

This study also analyzed photographic perspective. Photographic perspective includes the subject’s distance from the viewer as well as the horizontal and vertical camera angles to the human subjects. Camera distance can be used to reveal or partially disguise a user’s identity. Extreme long- or extreme close-shots are intended to disguise the profile owner whereas close-up shots depict the photographic identity of the individual. Close-up shots demonstrate profile owners’ desire to depict intimate feelings to the viewers whereas long-shots primarily depict the surrounding environment on the image (Kress & Van Leeuwen, 1996; Mullen, 1997; Zillmann, Gibson, & Sargent, 1999). Medium-shots conciliate long and close-up shots. A balance between the context and the subject is negotiated in the case of medium-shot images (Kress & Van Leeuwen, 1996). Facial expressions are largely eliminated in long-shot images, but the context (the background) is given more emphasis. The result of the collected data shows that the majority of the social network users post close-up (57.2%) shots that show the identity of the individual, followed by medium-shot (25.3%) and long-shot (7.8%).

Camera distance contains crucial information about the profile image. The varying size of both the background and foreground cues is an important element in self-presentation. The complementary relationship expressed in medium-shot between the background and the foreground cues implies the background as a setting and the foreground an identity. Long-shots and close-shots give emphasis on the background and the foreground, respectively. The difference in emphasis implies unequal status. More space for the foreground
subject means that more emphasis is attributed to that subject and vice versa. In this case one of the cues becomes either dominant or subordinate. Medium-shot balances the foreground and background cues.

Different types of horizontal camera angle images contain different messages. Frontal camera angles are the most conventional ways of depicting the identity of the profile owner [See sample images on page 180]. Also the face, which reveals the emotional displays of the individual, is mostly shown in frontal shots. Three-quarter images reveal the extended detail of peculiar traits of the individual [See sample images on page 181]. The difference between three-quarter images and frontal images is that the former shows a detail of half of the face plus one fourth of the other side of the face, whereas the latter depicts the compressed full face. The least used of all the camera angles in the context of Facebook profile images are rear-shots. The motive of displaying the rear body of the profile owner is that the users do not want to confront the photographer or the viewer in an act of negligence and abandonment (Messaris, 1997: 38). Some Facebook users are also seen gazing beyond the horizon [See sample images on page 183]. The profile owners post these images when they are caught in thought or when something unpleasant happens to them. Mixed image categories, which are applied to couple or group-person images, contain the combination of rear, three-quarter, or frontal subjects at the same time [See sample images on page 185]. The result of the survey shows that 49% of the uploaded images characterize profile or frontal shots followed by three-quarter (25.4%) and mixed (14%). The rear-shot constitutes only less than 2.6% [see details on page 178].

Similarly, the role of vertical camera angle in self-presentation was detailed in this research. All person images are classified into high-angle, eye-level, or low-angle shot categories. The category high-angle shot refers to a view of the photographed object from above. High-angle images are captured during specific occasions. Eye-level shots are considered to be neutral because they depict the mood of the individual in a relaxing environment. These images are not constrained in space unlike the high-angle shots. Eye-level images are taken during mundane occasions. As it can be seen from the Figure 42 on page 187, the
vast majority of social network users use eye-level shots. Unlike high-angle shots, eye-level shots do not depict the individual in a submissive position (Kress & Van Leeuwen, 1996: 146). Low-angle shots, on the other hand, depict a different type of pose; it glorifies the power of the individual (Kress & Van Leeuwen, 1996: 146). Social network users look powerful and aggrandizing in these images (Messaris 1997: 38). The hypothesis, “Young adults prefer frontal-close-up images to high or low camera angle with long or medium-shots for their profile images,” is partially confirmed. The majority of the social network users post frontal (49%), close-up (57%) and eye-level (78%) images. Other combinations also exist, but they are very low compared to other types of shot perspectives. The low camera angle (5.8%), medium-shot (25%) combination is very low. Therefore, photographic perspectives are vital to understand physical displays (Astheimer, Neumann-Braun, & Schmidt, 2011).

So far, this thesis has presented a synthesis of previous studies and results generated in this research. The thesis differs from the previous studies in that the former focus on the process of profile image production, functions of profile images, visual motif and photographic perspectives whereas the later primarily explores gender differences in image poses. Few topics (e.g. photographic motif) have been partially examined in the previous studies; however, the author of this thesis has identified several inconsistencies in the way profile images in previous studies have been categorized (read pages 35-49 for the details of these inconsistencies). The author believes that visual motifs have been extensively addressed in this thesis. Yet, it is important to have a comprehensive summary of the previous study juxtaposed with the current study. Major findings on profile images have to be recapitulated and synthesized.

Strano (2008) conducted an online survey to answer questions related to the picture-posting behavior and image interpretation practices of college students on Facebook. Users described about their profile images. Respondents said they chose their current profile images because they found them attractive, humorous, memorable, or romantic. The participants felt that people who saw their profile pictures would consider them as fun loving, friendly, happy, unique, athletic, or proud of a relationship. Moreover, Strano (2008) attempted to
discover what prompted users to change their profile image: to replace their old image, to show appearance for others, and to show a particular event they took part in.

Hum et al. (2011) conducted a study on identity construction and gender roles by comparing and contrasting the content and amount of profile photographs of male and female Facebook users in the United States. The researchers analyzed if there was a difference in the way male and female students post profile pictures. In total, 150 students (40% male and 60% female) from the researchers’ list were sampled. As indicated in the literature review section (Pp. 35-49) and Table 4 below, six categories were generated to identify gender difference in posting profile pictures. The result showed that the majority of Facebook profile photographs tended to be inactive, posed, appropriate for all audiences, and include only the subject. The result also disclosed that there were no significant differences between male and female profile pictures for all categories (Hum et al., 2011: 1831).

The study by Astheimer, Neumann-Braun & Schmidt (2011: 33) examined how young people introduced themselves on social networking sites through profile pictures. They identified different types motifs and aesthetics on the social networking sites. The major classifications of Facebook profile images were Person and Dummy where images in the former category revealed the identities of the individuals; the latter disguised (masked) users identities. Only 10% of the subjects selected Dummy image. The study result showed that only few social networking users posted passport type of profile pictures, for passport photo motif tended to look like “a blank page,” (Astheimer, Neumann-Braun, & Schmidt, 2011: 52). The Researchers also investigated body poses of Person image category. The self-portrait is the most common type of profile photograph posted on Facebook. In addition, the results showed that flirt, model, thinker and greeting poses follow self-portrait. Females present themselves in flirt pose, males in thinker and greeting poses. Next, concealment and rejection which represented mummery and gestural poses are used more frequently by males than females. Moreover, fictionalization, which is used more frequently by females than males, constitutes 10% of profile pictures.
This thesis (Mellese, 2014), investigates Facebook profile images from production, visual motif, and photographic perspectives. As far as the author of this thesis understands, all previous studies focused on the end product – the profile image, and the production aspect of profile images has been a highly neglected area. Interview and survey results showed that users crafted their online visual persona very carefully. Profile owners ponder the poses that best suit their perceived identities online. The second section focuses on the production technique. This was particularly generated from profile images, interview and survey results. The vast majority of social networking site users prefer to use candid, person profile images, for modifying entails misleading relatives and friends. Moreover, Other aspects that impact users depict themselves were analyzed. The distance of the photograph from the camera as well as the position of the face from the camera or viewer are important aspects of self-presentation that have not been addresses so far. The majority of the profile images are close-up, frontal, eye-level photographs intended to convey authentic self-presentation and form genuine users’ identities.
<table>
<thead>
<tr>
<th>Researchers/ Research Location</th>
<th>Research Question</th>
<th>Sample Size</th>
<th>Analyzed/Compared</th>
<th>Method of Analysis</th>
<th>Results/ Findings</th>
</tr>
</thead>
</table>
| Strano (2008)/ Primarily from USA | • What patterns are there in the types of images posted?  
• What meanings do users ascribe to images?  
• What criteria are used in choosing images?  
• Do practices and interpretations vary by age and/or gender? | 427 online survey respondents     | Gender Age        | Open-ended qualitative survey  | • Women tend to change their profile image more often and to emphasize friendship in the images they choose to display.  
• Both men and women are equally likely to display images of family and romantic relationships.  
• Older users are less likely to change their profile images frequently and more likely to display images of themselves alone. |
| Hum et al. (2011) /USA          | • What is the content and amount of college students’ Facebook profile photographs?  
• Does the content and amount of college students’ Facebook profile photographs vary by gender? | 150 profile pictures              |                  | Content Analysis               | • Facebook profile photographs tended to be inactive, posed, and appropriate for all audiences.  
• There is no significant difference between male and female profile pictures for all categories.                                                     |
| Astheimer, Neumann-Braun & Schmidt (2011) / Switzerland | • How do young people introduce themselves on social networking sites through profile pictures?  
• What are the different types of actions (motifs and aesthetics) observed on the social networking sites? | 650 telephone calls 50 interviews 12 group discussions | 1. Dummy 2. Person number of people interactive pose (flirt, viewpoint, mummery, model, gestural, image editing occasions) | Content Analysis Ethnography Observation | • The self-portrait is the most common type of profile photograph followed by flirt, model, thinker and greeting poses. Concealment and rejection are represented by mummery and gestural poses.  
• Females present themselves in flirt pose whereas males in thinker and greeting poses.  
• Mummery and gestural poses are used more frequently by males than females.  
• Fictionalization is frequently used by females. |
<table>
<thead>
<tr>
<th>Researchers/Research Location</th>
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<th>Sample Size</th>
<th>Analyzed/Compared</th>
<th>Method of Analysis</th>
<th>Results/Findings</th>
</tr>
</thead>
</table>
| Mellese (2014)/Germany & USA  | • What are the fundamental processes involved in the production of profile images?| 1028 profile pictures | 1. Image Acquisition  
  candid, modified, manually-drawn image, copied | Iconology-Iconography Content Analysis Visual Context Analysis | • Facebook users spend a considerable amount of time selecting, editing, uploading, and viewing their profile images.  
• Profile image are intended to show identities, feelings, interests, or desires of profile owners.  
• The vast majority of Facebook users prefer to use candid profile images.  
• Online identities are projected through person photographs than non-person images.  
• Couple-person image is as widely used as single-person and group-person images.  
• The majority of the profile images are close-up, frontal, eyelevel photographs, which are intended to convey authentic self-presentation. |
|                               | • What perceived roles does a profile picture play in the context of social networking sites? | 90 Survey respondents | 2. Visual Motif  
  person, non-person | | |
|                               | • What are the preferred profile image techniques of acquisition?                  | 7 in-depth interviews | 3. Photographic Perspective  
  image distance, horizontal camera, vertical camera | | |
|                               | • What are the visual motifs that are prevalent on social networking profile pictures? | | | | |
|                               | • What are the most dominant shot perspectives prevalent in social network profile pictures? | | | | |

*Table 4. Comparing previous and current research on Facebook profile images*
The four studies summarized above investigated Facebook profile images from visual, interview (in-depth and telephone), survey and ethnographic data. Strano (2008), Hum et al. (2011) and Astheimer, Neumann-Braun, & Schmidt (2011) have primarily explored gender differences in relation to image posting behavior. When Strano (2008) and Astheimer, Neumann-Braun & Schmidt (2011) found significant gender difference in the way males and females post profile images, Hum et al. (2011) did not find significant differences in the content and form of profile pictures posted by male and female college students. The difference in the results can be due to the difference in the sampled data. Hum et al. (2008) used only Facebook profile pictures; Strano (2008) and Astheimer, Neumann-Braun & Schmidt (2011) used interviews and self-reported survey methods. Moreover, Strano (2008) and Astheimer, Neumann-Braun & Schmidt (2011) used random sampling when they collected the data, whereas Hum et al. (2011) used convenience sampling. In this case, the difference in sampling procedure might have resulted in different results. Moreover, the socio-cultural differences among the research participants might have impacted in the way they post profile images. This study (Mellese, 2014) did not attempt to identify gender difference.

Posing is a very important profile image category investigated by Hum et al. (2008) (candid or posed), Astheimer, Neumann-Braun & Schmidt (2011) (identification, flirt, viewpoint, mummy, model gestural) and Mellese (2014) (activity or identity). These classifications are identified mainly from the profile images. The results generated from these three studies show that the majority of sampled profile pictures depicted some form of interactive poses. The study subjects in these images were aware when their profile pictures were taken. This is depicted in the way they react in front of the camera. Mellese (2014) showed that users chose carefully selected images to convey user-intended (personal or group) messages. Moreover, the majority of images are frontal and eye-level. Survey and interview results indicate that most social networking users evaluate their poses in the picture before they post them online.

Mellese (2014) found that the majority of users posted unenhanced, generic images. Similarly, Hum et al. (2011) found that profile images were appropriate
for all audiences. Most social network users consider the appropriateness of their profile images; they contemplate the sentiments of close friends and significant others before they post individual or group profile images. Posing in a certain way is intended to convey personal or group messages. Enhancing gives an image a different look even though it is sometimes difficult to identify subtle enhancements made to the image. Enhancement in this study refers to visible changes made to images such as color manipulation, montaging or filtering. Candid/posed images show actions of the subject in the camera. Posed images show weather the subject in the image intentionally posed to get him or her captured. Enhanced/ unenhanced images are activities carried out on the camera or personal computer after the image is captured. Candid or posed images can be enhanced or unenhanced. Studies show that most profile pictures are posed (Hum et al., 2011) and unenhanced (Mellese, 2014). However, this study documents that profile owners believe deviated images might make them a topic of discussions among close friends and family members. Therefore, the majority of the social networking users post generic, authentic-looking images so as to mitigate discussions among network members.

The results of all four studies demonstrate that the self-portrait is the most widely used profile image. The survey report by Hum et al. (2011) and Mellese (2014) demonstrate that the majority of social networking users posted images of themselves. Self-portrait is believed to be appropriate for all audiences as it shows the actual person that owns the profile. Detailed interview and survey results indicate that the majority of the subjects use personal images that contained one subject (Hum et al., 2011). However, such claim depends on the time or occasion that prevail in a particular socio-cultural context (Mellese, 2014). During particular occasions, social networking users may post couple or group-person images that depict membership, identity or belongingness. Posting different images in different contexts ensures social validation.

Astheimer, Neumann-Braun & Schmidt (2011) observed that 10% of adolescents and young adults selected Dummy image for their profile picture. This figure is comparable to the result of this study (Mellese, 2014) which showed that the non-person image category accounted for 8.5% of the total images collected. The
non-person images are intended to hide the identity of the individual. Moreover, fictionalization or artification, which is used more frequently by females than males, constitutes 10% of the total profile pictures (Astheimer, Neumann-Braun & Schmidt, 2011). Similarly, the percentage figure that is used to show edited/enhanced images (montaged, color manipulated, or filtered) constitutes 12.2% (Mellese, 2014). The studies yielded comparable results.

The studies summarized above have elaborated on how social network profile images are used in self-presentation and identity construction, and whether gender difference affects selection of profile images. The researchers used different types of data and followed different data collection procedures, which might have resulted in differing results. Also a number of factors might have affected the results of these studies. Apart from gender difference, the socio-cultural and socio-economic factors might have impacted in the way students posted their profile images. Moreover, two of these studies explored profile images from interview or online surveys, for the final goal of these studies is the contents of the profile images. Furthermore, since the studies focused on a small portion of the population in researchers’ environs, the results generated from few subjects may not be a representative sample of a larger population.

This thesis has given an elaborated explanation of both previous studies and current overarching questions regarding profile images, which play an instrumental function in online identity formation and self-presentation. This thesis differs from previous studies in that the previous three studies focus on gender difference in poses whereas this study focuses on image production, visual motif and photographic perspectives. Investigating the production aspect of profile images is a crucial step in understanding identity formation and self-presentation. In addition, the thesis investigated the photographic perspectives. Even if Astheimer, Neumann-Braun & Schmidt, (2011) did not elaborate on the photographic perspectives, they contend that the photograph is the interplay between actions of the subjects in the picture and handling the camera. This study generated that most users pose in close-up, frontal, eye-level images to depict authentic self-presentation.
7. Conclusion

Even though the data collected here are primarily intended to analyze visuals on social networking sites, this study showed the complex relationship between visual production, self-presentation, and computer-mediated communication. Visual production as a process entails selecting appropriate setting, fixing flawed images, enhancing photographic images on a computer, camera (phone), or online, and uploading images on social networking sites. Visual production also includes manually creating images, copying other images from third-party sources, and uploading them online. Uploading personal images entails users' willingness to share their visual traits with other network users. Many users go online for visibility and presence (Uimonen, 2013: 124). The process of selecting images for online self-presentation requires users to select images that carry user-defined traits; they carry photographic attributes of production technique, visual motif, and photographic perspective: distance, horizontal, and vertical angles. Profile owners may capture and select images that carry their favorite traits.

The processes of image production and online self-presentation occur in a computer-mediated environment. Computers and (phone) cameras are very significant tools in the process of visual production, self-presentation, and broadcasting images and texts in a network visible for other members. When the production of the image needs only production equipment, storing and viewing them needs at least a networked device and other screen to view these images. This process includes the producer's (phone) camera or personal computer, the server where the image is stored, and the viewer's phone-camera or personal computer. Hence, self-presentation in computer-mediated communication can be analyzed from the Shannon & Weaver model of communication. What makes the process of online visual communication and self-presentation different from traditional models of communication is that visual production in computer-mediated communication is hyperpersonal (Walther, 1996). Image production is communicated asynchronously; users need some time to choose a relatively stable, suitable profile image which produces efficient communication (Walther,
The profile owner makes use of computers to produce images, decides which pose best describe him or her, and makes it available for others to view.

The discussion throughout the thesis reveals that the question of online self-presentation in images is not about the individual; it is essentially about associated elements: the event, the subject, the photographer, and the technology. Some events are captured at particular times and are recorded with the help of technology – the camera; they are communicated with the help of the communication network – the signal; they are viewed with the help of an electronic device – the mobile phone or the computer. Hence, images displayed on the social networking sites are more than photographs. They contain associated traces of events, technologies, and communication contexts. Accordingly, the photograph is the cultural, historical, and psychic investment (Lister, 2004). The meaning these images carry is beyond their recordings (Bock, 2004). Hence, the processes of visual production, online self-presentation, and computer-mediated communication are highly interconnected. The computer-mediated communication network makes the profile always visible for other users who are allowed to see the profile image, post messages, comment on the profile, or share images. Social network profiles are always available even when the profile owner is not online (Uimonen, 2013: 124).

Different profile images involve different processes of production. The production of candid or enhanced profile images involves three stages: pre-production, production, and post-production whereas other types of images may skip some or all of these stages (e.g. direct copies). These processes of production are too seamlessly integrated to draw a line of demarcation. Profile image production cannot be materialized in the absence of computers and phones that can perform the function of production, processing, and dissemination of the photographic image. In other words, individual users become visible through these devices. The existence of networks make the visual production process, self-presentation, and computer-mediated communication traverse across time and space. Online self-presentation cannot be dissected from computer-mediated communication and visual production.
The proliferation of digital cameras (phones) made everyone a potential photographer (Adatto, 2008). Images are captured with a (phone) camera, enhanced on a personal computer, and uploaded on a network to present the profile owner for other network members. Yet, digital technology has eroded the significance of photography (Adatto, 2008; Garry & Wade, 2007; Sturken & Cartwright, 2005). The tensions of making images authentic on one hand and positive on the other made image production much more complicated. Authenticity is very crucial in the case of Facebook where impressions are formed based on user profiles. That seems the reason for the majority of images to be authentic. Images should be able show life as it was (Sontag, 1977, Van Dijick, 2008). Therefore, profile pictures are intentionally chosen. They are produced not for significant others but for new acquaintances and distant friends.
8. LIMITATIONS OF THE STUDY & FUTURE RESEARCH DIRECTIONS

This study is not without limitations. First, the visual, survey, and interview data obtained for the study are not representative samples of the global Facebook population. This study is not intended to generalize the visual production, self-presentation, and computer-mediated communication processes of global Facebook users. In fact, it is impractical for any researcher to select a representative sample from the 1.11 billion global Facebook user population. The socio-cultural, socio-economic, and socio-political statuses of individual users coupled with gender and personality characteristics make the sampling process impracticable.

Initially, the author of this thesis planned to conduct ten interviews from at both Duke University and Jacobs University Bremen. The image production section is generated from seven research interview participants and 90 online survey results. Each in-depth interview lasted from 1:00 to 1:30 hours. Both males and females were included in the interview. Two Asian (China and India), two African-American, two European (Sweden and Germany), and one African (Kenya) were included in the study. Two research participants cancelled the appointment due to personal reasons, and one of them informed the author that she was not interested in participating in the research. Nevertheless, the research participants did not differ in their experience regarding image production, and conducting more interviews, in the author’s opinion, was unnecessary. The data generated from 90 online respondents complemented the interview data. Several questions designed for the interview respondents were also included in the online questionnaire, which is sufficient to generate the data.

Lack of previous work on image studies made the coding process the most challenging part of this study. Few attempts have been made on profile images and their roles in the context of online self-presentation (Authenrieth & Neumann-Braun; 2011; Hum, et al., 2011). Yet, these research reports mixed image forms with contents, and it was not possible to adapt these visual categories. Using content analysis and visual context analysis (Müller, 2011),
categories that contain the forms were distinguished from the content of the image. During the coding process, attempts were made to generate comparable image characteristic labels. Content analysis and visual context analysis were the most helpful to make neutral classification of images. When content analysis was used to generate image typologies, visual context analysis was employed to describe the contexts in which different images are produced. It was particularly important to connect profile images and the context in which these images are produced, uploaded, and perceived. In this way, mutually exclusive visual motifs were framed anew where the interview and the survey data provided the contexts of the images. Moreover, photographic perspectives and associated categories were framed broadly to include all images that exist in these two institutional networks. Moreover, theoretical approaches to analyze profile images are very scarce. Content analysis was used to analyze the interview and survey data. The only theoretical approaches the author used here are content analysis (Bell, 2002; Schreier, 2012) and visual content analysis (Müller, 2011).

This thesis cannot address all research questions pertaining to online images and their roles in visual production, self-presentation, and communication. Visual communication researchers can explore the nexus between the image, self-presentation, and the profile owner. In addition, images are not the only profile elements that are used for self-presentation and communication. User-generated and computer-generated cues impact the way other social network users perceive the profile owner. Images and texts as well as other features (e.g. affiliations) of the profile owner help social network friends understand more about his or her identity. Text-image complementarity is one of the most important research areas that have not been explored in the context of social networking sites.

The profile owner produces profile images for online self-presentation. Yet, it is not clear how the textual and visual profile elements are synchronized and perceived. In the context of social networking sites, images are liked, shared, and commented on. The presence of “like” and the absence of “dislike” buttons is another interesting fact that makes intricate connections between profile owners, institutions (in this case, Facebook), and profile viewers. As far as the
author’s knowledge is concerned, no research has been conducted so far on how comments and likes facilitate communication and self-presentation. It may be fruitful to conduct a comparative study of whether liking an image is similar to liking a status update or liking a comment.

There seems to be a huge difference in the way people post their profile pictures on gaming and dating sites compared to communication sites such as Facebook. All social networking sites allow users to post profile images. This can be compared and contrasted. Researchers may uncover the motives behind posting these profile pictures. They can also explore whether there is a relationship between the purpose of the social networks and the type of images posted on these sites. Facebook has more than a billion users partly due to the contributions of visual imagery to user self-presentation.

The way social network users communicate online is a very interesting social phenomenon today. Communication can be accomplished when two or more people trust each other. Trust is developed when the profile owners frame their online persona in ways that suit the profile viewers. The role of images in developing trust may be crucial. The images that are posted on the social network sites usually range from professional-looking to casual snapshots. The notion that Facebook has become the most widely used social network just because the majority of the social network users post candid images may need empirical support.

Moreover, the heterogeneous nature of the social network users may reveal differences in usage behavior. Facebook users in Sub-Saharan Africa may depict a different type of usage behavior compared to the Western counterparts. By the same token, Facebook users in Western countries may view profile images differently from those who live in East Asia. Hence, studying the diversity of the social network users on a global scale can explain how self-presentation is portrayed around the globe. The anthropological approach of visual communication (e.g. Uimonen, 2013) may contribute a lot in understanding the role of profile images in different regions and contexts.
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http://www.socialtwist.com/sharing-trends-2010


Annex 1. Coding terminologies, definitions and visual examples

1. Production Technique

<table>
<thead>
<tr>
<th>Major Category</th>
<th>Definition</th>
<th>Sub-category</th>
<th>Definition</th>
<th>Example Images</th>
</tr>
</thead>
</table>
| Photo          | All images that are produced with the help of camera. | Unmodified Photo | • A candid photograph of a person, animals, artifacts or other identifiable object.  
• It is color, and realistic looking. | Jacobs | Duke |
|                |            | Enhanced Photo | • A realistic looking photograph whose properties are modified either on PC or camera by montaging, color manipulation or blurring. | |
| Non-photo      | All other images that do not involve user cameras in the process of production. | Manually Created Images | • Drawn on a personal computer or paper. Individuals use drafting materials or computer software to produce these images. | |
|                |            | Borrowed Images | • Images produced by someone else because the user cannot draw this types of images or are copy-righted. | |

All images that are produced with the help of camera.

Unmodified Photo

• A candid photograph of a person, animals, artifacts or other identifiable object.
• It is color, and realistic looking.

Enhanced Photo

• A realistic looking photograph whose properties are modified either on PC or camera by montaging, color manipulation or blurring.

Manually Created Images

• Drawn on a personal computer or paper. Individuals use drafting materials or computer software to produce these images.

Borrowed Images

• Images produced by someone else because the user cannot draw this types of images or are copy-righted.
## 2. Visual Motif

<table>
<thead>
<tr>
<th>Major Category</th>
<th>Definition</th>
<th>Sub-category</th>
<th>Definition</th>
<th>Example Images</th>
</tr>
</thead>
</table>
| Person Images  | Includes persons as the object. | Single | • The image contains only one person as an object.  
• The person occupies a central space in the image.  
• It may range from close-up to long shot. | Jacobs  Duke |
|                |            | Couple       | • A portrait contains two persons that may be lovers, relatives or friends.  
• Intimacy may involve touching the body or their attention towards the viewer.  
• They may display similar emotions (eg. smiling). | |
|                |            | Group        | • There are three or more subjects in the photograph.  
• Subjects in the image may pose in a similar way and may display similar emotions.  
• They may perform similar activities. | |
<table>
<thead>
<tr>
<th>Non-Person Images</th>
<th>Animal</th>
<th>Plant</th>
<th>Land/City/Sea</th>
<th>Infographics</th>
<th>Artifact</th>
</tr>
</thead>
<tbody>
<tr>
<td>An Image that does not include persons as objects.</td>
<td>• The image contains animals (domestic or wild) as primary objects.</td>
<td>• It refers to images that contain plant species as primary objects. • It may include flowers or other plants.</td>
<td>• Images in this category include places of user interest. The image may be landscape, cityscape or seascape. If the image contains a person in one of the shot types, it will be coded in person category, for the primary intention is to show the person. <em>Extreme long shot</em> with landscape images are coded under this category.</td>
<td>• These are visual representations of information or data. • Includes graphs, annotated images, symbols, modified images, maps or cartoons.</td>
<td>• A historical or cultural object that interests the user.</td>
</tr>
</tbody>
</table>
### 3. Image Perspective

<table>
<thead>
<tr>
<th>Major Category</th>
<th>Definition</th>
<th>Sub-category</th>
<th>Definition</th>
<th>Jacobs</th>
<th>Duke</th>
</tr>
</thead>
</table>
| Horizontal Angle | This category refers to the horizontal direction from which the photographic image is taken. | Frontal | • Shows full face of the person in the picture.  
• Direct and straight  
• Primarily medium and close-up shots. | ![Frontal example](image1) | ![Frontal example](image2) |
| | | Three-quarter | • Shows three-fourth of the face.  
• Mostly medium and close-up shot.  
• Subjects don’t gaze at the camera; instead, they turn their face sideways. | ![Three-quarter example](image3) | ![Three-quarter example](image4) |
| | | Rear | • The camera takes an image from the back side of the subject.  
• Most of the time medium shots.  
• It can also be long shot | ![Rear example](image5) | ![Rear example](image6) |
<p>| Vertical Angle | Moving the camera vertically to create special effect. | Low | • The camera is placed below the eye level (the subjects face). | <img src="image7" alt="Low example" /> | <img src="image8" alt="Low example" /> |</p>
<table>
<thead>
<tr>
<th>Image Distance</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
</table>
| Eyelevel       | - The subject gazes at the viewer.  
                - The camera is placed at equal level with the subject's height.  
                - Mostly taken with medium or close shots. |
| High           | - The camera is above the subject.  
                - The image may be long, medium or close-up shot. |
| Close-up       | - The subject in focus takes up at least three-fourth of the space in frame. |
| Medium         | - Shows the subject’s mid-section to the top of the head |
| Long           | - Shows the surrounding area than the tiny subject in the image. |
Annex 2. Interview Guide

Jacobs University
School of Humanities and Social Sciences
Visual Communication and Expertise (VisComX)
Interview Guide

Dear Respondent,

This interview guide is prepared to obtain information as to how social network users create, manage, and perceive profile images. The results of this interview are expected to advance academic discussions on identity formation, self-presentation and impression formation processes in the field of visual communication. Your genuine and honest response for the questions below will be invaluable contribution to generate the most reliable results.

This questionnaire guide is divided into three broad sections: image production, the role of profile image in online communication satisfaction and profile image reception.

I. Pre-production

1. Interest in photography as a subject and a photographer
Some people like to appear in as many snapshots as possible whereas others are less interested to pose in photographs. Some like to picture every interesting event, but they don't like their pictures taken. How frequently do you participate in image taking processes as a subject in the image and as a photographer taking the image or both at the same time?

2. Motives for involvement in image production
People differ in their purposes for taking photographic images or posing as subjects. Such practice depends on the intention of the person. Why are you motivated to take photographic images? Why do you want your images to be taken in particular situations?
Do you take photos when you are with other people?
Do you take photos when you are alone?
Do you take self-portraits?
How frequently?
Has your photographic self-portrait practice changed over time? Why is that the case? In the past, did you take (a) more or (b) less self-portraits?
3. **Familiarity with image taking devices**
People take images using digital cameras, cellphones, or webcams. *How familiar are you with these devices?* If you own one or more of these image-taking devices, can you *tell me the purpose for which you are using each?*

4. **The context of image production**
Those who are passionate about photography may like taking images often while others are interested in recording holidays and special occasions. *On what occasions do you involve yourself in image production both as a subject in the image and as amateur photographer?*

5. **Image production setting**
   a. What attracts your attention as a (n) (amateur) photographer? What kind of image is worth taking?
   b. What locations (and timing) would you like to take into account when you take images? (Indoors, Outdoors)? Why?
   c. What type of shot do you prefer most of the time? Long, Medium, Close? Why?

II. **Production**
1. **Recording Images**
*How many photo taking devices do you own (today):* photographic camera, video camera, film camera, integrated device (photo, video, film), mobile phone camera, I-Pad, PC or laptop with camera (MAC or PC), Other......

Do you keep digital photograph collections taken by you (self-shot), other people or by an automatic camera? Who took most of the images?

2. **Power in image production**
   • *Who passes most decisions whether the image is worth keeping after the shot? As a subject? As a Photographer? Why?*
   • *Who has the power to select the setting, pose and attire (dress?), suitable for your photographs?*

3. **Managing Photographic images**
Depending on the criteria they set, photographers decide to either *keep or discard images on the camera.* Others may take such a decision after they transfer the images onto their PC or laptop. *When do you decide whether you should keep images or discard them?*
Please ‘guesstimate’ on average, how many images do you take (a) per month, (b) per week, (c) per day? (Offer a scale: like per day: none, 1-3, 4-10, more than 10)

4. **Image Attributes**

In general, “good-looking” images are kept as mementos, whereas images that lack a certain user-defined quality are frequently discarded. If that is the case,

1. What are your criteria for labeling an image “good-looking”?
2. Have you ever discarded the picture you shot? Why? Can you tell me a particular example?

5. **Negotiating image quality & power**

In some cases, you may have snapshots of events that you value a lot but due to deficiencies of the camera (such as lack of red-eye reduction) or the lack of acquaintance of the person with the camera (for example camera shake), the image may not fulfill your standards.

1. Have you encountered such problems?
2. If “yes,” what did you do to the image to make it more appealing? What methods did you devise to correct such deficiencies?

III. **Post-Production**

1. **Storing Images**

   1. Approximately how many images do you have?
   2. Where do you store your images?
   3. Approximately what percent of your images are uploaded on the Internet?
   4. What percent of these images show you as a subject?

2. **User Standard for representative image**

   What is the threshold to decide that your image is “worth keeping” according to your standards?

3. **Familiarity with image editing software**

   3.1. Do you know any image-editing software? If your answer is “yes” which are the ones you are familiar with?
   3.2. Have you ever edited images?
   3.3. Where do you edit your images (On camera, PC, mobile devices, online sites)?
   3.4. When do you decide that your image should be edited?
4. **The Practice of image editing**

- What specific activities do apply to your image during the editing process?
  - Merge one or more pictures
  - Crop part of the image
  - Enhance the attributes of the current image
  - Other (please describe briefly): ________________

IV. **Facebook Profile Image Production**

*Content of profile image*

1. Approximately how many Facebook profile images do you have?
2. What does your current profile image show? (People, Place, Activities and Things?)
   - What does it convey?
3. Do you believe that the pictures that you have on Facebook profile shows you identity or your behavior for friends in your connections? How?
4. What criteria do you set that fulfills your image to be profile image?
5. What are the adjustments you make before and after posting profile images?

*Context of profile image use*

1. Was the current profile image taken intentionally? If that is the case, what caused you to upload it as a profile image?
2. What is the context in which this image was taken? Can you tell me about the occasion?
3. Do you think that the context in which the image was taken including (garments & things in the background) indicate your status and your identity? If so, how?
4. Sometimes you may change your profile image on Facebook. How frequently do you change your profile image?
   - Daily
   - Weekly
   - Once a month
   - Once a year
   - During specific occasions
   - I don't change my profile picture
5. What are the reasons why you change your profile image?
   - Special occasions like anniversaries
   - Change of status (from married to separated),
Change of workplace etc., birthdays...
Other events...

Profile image posting behavior
1. How important is your profile image on Facebook for you personally (important, does not matter, insignificant)?
2. Who are the audiences for your profile image?
3. Is there a message that you intend the profile image to convey? What is its purpose?
4. To what extent do you think that your expectations of conveying message(s) through the profile image are fulfilled?

The Role of profile images in communication
1. Do you have privacy concerns regarding your profile images on Facebook? If your answer is “yes,” what did you do to solve this issue?
2. To what extent does your profile image on Facebook serve as a substitute or as an enhancement of offline social contacts?
3. Do you think that your profile image plays a role in fostering communication with others on Facebook? How?
4. How much does your profile image promote your identity and way of life to your Facebook community?
5. Does your profile picture help you to form your own opinion about yourself on the Internet? How?

Profile Image and online user Communication Satisfaction
1. Is the current profile image on Facebook your real image without enhancement? How much alteration did you make to your original image? Why?
2. Are you satisfied with your communication and activity on Facebook? How much does your profile image help you in that respect?
3. To what extent are you confident in showing your image to others on Facebook? What difference exists between “you online” and “you offline”?
4. Do you change your images when you change your beliefs about yourself? If so, can you give me an incident when and why this happened?
Annex 3. Online Survey Questionnaire

Dear Respondent,

I am collecting data for my PhD dissertation (*Is the Message in the Image? Self-Presentation and Impression Formation Processes in Computer Mediated Communication*) from Jacobs University Bremen and Duke University. Both educational institutions have approved the research. This questionnaire assesses how users create, manage, and understand Facebook profiles. Your genuine and honest response is required to advance academic discussions on picture production, self-presentation and impression formation processes.

Information generated from this questionnaire is used for ONLY academic purposes. Personal data will not be made public, nor will they be used in any other way than for the above specified research purpose!

The Questionnaire approximately takes 10 minutes. It is divided into five sections: *Background information, Image production, Profile images, Image reception & Personality scales*. Instructions are provided depending on the type of question.

When you complete the survey, you will be entered into a prize draw for a chance to win two $65 dollar sandisk sansa clip mp3 music players. Please copy and paste your Facebook URL address in the space provided when you finish the survey.

If you have enquiries, please feel free to contact me m.mellese@jacobs-university.de or mam130@duke.edu

Thank you!
Mastewal Adane Mellese

I. Background Information

Please provide genuine information

1. **Age:** ___________
2. **Sex:** Female Male
3. **University:** Duke Jacobs University Bremen
4. Are you currently in a relationship?
   - Yes
   - No
   - No comment
5. What is your sexual orientation?
   - Homosexual
   - Hetrosexual
   - Bisexual
   - Transgender
   - No comment
6. Are you currently staying in your hometown?
   - Yes
   - No
7. If your answer to Question “6” above is "No," where is the location of your hometown?
   - In the same state
   - In a different state
   - In a different country
8. Are you Facebook-friend with? (multiple answers are possible)  
  Parent(s)   Sibling(s)   Relative(s)   Sexual Partner

9. How many friends do you have on Facebook currently? (Please check in your facebook account.)  
  Less than 100   between 102-300   Greater than 301

II. Image Production

Please mark the circle that appropriately describes your activity regarding image production. In some cases, more than one answer is possible.

1. If you take photographs, which image-taking devices do you use?  
   Digital camera   Disposable cameras   phone (iPod)-camera   Webcams  
   Film based camera   ipad/tablet
   Other (please describe)__________

2. If you are using a digital device to take pictures, have you discarded some of your photographs?  
   Yes   No

3. If your answer is “Yes” for Question “2”, when do you decide to keep or discard your images mostly?  
   • Immediately after the image is taken (on the camera/ipad/tablet/phone)  
   • After the image is transferred onto another device (e.g. the computer)  
   • Other____________________

4. On average, how many images do you take per month? (Please ’guesstimate.’)  
   None   1-5   5-10   More than 10

5. Where do you store your photographic images? (multiple answers are possible)  
   Hard Disk   Photo Album   Internet   CD  
   Ipad/Tablet   Phone/Ipod   Other______

III. Facebook Profile Images

Please rate the scales below according to how you feel about Facebook images. (Please use your Facebook account to answer some of the questions below)

1. On average, how much time is spent on Facebook a day?  
   ½ an hour   ½ to 1 hour   1-2 hours   2-3 hours   More than 3 hours

2. When do you access your Facebook account?  
   Throughout the day   Only in the morning   Only during lunch time   Only in the evening   During specific times   Other______

   What are the reasons for your behavior? ______________________

3. Which devices do you typically use to access your Facebook account?  
   Computer   mobile phone   Ipad/Tablet   Other
4. Approximately, how long have you been on Facebook?
   Less than 6 months   1 year   2 years   More than 3 years
5. How many images do you have presently on Facebook?
   Less than 30   31-50   50-100   More than 100
6. Approximately how many profile images do you have in your Facebook Profile-Picture Album?
   Less than 5   5-10   10-20   More than 20
7. Which of the following three types best characterizes your profile picture use? (Please only tick one box for a, for b, and for c respectively)
   a. Image type?
      Person   Land/city/seascape   Animal
      Plant   Infographic image/map   Artifact   Other
   b. Production type?
      Unedited image   Edited image
      Manually Drawn Image   (Copied) Borrowed Image
   c. Shot type?
      Long shot   Medium shot   Close-up Shot
8. If your answer is “Person(s)” for question number "3.3" above, how many?
   Single   Double   Group
9. If your answer for the above question is “Person(s),” who is in the picture?
   Other person/ I   My partner & I   My sibling(s)   My siblings & I
   My friend(s)   My friend(s) & I   My parent(s)   My Parents (s) & I
   Other(s) & I   Others
10. How frequently do you change your Facebook profile image?
    Daily   Weekly   Once per month   Once a year
    During specific occasions   I don’t change my profile picture
11. What prompts you to change your profile image?
    Special occasion   Change of status   Change of workplace
    Attractive photo   Recent photo   Other (please describe) ___
12. Why did you choose your current Facebook profile image? Please explain!
________________________________________________________________________
________________________________________________________________________

IV. Reception

Please rate the scales below based on your understanding.

1. What are the most remembered profile components that come to your mind when you think of your friends’ Facebook profile? Number them according to their visibility (1 highest, 4 lowest).
   User Name   Profile Picture
   Basic Information   Status Update
   Other (please describe):______________________________
2. What are the profile components you pay attention to when you first visit a profile of your friends? Number them based on the attention you give for each. (1 highest, 4 lowest)

<table>
<thead>
<tr>
<th>Name</th>
<th>Profile Picture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Information</td>
<td>Status Update</td>
</tr>
</tbody>
</table>

3. What roles do profile images of friends play for you as a viewer?

________________________________________________________________________
_______________________________________________________________________

V. Scales

A. Image production proficiency scale

Please indicate √ on the scale that represents your image production proficiency level.

<table>
<thead>
<tr>
<th>No</th>
<th>Item</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I take pictures during important occasions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>I discard images that do not qualify my standards.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>I change the properties of my pictures (e.g., file size) on my device.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>I change the color (e.g., to black and white or sepia) of my profile image</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>I crop unwanted parts of my image.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>I merge two or more images to create a montage.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>I adjust layers and filters of my image.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>I edit (crop, merge etc.) my picture online</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>I use preinstalled editing software to edit my images on mac/windows/Linux.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>I use commercial software to edit my images</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11</td>
<td>I use freeware to edit my images</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12</td>
<td>I have access to photo-sharing software (e.g., Instagram) on my ipad/tablet/mobile device to edit &amp; upload my images</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13</td>
<td>I upload my images to Facebook</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

B. Motives for Using Facebook

Please indicate your agreement or disagreement with the following statements.

<table>
<thead>
<tr>
<th>No</th>
<th>Item</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I have found new friends and acquaintances through Facebook.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Facebook is to me a substitute for other social contacts.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>I use Facebook to express myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>I use Facebook to form my own opinion.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Facebook makes me feel like I am close to others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Facebook helps me to cope with personal problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>Facebook promotes my way of life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
8. Facebook has a lot to offer: I can talk with my friends and acquaintances.
9. I distract myself from school stress by using Facebook.
10. Facebook stimulates my curiosity.
11. Facebook helps me in passing my time.
12. I receive real news through Facebook.
13. I use Facebook because of its current information.
14. I consider Facebook as an additional mass medium.
15. Facebook updates me on new trends.

### C. Functions of Profile Image

<table>
<thead>
<tr>
<th>No</th>
<th>My profile image…</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>represents me online</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>enhances my profile</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>carries a message I want to convey to my friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>fosters communication</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>shows my social connections</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>expresses my feelings</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>promotes my sense of belonging</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

### D. Facebook Surveillance Scale

<table>
<thead>
<tr>
<th>No</th>
<th>Item</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I visit my partner's Facebook page often</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>When visiting my partner's Facebook page, I read the new posts of his/her friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>I notice when my partner updates his/her Facebook page</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>I am generally aware of the relationships between my partner and his/her Facebook friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>I try to read comments my partner posts on mutual friends’ walls</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>I am generally aware of my partner’s Facebook activities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>I peruse my partner's Facebook page to see what s/he’s up to</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
### E. Facebook Profile Image Surveillance Scale

<table>
<thead>
<tr>
<th>No</th>
<th>Item</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Before I accept a friend request, I pay particular attention to a profile picture.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>I spend some time viewing my friend’s Facebook profile image</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>I try to understand what message my friend’s profile image conveys</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>I investigate whether my friend’s profile images are enhanced.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>I speculate why my friend changes his/her profile picture.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>I comment on my friend’s profile picture.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>I explore my friend’s online album to see if he/she uploads new profile image</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>I share my friends profile pictures</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

### F. Personality Test

How well the following describe your personality?

<table>
<thead>
<tr>
<th>No</th>
<th>I see myself someone who...</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>... is reserved</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>... is generally trusting</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>... tends to be lazy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>... is relaxed, handles stress well</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>... has few artistic interests</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>... is outgoing, sociable</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>... tends to find fault with others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>... does a thorough job</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>... gets nervous easily</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>... has an active imagination</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Annex 4. Figures for Visual Data

Figure 1. Survey Research Participants by Age (Jacobs=45, Duke, 45)

Figure 2. Facebook friendship significant others (Jacobs=45, Duke, 45)
Figure 3. The residence status of survey participant (Jacobs=45, Duke, 45)

Figure 4. Photo storage devices used by survey participants (Jacobs=45, Duke, 45)
Figure 5. Devices used to access Facebook (Jacobs=45, Duke, 45)

Figure 6. Time spent on Facebook (Jacobs=45, Duke, 45)
Figure 7. Personal images on Facebook (Jacobs=45, Duke, 45)

Figure 8. Length of time users joined Facebook (Jacobs=45, Duke, 45)
Figure 9. Visual Motif of survey participants (Jacobs=45, Duke, 45)

Figure 10. The subjects on the profile picture (Jacobs=45, Duke, 45)
ANNEX 5. Facebook profile page designs

Screenshots of Facebook Profile Designs  (Source: http://mashable.com/2011/09/22/facebook-profile-evolution/)

1. Facebook profile page in 2004

2. Facebook profile page in 2006
3. Facebook profile page in 2007

4. Facebook profile page in 2009
5. Facebook profile page in 2010

6. Facebook profile page in 2011
7. Facebook profile page in 2013