Learning to exist in Social Media:

A grounded theory about adolescents' understanding of their interactions in social media, their impact on their everyday life and the behavior they develop to manage them

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ABSTRACT

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A grounded theory about adolescents' understanding of their interactions in social media, their impact on their everyday life and the behavior they develop to manage them

Nadia Naffi

In the present context, in which social media is integrating adolescents' lives, and engaging them in extensive online interactions, it is becoming essential to understand how they mentally construe their practices in social media and whether they are conscious of learning instances happening during their interactions. Such knowledge could enlighten parents about what captivates their children and practitioners about what captivates students' attention. The literature in the domain points out to a scarcity in educational research focusing on adolescents' use of social media. Therefore, this study strived to answer two questions. The first question and its sub-questions were: What are adolescents' mental representations of their practices with social media? How do adolescents explain their behavior in social media, and its consequences on their offline life? And how do they construe their interactions with the social media apps they use inside their networks? The second question and its sub-question were: Are adolescents aware of instances of learning while in social media? And what type of learning do adolescents perceive as possible with social media? The research methodology I adopted

consisted of a qualitative interpretive protocol in a grounded theory approach. Nine participants were recruited and engaged in semi-structured interviews and construct analysis interviews. Results show that adolescents had to tackle two challenges to thrive in social media. They had to "learn [to exist]" and "learn to [exist]" in order to ensure an advantageous online presence. Consequently, they were informally learning technical, socialization and managerial skills while using social media.

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Introduction

The body of this thesis is presented in five chapters. The first chapter sets the ground for the study through first discussing the affordances of social media and its uses by adolescents and the nature of adolescents' interactions in social media. The second chapter examines the literature about contemporary adolescents and their enthusiasm about the affordances of social media. It investigates the status of social media in the classrooms and discusses the nature of learning in social media. Finally it argues the importance of understanding adolescents' savviness about social media from their own perspective and the value of choosing participants living in Lebanon for data collection. Chapter three details the grounded theory methodology chosen for this study. Chapter four presents the results of the study to answer the research questions. The last chapter delves into the interpretation of the results, in the light of the present literature and based on my experience and opinion as a researcher. It concludes with an overview of the grounded theory study, discusses its limitations and presents suggestions for future research.

Chapter 1-Background

This chapter provides a context for the study. It first presents the context related to social media concepts, that adolescents use, which include social media, social network sites, instant messaging (IM) and video sharing websites (VSW). These three types of social media consist of the context in which adolescents interact. Following this, the chapter discusses the nature of adolescents' interactions in social media, and the behavioral, developmental and social changes it engenders. It then establishes the purpose of this study and the value of choosing participants living in Lebanon at the time of data collection. It ends with introducing the research questions that will set the themes to explore in the review of literature that follows.

About Social media, Its Affordances and Its Uses by Adolescents

Social media, "is a group of Internet-based applications, [such as instant messaging (IM), social networking sites, Blogs, photo and video sharing sites and others], which builds on the ideological and technological foundations of Web 2.0, and which allows the creation and exchange of User Generated Content" (Kaplan & Haenlein, 2010, p.61). Further, boyd & Ellison's (2007) definition of social network sites has influenced many researchers such as Greenhow & Robelia (2009) and Amichai-Hamburger & Vinitzky (2010). According to boyd et al. (2007):

> Social network sites [are] web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within

> the system. The nature and nomenclature of these connections may vary from site to site (p.2)

In addition to boyd's definition, Margalit (2010) describe social networking site's roles when used by adolescents as: "allow[ing] teenagers to explore their identities, make new friends and continue to develop long-standing relationships, explore their sexuality, voice their opinions, and be creative – all normal aspects of adolescent development" (p.173). In fact, according to Pew Research Center, 93% of US online adolescents between 12 and 17 years old age have a Facebook account (Lenhart, Madden, Smith, Purcell, Zickuhr & Rainie, 2011). To note that only 12% of US online adolescents have an account on Twitter, also a social networking site, offering a microblogging service to its users, who "tweet" (send messages), with less than 140 characters (Lenhart et al., 2011).

Social networking sites allow multimedia content sharing, like pictures videos and music files (Ong et al., 2011; Varnhagen et al., 2010), which enables more channels of communication. Facebook, for instance, "one of the most-trafficked [social networking] sites in the world" allows its 600 million active users to interact on their profile pages through posting comments, sharing photo albums and blogs, suggesting links leading to stories, articles, videos, applications and other websites. This variety in ways of disclosure may explain why on average, each of Facebook's users creates 90 pieces of content every month leading to more than 30 billion pieces of content shared every month. MySpace is another example of social networking sites, engaging around 34 million users and allowing them to personalize their profile page, leading to another way of self-expression. As stated by Pew Research Center, MySpace ranks second after

Facebook, with 24% of US online adolescents having an account there (Lenhart et al., 2011).

Instant messaging (IM) has been described by the literature as a medium used to: share personal information, exchange emotional support, and facilitate group conversations (Boneva, Quinn, Kraut, Kiesler, & Shklovski, 2006; Stern, 2007). Varnhagen et al. define Instant Messaging (IM) as:

> A synchronous form of communication between two or more people, (a) using a specialized Internet application, such as AOL Instant Messenger (AIM), Windows Live Messenger (MSN), or ICQ, (b) within an online game or virtual world, such as the World of Warcraft, Instant Messenger and Second Life chat, or (c) through a social networking site, such as Facebook or MySpace Instant Messaging (p.720)

Furthermore, IM systems go beyond a simple chat. In addition to sending instant messages, IM providers such as Yahoo! Messenger, Google Talk and other, allow chatting, sharing links, sending and viewing video files and images, sharing text and audio files, talk using the internet instead of the phone line and broadcast to all its user's contact list. Moreover, many mobile IM applications such as WhatsApp (http://www.whatsapp.com/), which is a cross-platform mobile messaging application, are free of charge for their users. Other examples of IM applications are BlackBerry messenger (BBM), an internet-based application connecting BlackBerry devices users (http://ca.blackberry.com/apps-software/blackberrymessenger/), Viber, an iPhone and Android phones application, allowing free calls and messaging between Viber users (http://www.viber.com/) and Skype, when downloaded whether on computers or mobile

phones, allows free instant messaging, sending files, connecting directly with Facebook friends, individual and group video calls, screen sharing, free Skype to Skype individual and conference calls and a paying service when calling phones and mobiles (http://www.skype.com/intl/en-us/features/) .

Video-sharing websites (such as You-Tube, VideoEgg, Google video) are also communication tools that allow their users to upload, share and view videos with user-generated content. With their slogan "Broadcast yourself" the YouTube team, for example, affirm that their site "allows billions of people to discover, watch and share originally-created videos [and] provides a forum for people to connect, inform, and inspire others across the globe and acts as a distribution platform for original content creators", including adolescents. As a matter of fact, according to the You Tube statistics page:

> More than 13 million hours of video uploaded videos during 2010 and 35 hours of video are uploaded every minute, over 2 billion video views per week globally, more than 50% of videos on YouTube have been rated or include comments from the community and over 5 million people have found and subscribed to at least one friend on YouTube using friend-finding tools (YouTube, 2011)

Although only 6% of online adolescents have YouTube accounts, according to Pew Research Center (Lenhart et al., 2011), adolescents are high consumers of online videos, and YouTube is the top online video destination for 12 to 17 years old US adolescents (Nielsen, 2008). In an interview by Crowell (2011) with Chloe Spencer, a young Internet entrepreneur, a successful professional blogger and a

writer for the Huffington Post, she explained that today's adolescents see online videos as "a normal every-day type of activity"; they are the online video generation, and "it is impossible to [them] to remember the days before YouTube". Adolescents view videos and share them with their friends, whether through IM or through posting them on their Facebook wall, or Twitter.

To sum up, social media provides adolescents with tools that allow unprecedented processes of development and interaction. The section that follows starts by examining adolescents' nature of interactions in social media, their frequencies and their objectives and continues by discussing the affordances of the mobile technologies the adolescents are using.

Nature of Adolescents' Interactions in Social Media

When looking at facts, the data suggests that 93% of the American teens between the ages of 12 and 17 go online (Lenhart, Purcell, Smith & Zickuhr, 2009) with an average of 30 hours per month according to Nielsen's report (2009). While there is no doubt that they have a lot of presence, one must wonder what do adolescents do online exactly? Researchers say that they connect, invest in self-disclosure and personal contents' sharing, promote and examine the value of their friendship relations (Margalit, 2010) and explore common adolescents questions such as identity, sexuality and partner selection, in addition to other activities performed using a variety of Internet applications (Subrahmanyam & Lin, 2007). Indeed, teens use the Internet partially for entertainment, like accessing online videos, online games, virtual words, downloading music and more (Liang, Commins, & Duffy, 2010).

Adolescents mostly use the Internet to communicate with friends (Lenhart et al., 2009) to keep track of them, to update them about their lives and to look for their advice (Nielson report, 2009). To do so, adolescents write blogs and read and comment others', they create profiles on social networking sites, update them at least once a week and wait for others' reactions and respond to them (Nielson report, 2009), they browse others' pages and profiles and post comments on their friends' walls about their status, a picture or a link they shared, or even reply to their friends' friends' comments (Patchin, & Hinduja, 2010). According Pew Research Centre, 88% of American online teens (12 - 17) send instant messages or chat with a friend through a social networking site, 87% post comments on something their friend has posted, 86% post a status update, 80% post a photo or a video, 76% send private messages to a friend within social networking sites and 69% tag people in posts, photos or videos (Lenhart et al., 2011). While "stalking" (following a person online without his/ her awareness) is usually judged as harmful, it "may be emerging as an important means by which youth keep track of the many people in their networks as well as the interactions that their network members have with others" (Margalit, 2010, p. 174).

Because the technologies used to access the Internet have been changing, adolescents are no longer confined to a fixed computer or a laptop to go online (Lenhart et.al., 2010). They can now go online via their game consoles, like the PS3, Xbox or Wii, or any portable technology they have, including but not restricted to mobile phones and gadgets like the iPods and iPads. Pew research center (2010) estimates that "by 2020, a mobile device will be the primary Internet connection tool for most people in the world" (p.67). Jupiter Research, also cited by Kaplan et al. (2010), confirms that claim by

affirming that "the market for Mobile Web 2.0 evolutions will grow from a mere $5.5 billion today to an impressive $22.4 billion by 2013" (p.67), driven by the fast rise of mobile social media applications. Although the numbers talk about the entire size of the market, and our interest in this study is the teen market, nevertheless this draws a clear picture of where adolescents will be heading in few years and to which environment they are being prepared, surrounded by various media promoting social media technologies.

According to Facebook stats, out of their 600 million users, there are 200 million active users who access the network through their mobile devices and they are twice more active than non-mobile users. "I just can't imagine myself without a cell phone now . . . when I don't have my phone I always feel like I'm missing something . . ." says Samantha, a 14 years old adolescent in Thompson & Cupples's study (2008, p100). Her friend Michelle, a 15 years old teenager adds:

> "My phone's always in my skirt pocket at school, so it's just always there. And if I, like, leave it in my locker by accident, or it's in my bag, I panic 'cos I don't know where I've put it 'cos I'm used to having it in my pocket . . . it's just a permanent part of you".

Although the phone has always been important to teens, becoming mobile and compatible to a remarkable number of social media applications made a tremendous addition to its relationship with adolescent users. Indeed, mobile phones are becoming an extension of adolescents' body, creating cyborgs communicating without being constrained to concepts such as public and private, and surveillance and authority (Thomson et al., 2008). They are a technology that is being shaped by its teen group users; it cannot be predetermined by designers and journalists nor controlled by parents

and teachers (Thompson et al., 2008). Indeed, social shaping of technology (SST) theorists, Williams and Edge (1996) affirm that "studies show that technology does not develop according to an inner technical logic but is instead a social product, patterned by the conditions of its creation and use" (p.2). Adolescents use mobile phones to shape their identity, and show their distinction from others, through choosing particular models, shapes, colors, cover designs, and ring-tones (Margalit, 2010). They mainly use this tool to interact with their friends through social networking sites or instant messaging (IM) (Lenhart et al., 2010) such as SMS (Short Message Service), MMS (Multimedia Messaging Service), BlackBerry Messenger, WhatsApp, FaceTime, LiveProfile, Skype, MSN chats (Window Live Messenger), and many others. Through their mobile technologies, adolescents use social media to connect and communicate. This is their new way of living, no matter if they live in the US or in a country that looks up to the US as a model to follow.

The Canadian Internet Project (Zamaria & Fletcher, 2008) reports that: "youth and younger individuals (12-29) are the heaviest Internet users among all Canadians"; they are more likely to use wireless devices than any other group. The Canadian Youth (12–17) "use numerous cell phone applications, including text messaging, taking pictures, downloading ringtones or music, playing games, and watching videos or television, twice as often as do adult cell phone users" and are twice as likely as adults to use the Internet to downloading or watching videos (79% versus 35%) and downloading or watching movies (39% versus 18%). Text messaging via mobile phones is their new emerging mode of communication. Meanwhile, 35% of Canadian parents consider that the Internet reduces their children's other important activities.

Zamaria and Fletcher (2008) discuss in their report *"Canada Online! Report"* the fact that the Canadian youth increasingly perceive the Internet as a place to be and discover, more than a simple tool to use:

> The Internet began as a channel for specific purposes, primarily for communication and information seeking. Our findings suggest that more and more Canadians venture online primarily for engagement and interaction, using the Internet as a location to visit or an experience to undertake. Fact-finding has been replaced with exploration and discovery of place — a virtual journey or adventure. The Internet has evolved into more than just another medium. It is as much a place and destination as anything else (Zamaria & Fletcher, 2008, p.20)

The authors of this deduce that young Internet users, whom they call "the most enthusiastic adherents to this new culture", surf the Internet without preconceived objectives and share both personal and formal information in social networking sites more or less spontaneously.

In this perspective, the bottom line is that "…[a]dolescents are constantly and endlessly connecting with others" (Margalit, 2010, p.174) through social media and we have yet to understand exactly how they perceive their practices and whether they engage in conscious or unconscious learning while interacting online.

The section that follows highlights the gap of literature regarding adolescents' perception of their use of social media and discusses the value of recruiting participants living in a country that suffers from low Internet connectivity. It ends with the presentation of my research questions.

Research Questions to Be Answered through Studying an Extreme Case Group

Although many studies investigated adolescents' use of social media, focusing on their nature of interactions, frequencies, objectives, affordances and risks, in an attempt to generalize pattern of use through recalling quantitative hard evidences such as stats, we haven't found studies that tried to understand adolescents' new ways of communication from their perspective (emic), through their own impressions and assessments of their experiences in social media. Furthermore, most of those studies have been conducted in the developed world in general, and in North America and East Asia in particular. No such studies could be found in the literature regarding adolescents suffering from an urge to stay connected with their friends via social media while living in the Middle East, more specifically in Lebanon, a country ranked 160th regarding its Internet connectivity.

Therefore, this study will aim to investigate these issues through selecting an extreme case of participants to answer these following questions:

1. What are adolescents' mental representations of their practices with social media?
    a. How do adolescents explain their behavior in social media, and its consequences on their offline life?
    b. How do they construe their interactions with the social media apps they use inside their networks?
2. Are adolescents aware of instances of learning while in social media?
    a. What type of learning do adolescents perceive as possible with social media

I also selected this extreme case sample to get a sense of how adolescents may learn to juggle their social networking sites, their social networking applications and their mobile devices, and thrive and flourish with their online and offline social life, while being faced

with limited and costly megabytes, problems with Internet connectivity and the continuous technology updates. The next chapter sets down the necessary foundations for this study through providing an overview of the scientific literature in the domain of social media.

Chapter 2- Literature Review

This chapter roots the study in the literature and explains how that literature informed the research. It starts by giving a summary of contemporary adolescents' description based on both empirical and theoretical research. The chapter continues by discussing adolescents' passion about social media and the ways in which they satisfy their need for communication, while forming their identity. It then explains the most common risks that adolescents may have to face when being online. Following this, the chapter presents a review of how social media is presently being used in the classrooms. The chapter then presents evidence about adolescents' informal learning through social media, including how they develop their technological skills autonomously in order to be able to use social media efficiently. The chapter continues with a discussion about the reasons urging us as researchers, educators and society to understand how keen adolescents are about their new ways of communication from their own perspective. The chapter ends with a description of social media usage in Lebanon, where this study took place. Please note that since participants to this study lived in Lebanon, I would ideally present a description of Lebanese adolescents' use of social media in order to contextualize this study. Regrettably studies and statistics related to this population are nonexistent, as mentioned previously. To situate this study in the environment of the participants, I describe issues related to Internet connectivity and provide a description of social media usage in Lebanon.

Year 2011 Adolescents, What Makes Them Different

Understanding our targeted adolescent population's characteristics will help us identify their needs and will provide us with some guidelines to follow in order to further

investigate their interactions on social media, and make sense of them. Reader should note that the Lebanese, whether having a Canadian nationality or not, especially the young generation, are plugged into the American lifestyle, and do every attempt to adopt it whether it is through the clothes they wear, the music they listen to, the movies they watch, the school system they choose, and the technologies they adopt. The truth is, for Lebanese adolescents, the American model is the ideal model. This is why I rely on American and Canadian studies and statistics as a benchmark for this study, in order to give an overview of the current adolescents' use of social media.

Born between the years 1993 and 1999 in an environment where the Internet and the World Wide Web was being adopted by a majority of the population in developed countries, contemporary adolescents are driven by new technologies and have mastered ways to manipulate them. While Oblinger (2010) claims that "their strengths include multitasking, goal orientation, positive attitude and a collaborative style", Bennett & Matont (2010) argue that it is inaccurate to generalize the characteristics of being "digital natives" to all the members of the generation. They explain that research shows "the significant variation in the ways in which young people use technology, suggesting that rather than being a homogenous generation, there is a diversity of interests, motivations and needs" (Bennett & Matont, 2010, p. 325). To highlight this diversity in adolescents' use of technology, Bennett & Matont (2010) sum up their research findings:

> What these research findings suggest is that while there are some very common technology- based activities engaged in frequently by a majority of respondents, frequency of use and extent of use within these populations of young people beyond this subset is highly varied. There are some who engage in a wide range

> of technology-based activities, including content creation and self-publishing, at high frequencies, while there are significant numbers among the same sample who never participate in those activities (p.324)

This generation, called the "Net Generation", the "We Generation" the "Millennials" (Oblinger, 2010) or the "Y Generation", is very different from "Boomer Generation" born between 1943 and 1960, who grew up with telephones, typewriters and televisions, and from "Generation X" or "Me Generation" that is in the middle, and that started timidly to experience video games, personal computers, e-mails and transitions to CDs (Strauss, W. & Howe, N., 1991). Indeed, the "Net generation", (or contemporary adolescents) is high in individualistic traits such as assertiveness, agency (including acting as a leader and being dominant), self-esteem, and even extremes of individualism such as narcissism (Twenge, 2010). Tapscott (2009) describes contemporary adolescents, as opposed to their boomer parents with the following eight characteristics:

> They prize freedom and freedom of choice. They want to customize things, make them their own. They're natural collaborators, who enjoy a conversation, not a lecture. They'll scrutinize you and your organization. They insist on integrity. They want to have fun, even at work and at school. Speed is normal. Innovation is part of life (Tapscott, 2009, pp.6-7)

With their high need for communication and their very complex communication pattern, adolescents face two major challenges during their transition from the children's world to the adult's: identity formation and redefinition of their family relationships (Van Cleemput, 2010), both thoroughly identified in theoretical research.

Indeed, Erikson considered identity as the merely personal achievement of adolescence. According to his theory, adolescents go through the "identity versus identity confusion" stage, and if they succeed in solving the psychological conflict that emerges, they reach a solid definition of themselves and their characteristics, based on self-chosen values and goals (Erikson, 1959; Berk, 2008; Santrock, 2008; Subrahmanyam, Garcia, Harsono, Li & Lipana, 2009).

During this period, described by Piaget as the formal operational stage, individuals start thinking more abstractly and logically and attempt to solve their problems in a systemic way while developing hypotheses about the ways things happen (Piaget, 1972; Santrock, 2008). Yet, many factors still affect their identity formation. As illustrated by Mizuko Ito (2008):

> Much of the debate around identity derives from the tensions between these two aspects. I may struggle to "be myself" or to "find my true self," and there are many would-be experts and authorities who claim to be able to help me to do this. Yet I also seek multiple identifications with others, on the basis of social, cultural, and biological characteristics, as well as shared values, personal histories, and interests. On one level, I am the product of my unique personal biography. Yet who I am (or who I think I am) varies according to who I am with, the social situations in which I find myself, and the motivations I may have at the time, although I am by no means entirely free to choose how I am defined (Ito, 2008, p1)

Initiated by puberty, the adolescence phase is characterized by a rise in hormone levels and changes in body size, proportions, and sexual maturity, which provoke mixed

emotions, mood swings, and wariness about body image (Berk, 2008; Santrock, 2008). In addition to their body changes, their relationships with their parents and with their peers are redesigned (Subrahmanyam & Lin, 2007) as young people to gain autonomy from their parents' nest and become better decision makers while both questioning their parents' authority and moving towards greater intimacy and loyalty to friends (Subrahmanyam et al., 2007; Berk, 2008). Their level of self-esteem is directly associated with their peers' perceptions and the nature and strength of their relationships with them.

Several studies about adolescents' friendship networks reveal that the more these adolescents are connected the less they experience loneliness and depressed moods. Furthermore, the social support they receive from others results in an exceptional psychological well-being (Sarason, & Pierce, 1990; Nada-Raja, McGee, & Stanton, 1992; Brage & Meredith, 1993 cited in Subrahmanyam et al., 2007) and a power to overcome unavoidable challenges (Van Cleemput, 2010). Actually, Margalit (2010) explains that the adolescent's wish to belong and the communication with their friends network, aim "to fulfill their needs for social inclusion, acceptance, affection and control" (p.175). In other words, adolescents build their identity, looking at the image they want to project, through the eyes of their friends and their degree of acceptance.

Adolescents may have dyadic friendships or be part of larger social groups organized into cliques with common interests and, when grouped together, they form crowds "based on cultural and symbolic constructs" (Van Cleemput, 2010, p.75). Teenagers can smartly distinguish between the "strong ties" or close friends with whom they share intimate relationships and common experiences, and the "weak ties" who are just acquaintances or connections (Cotterell, 2007) The latter remain as important as the

"strong ties" since they contribute in constituting their social circle (Grannovetter, 1983) and the crowd they interact with (Van Cleemput, 2010).

Given the previous description of the adolescent population, and their need to connect and self-promote, the following suggests why they consider social media as essential and what are the affordances that answer adolescents' developmental necessities. Indeed, in social media, adolescents are writing themselves into being, declares boyd (2007). Away from the surveillance of their parents (Ong et al., 2011) adolescents have the opportunity to express their personal beliefs, challenge cultural assumptions and develop images of themselves, of whom they wish they were and want others to perceive them while (for the majority) maintaining an honest and true aspect of themselves (boyd, 2007).

The Reasons Behind Adolescents' Enthusiasm About the Affordances of Social Media

This section sheds the light on perceived forces driving adolescents to social media. It explains how social media provides adolescents with a place to hang out, a mean to choose their friends, a tool to express themselves, a stage to project their image and their voice, and opportunities to experiment and learn.

The first force driving adolescents to social media is that social media is a place to be. Social media is becoming a virtual living space for adolescents where they connect with friends, re-bond with previous connections and meet new acquaintances. As described previously, closeness is important among adolescents in their quest to form friendships, which in turn, shape their identity. Without social media, the opportunity to realize this proximity is either found at school where teenagers spend most of their time,

or in a nearby location such as parks, shopping malls, movie theatres and other, where they can meet after school or during the weekends (Cotterell, 1996). Meeting face to face requires a reasonable geographical distance, a mode of transportation, a budget and a well-defined and restricted time limit, which can hinder the peers' relational progress.

Being present in an Internet environment through a technological interface, communicating through social media and mobile technologies obliterates space and time boundaries and transforms social networking sites into virtual spaces where adolescents hang out, connect with friends, and expand their social circle (boyd et al., 2007; Thompson et al., 2008; Mesch, 2009; Margalit, 2010; Amichai-Hamburger, et al., 2010). As Wenger, White and Smith (2010) suggest, online spaces have become "digital habitats" where people can form their community when that community cannot exist as easily face-to-face.

The second force driving adolescents to social media is that it is an efficient connecting tool. Research suggests that social networking sites support pre-existing social relations and solidify offline connections (boyd et al., 2007; Greenhow et al., 2009; Margalit, 2010). According to Pew research, cited by boyd at al. (2007), 91% of US teens use social networking sites to search for friends and connections they already know. However, Greehow et al. (2009) found in their study that their teen participants looked at unknown connections' profiles where they examined various displayed elements such as interests and contacts and then sent some friend requests.

Social networking sites, not only allow their users to find information about one another before connecting, but also allow them to make their social networks visible and see one another's connections (boyd et al., 2007). New connections from Social

networking site's users' friends' friends' group may potentially move to their own circle of friends and additional meaningful relationships may emerge based on personal characteristics such as common languages, shared interests or goals and cultural identities, rather than geography and socioeconomic status (Greenhow et al., 2009). Similarly, posting comments through video sharing sites such as YouTube is another form of connection described by Greenhow et al. (2009) as triggering interactions that may lead to the beginning of new relationships. Ellison, Steinfield, and Campe (2007) deduced three types of social capital occurring during the use of social networking sites: "bridging capital", "bonding capital" and "maintained social capital". In other words, social networking sites serve to wider adolescents' circle of friends, provide them with a "shoulder to cry on" and reinforce their previous connections.

The third force driving adolescents to social media is that it is considered a liberating tool allowing goal-directed decisions. Adolescents' free choice of selecting their friends is also facilitated in social media. While offline communities and online communities share similar characteristics such as the presence of social norms (Reich, 2010), emotional support, friendship, categorization and social comparison, the online group is "a community of choice" (Rheingold, 2001 cited by Lehdonvirta et al., 2011). Social media allows adolescents to choose the friends they want to have, approach the ones they wish to have and block permanently the ones they may prefer not to be considered as "their friend". "You are whom you know", writes boyd (2007, p.13) when she explains in her article how friends are chosen on social networking sites. This observation that was restated by Amichai-Hamburger et al. (2010) who wrote: ''tell me who your friends are and I will tell you who you are" (p.1289). In fact, another measure,

which defines the "coolness" of teenagers, is the list of friends they have on their wall. They have the option of accepting or rejecting a friend request, and even to blocking individuals from accessing their page. Therefore, adolescents choose carefully the friends they want to be considered associated with.

To display several kinds of personal information through texts, links, images, and more, although is a form of self-publishing (Greenhow et al., 2009), it allows adolescents to identify peers with whom they find similarities and a possibility of communication (boyd, 2007). Katherine, a young participant in Greehow's study (2009) explained how she learned about her friends through their music: "It's kinda good to go on other people's pages and see what kind of songs they have… because again it tells a lot about who they are, and what they like to do" (p.131). Nevertheless, the probability of connecting with a known peer is higher than trying to approach a stranger with whom the adolescents have no previous relation (boyd, 2007;Subrahmanyam et al., 2008).

The fourth force driving adolescents to social media is that it is an environment of trust, empathy and support. In addition to being a place where adolescents hang out, social media is also a place where they can project the image they want and choose their friends based on shared interest not proximity or convenience, social media fosters an environment of trust, empathy and support. Adolescents write personal narratives, disclose online their frustrations, their disappointments and sometime despair with friends (Margalit, 2010) but also their opinions, positions, aspirations and dreams. Self-disclosure not only relieves adolescents emotionally from the need to keep secrets but also drives them closer to one another while creating a sense of intimacy, trust and

relatedness between them (Blais et al., 2008), which explains why they expect support and feedback in return (Margalit, 2010).

According to Nielsen report (2009), while in their uncertain developmental phase, teens rely on social networking sites as key source of information and advice. Away from their daily pressures (such as parents, school, etc.), with time and geographic boundaries removed and more privacy provided, adolescents' interactions increase, providing them with emotional support, social connectedness and well being (Valkenburg & Peter, 2009) and feedback about their social behavior and personality (Van Cleemput, 2010).

These connections are enabled because social media manages forms of expression that is managed differently than other media. Social media platforms allow its users to express themselves without being constrained by any misinterpreted nonverbal communication that may easily transform the content of their verbal communication. Facial expressions, body posture, eye contact and movements, tone and volume of the voice, and every taken breath or gesture consist the non-verbal cues of any face-to-face communication. Intended and unintended messages are transmitted to our interlocutors through our body language, clothing, and hairstyle and interpreted by them based on their background and previous knowledge. The removal of physical aspects of communication in the social media "brings the focus of communication to the personality or intellect of the communicating individuals" (Blais, Craig, Pepler, & Connolly, 2008, p. 523), away from the impressions conveyed by physical appearances (Ong et al., 2011) or prejudice impeding the understanding of the actual messages (Lehdonvirta & Rasanen, 2011). In social media, our expressions and intonations are not only more filtered, but also more controlled, sending a smiley face or writing "lol" (laugh out loud) will be consonant with

the message we want to convey (Varnhagen, McFall, Pugh, Routledge, Sumida-MacDonald & Kwong, 2010, p. 721).

The reduced social cues and anonymity on social networking sites and in instant messaging (IM) enable adolescents to communicate with others as their "true selves", share their inner believes and emotional reactions, experiment their social skills and identities with less fear of being misinterpreted, disapproved or judged (Blais et al., 2008; Mesch, 2009). Being less concerned about how others perceive them, adolescents embark in online relationships where they openly share private and personal contents with others, such as feelings, thoughts and experiences (Margalit, 2010). Joinson (2007) and Valkenburg et al. (2009) observed that, computer-mediated communication (CMC) promoted high levels of intimate self-disclosure. According to Margalit (2010) "[o]nline relationship and self-disclosure promote closeness due to the interaction between anonymity (that is reduced public self-awareness) and heightened private self-awareness (the individual is often working alone from private spaces)" (p.187) achieved through the technology, which allows adolescents to communicate autonomously, creatively, and innovatively and with no constraints (Ito, 2008; Saul, 2010).

The fifth force driving adolescents to social media is that it is a convenient platform to project their voices and images. Writing freely in a forum, posting on a profile page, blogging, and sharing self-produced personal videos, equip adolescents with more voices and varied methods of self-expression (Saul, 2010). Individuals create personal Webpages to present themselves in cyberspace through an image that they control and thus, control the impressions their peers form of them (Kaplan et al., 2010). Moreover, presenting varied numbers of photos is considered as one of the several

elements and criteria used by adolescents to project the image they wish their friends to define them with. Zhao, Grasmuck, and Martin (2008) observed in their study on Facebook that each user posted around 88 photos on average, mostly showing their happiness and enjoyment and about 90% of the users chose to display publicly their profile pictures and wall posts.

Living in a digital environment, with time and geographic boundaries removed and more privacy provided, gives the adolescents the opportunity to move from the conventional context of identity experimentation such as home, school, or with the company of close friends, to a prodigious cyber-milieu where socialization and identification experiences are unscheduled and inexhaustible (Lehdonvirta & Rasanen, 2011). This is due to social media's technical aspects, which allow:

> different communication strategies to fit individual preferences (e.g., asynchronous and synchronous), interactive creativity (e.g., design flexibility in one's profile page background and layout), selective hierarchy (e.g., joining different groups or keeping out members), identity posting (e.g., online biographies through photos, video, blogs, comments, status, and mood updates), and artistic forms (e.g., video posts, remixing of media, creative use of music) (Greenhow et al., 2009, p138).

Greenhow also points to the creative use of video and music as well as the mixing of media as elements of the user interface important to identity formation and sociality. With no technical expertise required, adolescents are continuously editing and modifying their online content, responding to feedbacks and engaging in a continual construction of their identity (Alvermann, 2008; Margalit, 2010).

Risks Taken From Being Online

On the one hand, social networking meets many of the psychological needs of adolescents. On the other hand, it also introduces particular challenges and dangers. With the rise of social networking sites utilization by the adolescent population, online adolescents became at risk of many dangers such as Internet addiction, cyberbullying (Internet bullying), and being easy targets to online predators and strangers.

The first danger is Internet addiction. The American Psychological Association (APA) considered Internet addiction as a "common disorder that merits inclusion in DSM-V" (fifth edition of Diagnostic and Statistical Manual of Mental Disorders). Internet addiction is also termed 'compulsive Internet use', 'problematic Internet use', 'pathological Internet use', 'Internet dependence', 'computer addiction' and 'net addiction' (Guan & Subrahmanyam, 2009). It includes, among other Internet usages, the excessive use of email and text messaging (Block, 2008). Such issues are also called cyber-relational addiction and some researchers, such as Guan et al. (2009) and Villella, Martinotti, Di Nicola, Cassano, La Torre, Gliubizzi et al. (2011), claim that it may put adolescents at risk of having problems such as tensed relationship with their parents, lack of sleep, orthopedic problems, depression, poor academic achievement and social isolation. Although APA did not define yet the line between normal and excessive use of Internet, it declared that Internet addiction was resistant to treatment and engendered significant risks on its victims (Block, 2008). Internet addiction involves these components:

1) Excessive use, often associated with a loss of sense of time or a neglect of basic drives, 2) withdrawal, including feelings of anger, tension, and/or

> depression when the computer [or any mobile device used by the adolescent to access the Internet] is inaccessible, 3) tolerance, including the need for better computer equipment, more software, or more hours of use, and 4) negative repercussions, including arguments, lying, poor achievement, social isolation, and fatigue (Block, 2008, pp. 306-307)

The second danger, as reported by Bullying Statistics (2010), is cyberbullying, which includes, inter alia, cruelty by posting hurtful or threatening messages on social networking sites, or having embarrassing moments shared with the world, sexting (sending and circulating sexually suggestive messages, photos and requests), deception, and much more, may lead its victims to depression and even suicide, also called bullycide. In fact, in 2009, 9% of Canadian adults living with a child going online, reported having their child cyberbullied: 41% of the cruelty targeted 12 to 13 years old children, 26% 14 to 15 years old, and 14% 16 to 17 years old (Perreault, 2009).

The third danger is adolescents falling into the hands of predators. According to Baumgartner, Valkenburg and Peter (2010), research has shown that communicating with strangers online increases the chance of receiving unwanted sexual solicitation" (p.1227). The fact that sexual curiosity is at its peak during the adolescence phase may lead some adolescents to engage in risky online sexual behaviors and become the victims of sexual predators (Baumgartner et al., 2010) and molesters who, most of the time, pretend to be younger people (Sharples, Graber, Harrison, & Logan, 2008).

Many unfortunate accidents happened to adolescents who were victims of this ruthlessness, whether it is bullying or being the prey of strangers, and thus, many efforts have been made to promote awareness and prevention, targeting present and potential

victims, aggressors and bystanders to take an action in stopping this inhumanity. Lenhart et al. (2011) reported that 86% of online teens receive online safety advice from their parents, 70% from their teachers, 54% from the media, 46% from sibling or cousin and 45% from friends. Such online safety advice strives to equip online adolescents with the necessary knowledge and skills to protect themselves and stand for themselves whenever detecting any wrong behavior.

According to Pew Research Center, when participants were asked if they were bullied in the last twelve months, 7% said they were bullied by phone call, 8% said they were bullied online, 9% said they were bullied by text message and 12% said they were bullied in person (Lenhart e al., 2011). In other words, adolescents are more at risk of facing bullying than cyberbullying, a fact confirmed by Finkelhor, director of the Crimes Against Children Research Center at the University of New Hampshire in Durham, who adds that "despite concerns that technology has made teasing and taunting easier, there's evidence that overall, kids are doing less of it these days. Bullying and victimization are down over the period that Internet use has gone up. It's improving" (Norton, 2011). However, one must wonder if we can say the state of bullying is improving online because there is less cyberbullying than bullying. The fact is that cyberbullying is more invisible and anonymous than face-to-face bullying and online bullies can spread harmful information about a person to a wide audience. (http://www.lba.k12.nf.ca/cyberbullying/anonymity.htm)

This section has provided an overview of social media's affordances that attracts adolescents' engagement and the risks that these adolescents may be exposed to when they are online. The section that follows examines adolescents' instances of learning

while on social media. It starts by presenting the literature related to how social media is presently used in the classrooms by educators. It continues with a working definition of informal learning, a focal topic explored by researchers while studying social networking sites, then it discusses examples of its occurrence through adolescents' interactions in social media.

Learning in Social Media

Until now, this literature review has primarily focused on what adolescents do online. But what might they be learning in this process? While online, adolescents learn formally and informally. The two sub-sections that follow explore each situation.

Formal learning happening through social media used in the classrooms. When thinking about adolescents and learning, the natural first instinct is to consider what occurs in formal settings like schools, as studying is the full-time "job" of most adolescents. But as of now only a handful of articles could be found addressing actual social media usage in the classrooms (Jonsson, 2010). Jonsson conducted a review of literature in order to investigate the status of children and young people's use of social media in educational research between 2003 and 2009. She found that "online activities, for children and young people, is a topic currently lying outside the educational research field" (p.1). In fact, when searching ERIC (2011) (world's largest digital library of education literature- http://www.eric.ed.gov/) using the following strategy: ab ((school* OR classroom* OR teach* OR learn*)) AND ab ((adolescent* OR (secondary school) OR teen*)) AND ab (((social media) OR Facebook OR twitter OR (social network* site*))), 4 articles came out as search results, and all four of them were irrelevant. Although following the same strategy in EBSCO Search Complete (world's most

valuable and comprehensive scholarly, multidisciplinary full-text research database-http://www.ebscohost.com/academic/academic-search-complete) yielded 176 hits, only few were relevant.

One of the retrieved articles actually discussed real examples of using social media in the classroom. After highlighting the necessity of integrating "the technology that we ha[d] been accustomed to in our personal lives" into the classroom, Roe (2011), a school principal, described how in his school, students used wikis to create their e-portfolios and to engage in "effective cooperative learning projects" (p.33). Teachers used Wiki to share documents with their students and to trigger discussions. Facebook was used to give updates about upcoming tests or events and Twitter was used to post warm-ups and guided conversations regarding the session topic. Roe (2011) ended his article by acknowledging the fact that, although public education had the infrastructure to support the integration of social media, it is the "most resistant organization to change" (p.38).

Other articles focused on encouraging educators to familiarize themselves with the new web 2.0 technologies such as online social networking sites, podcasts, audio mash-ups, blogs and others (Vie, 2008) while being aware of the implications that may result from adopting them in the classrooms without proper guidance (Maranto & Barton, 2009). When discussing social media in the classrooms, Michael Wesch, an associate professor of cultural anthropology at Kansas State University explained that:

> The challenge is to create our learning environment to leverage this media environment…we need to think of our learning environment as platforms for participation… and when students see these emerging tools come in, they don't

> see them simply things to entertain themselves with, which is fine, but they also see them as tools that can help them collaborate better, to create something new…we want them to use these media as tools rather than these tools start using them (2008)

Wesch used netvibes (http://www.netvibes.com/en) to create his class "platform of participation", which included Facebook application, Google news aggregator, RSS feed coming from his class Wiki, Twitter stream where students could tweet to each other, Diggo feed to go on the web and tag things and share them with the class, and a video sharing and editing application. Wesch recounts an example of his students' collaboration through social media in his class: once, before a test, he wrote on the class Wiki page forty words the students needed to know for the exam and, little he knew, in twenty four hours the forty words became eleven pages of information where students expanded on every word, adding pictures and YouTube videos. To note that: Wesch's innovative ideas were used with undergraduate students, whereas our study is interested in social media used in secondary school classroom. Nevertheless, Wesch's example gives a concrete idea on the affordances of social media when used as an educational tool.

Other professors were also dealing on an everyday basis with social media conquering the lives of their students. In her report, Tessier-Bouchard (2011) interviewed Quebec CEGEP (Collège d'enseignement général et professionnel /College of General and Vocational Education) professors and students regarding the use of mobile phones during class to go on social media. While some professors were against it and considered it as an obvious sign of disrespect, and opted to stop the class and refused to teach when these situations occurred, other professors chose to accept this generation C

(communication) with its mobile technologies, called by one of the professors: students' "security blanket". Diane Pacome, a sociologist and a CEGEP professor acknowledged the fact that we could not separate adolescents from their mobile phones, and that they would always be coming with them to the classrooms. The challenge was how to create a pedagogical relationship with this medium and its applications in order to keep the students, occupied, interested, engaged and concentrated, since, according to students, their frequency and amount of social media use in class is directly related to their level of boredom.

Despite the fact that almost all educators cited above admitted that social media and adolescents were intertwined, many still resisted the idea of investing this new reality into a productive situation aiming the engagement and the success of the maximum of students.

Informal learning happening through typical use of social media.

Although adolescents are heavy users of social media and spend many hours per day on it, little to none of that activity is focused on enhancing their formal educations. But that does not mean that adolescents are not learning anything. Rather, studies on social networking sites suggest that primary educational lessons that students learn online occur through informal learning. The type of learning that occurs informally among adolescents through social media combines the affordances of the technology with the adolescents' learning preferences and their need for continuous interaction with peers. Furthermore, although the learning might be related to school, most of it goes beyond school.

Before going further in discussing the different instances of adolescents' informal

learning in social media, a working definition of informal learning is necessary. Jenkins (2006) cited by Greenhow et al. (2009) defines informal learning as an unplanned learning process that happens spontaneously and involves active exploration rather than explicit teaching. It happens outside the formal context and is greatly social since it is often triggered by collaboration and interaction with others. Carliner (2012) labels this *true* informal learning, adding that informal learning may also result from purposeful activities or consistently repeated experiences (Carliner, 2012). According to Carliner, and based on Colley, Hodkinson, and Malcolm's four aspects of informality and formality in the process of learning (2003) and Wihak's addition of a fifth aspect, "informal learning refers to situations in which some combination of the process, location, purpose, and content of instruction are determined by the student, who may or may not be conscious that an instructional event occurred" (Carliner, 2012, p.18). Carliner (2012) explains that in informal learning, learners set their own objectives and measures of success and that learning happens within the context of everyday life without any predetermined plans. Its content is directly related to a specific individualistic interest or passion of the learner, who may or may not be conscious about the learning "until long after the experience".

Carliner (2012) also describes how the rise of technology may support informal learning. Actually, while in their social media world, adolescents are autonomously and informally developing creativity and technical and communications skills (Greenhow et al., 2009). At the same time, through their interactions with others they are accessing their social group's common knowledge, learning from it and contributing to its growth. Mizuko Ito (2008) describes learning in social media as follows:

> (…) Some of the drivers of self-motivated learning come not from the institutionalized authorities in kids' lives setting standards and providing instruction, but from the kids observing and communicating with people engaged in the same interests and in the same struggles for status and recognition that they are. Both interest-driven and friendship-driven participation rely on peer-based learning dynamics, which have a different structure from formal instruction or parental guidance. Our description of friendship-driven learning describes a familiar genre of peer-based learning, in which online networks are supporting those sometimes painful but important lessons in growing up, giving kids an environment to explore romance, friendship, and status just as their predecessors did (pp. 21-22).

This perspective relates to Bandura's social learning theory. Bandura's theory refers to learning from the outcome of the observation of others' behavior, and modifying one's own behavior accordingly. Bandura explains that when learners identify themselves with others in the same situation and they have to perform the same required behavior, they opt for learning through vicarious experience. From another perspective, Kelly's personal construct theory could contribute a competing explanation by inferring that the process in which adolescents engage in order to master the art of interacting with their friends could help them develop their identity through learning how to anticipate experience. Kelly (1991) discusses the idea of " man-the-scientist (…) ever seeking to predict and control the course of events with which he is involved. He has his theories, his hypotheses

and weights his experimental evidence" (p.4). According to Kelly, we anticipate our future experiences based on our past ones. We build constructs through which we see the world and we continuously revise, modify and or even replace them as we go through new experiences.

Indeed, one of the key lessons that many adolescents learn through social media, are the rules and etiquette of online communication; they do so through active exploration while they are collaborating and interacting with others (Ito et Al, 2008). Adolescents observe their audience, try to reflect on who it is and choose and adjust their words, tone, subject matter, and style according to what they judge will be appealing to it, and use efficiently selected visual and audio elements in order to attract its attention (Greenhow et al., 2009).

One can safely argue that adolescents' behavior in social media resembles the behavior of communities of practice (CoPs), described by Wenger (2006). CoP's members are grouped together as a result of shared interest or passion, and learn from each other through continual interactions. Whether acting as active members or were simply satisfied with a transitory peripheral participation (Lave & Wenger, 2001), adolescents have learned many things through online peer communication, among which we find sex, which is another developmental issue in adolescence (Subrahmanyam et al., 2004). Concerned with making instant messaging faster and more efficient, adolescents informally learned, through their interactions, short cuts and pragmatic mechanisms, such as the use of emoticons, the use of capitals for emphasis, and the use of emotion words/acronyms for expressing words, phrases and emotions (Varnhagen et al., 2010).

All this learning is achieved in parallel and as a result of an autonomous

development of technical competences. Indeed, adolescents are creating their homepages, some using the point-and-click options and others preferring the html script (Schmitt, Dayanim, & Matthias, 2008). They actively explore, discover, experiment and play with the technology, with no fear of consequences (Ito et al, 2008). They download media files, create their own and upload them; they are at the same time savvy consumers, manipulators, authors, producers, fans, and also natural critics (Greenhow et al., 2009; Saul, 2010).

Bandura (2002) explains that this kind of behavior, which is distinguished by an adamant will and courage to explore the unknown and a power to achieve on one's own, is directly related to one's beliefs of self-efficacy. According to Bandura (2002), self-efficacy beliefs "affect whether individuals think in self-enhancing or self-debilitating ways; how well they motivate themselves and persevere in the face of difficulties (…)" (p.271) and engage in regulating learning activities and "develop[ing] and manag[ing] interpersonal relationships" (p.280).

Ryan and Deci (2000) state that, in a self-determined behavior, where individuals' motivation and perseverance degrees are high, individuals are intrinsically motivated, they intrinsically regulate extrinsic motivations and their perceived lotus of control is internal. In other words, they believe that they are in control of any event that may affect them. These individual experiences bring "interest, enjoyment and inherent satisfaction" (Ryan et al., 2000, p. 72). Theses ideas build on Maslow's theory (1943) that declared that motivation is generated by individuals' necessity to satisfy their basic needs, which are interconnected and follow a determined hierarchy. These needs are, in order of priority, physiological needs, safety needs, love and belonging needs, esteem needs and

self-actualization needs. Rutledge (2011) adds to Maslow's hierarchy of needs the need for social connection and collaboration.

The literature that precedes points to the direction that adolescents' motivation to learn how to use social media and to stay connected with friends may, on one hand, result from adolescents' strong beliefs in their self-efficacy regarding the use of technology in addition to the joy and satisfaction they feel as a result to their social media usage. On the other hand, their motivation to learn may be amplified by their urgency to fulfill some of the needs identified by Maslow (1943), such as love and belonging, esteem and self-actualization.

The importance of understanding adolescents' use of social media from their own perspective

The social media industry is aware of the importance of the adolescent clientele and their passion for staying connected with their friends, or "virtual tribe", as called by Pacome (Tessier-Bouchard, 2011), and much time and energy is invested to ensure their ongoing participation in these platforms (Ito et al., 2010). We should seriously consider paying attention to this phenomenon as researchers, as educators and as a society in a systemic perspective since it is absorbing our youth's attention and shaping their identity, and consequently it is overtaking the image and identity of our future societies, a role traditionally achieved by our schools, educators and parents (Greehow et al., 2009).

In fact, most of the educators who consider incorporating social media in their classrooms, disregard their students' intuitive uses of social media and the learning occurring through the online interactions outside of the classrooms. Understanding what

students are doing on their own might give educators ideas of how to better and more appropriately integrate social media into the teaching environment—if at all.

When examining reasons why some students have less success in schools, Twenge (2010) argues that contemporary adolescents believe that the world owes them something. They are overconfident and they expect high grades for their efforts regardless of their achievement, which sometimes leads them to failure since they do not recognize when their performance is less than the expected and when they need to improve. While there might be a generational problem in terms of how adolescents construe their identity and represent the world to themselves, we also know that today's adolescents, tomorrow's society, are bored in schools (Canadian Education Association, 2009) and their measure of success has less to do with their academic achievement and more with the degree of their relationship with their peers. When adolescents are unable to connect with their peers, different kinds of problems may emerge such as loneliness, depression, delinquency and others (Bukowski & Adams, 2005; Connell & Dishion, 2006; Laird & others, 2005; Santrock, 2008). According to Santrock (2008), friends provide companionship, stimulation (information, pleasure and amusement), intimacy, affection, support, assistance, encouragement, feedback, social comparison, and most of all a trustful relationship that facilitates self-disclosure, and fosters identity formation. This is why social media plays such a major role in adolescents' lives. It allows them to keep an ongoing connection and a beneficial communication with their peers (Amichai-Hamburger, & Vinitzky, 2010).

When adolescents opt to be submerged by the technology, they do it for consciously and sometimes unconsciously preconceived objectives, and choose the appropriate medium to reach them:

> Qualitative research provides some insights into the choices young people make about technology, suggesting that technology is used for particular, highly contextualized purposes and chosen for its value, its suitability for the purpose, and the nature of the interactions offered. A further suggestion from the findings is that the activities engaged in may be significantly influenced by both the life stage of the young person and the interests s/he wishes to pursue (Bennett & Matont, 2010, p.324)

Adolescents meet on social media. They express themselves fully without the interference of their non-verbal signals, they project their true image without the fear of others' judgment, they choose their friends freely, they depend on them and provide support to each other, they project their voice and they experiment their identity formation with no limitations. Adolescents' identity construction and development, traditionally known to be achieved through their interactions with peers they met at schools, homes, malls, movie theatres and close-by environments, is now undergoing a major change because of the takeover of social media and the absence of supervision in this environment. The social media is presently providing adolescents with a virtual living space where they converse privately with their peers, with no time and geographic boundaries, away from any adult authority and daily pressure such as parents, school, etc. (Ito, 2008).

Therefore, it is false to assume that one can study contemporary social media

active adolescents without acknowledging their new communication methods and the impacts on their development. Indeed, researchers formerly analyzed adolescents' identity formation and other pertinent developmental issues based on well-defined theories where influence came from home, school and supervised peer relationships and where adolescents' communication methods were in majority familiar and controlled. Because of the significant rise of social media, adolescents' interactions are following an unconventional route. Consequently, researchers are facing an unfamiliar territory forcing them to reconsider their preconceived ideas, their methods of inquiry and the concepts to interpret the outcome.

A new era of adolescents' interactions is beginning and it has become urgent to thoroughly understand its influence on adolescents' behaviors, which may reflect on typical issues such as development, identity formation, and more importantly, on school achievement and learning. In addition to that, understanding how social media attracts adolescents, engages them, and provides them with opportunities to achieve informal learning through social media as a learning tool and social media as an environment, may be very enlightening to educators and policy makers in the educational system.

The purpose of this study is to understand adolescents' representations of their behaviors in social media and attempt to detect instances of informal learning. This would then allow us to explain the qualitative changes social media bring to adolescents' daily online and offline life and to construct a model that illustrates it. According to the above review of literature, adolescents successfully interact through social media, which contributes to shaping their identity. They do it autonomously, effortlessly and passionately.

At this point, it is useful to remind the reader of the research questions:

1. What are adolescents' mental representations of their practices with social media?
    a. How do adolescents explain their behavior in social media, and its consequences on their offline life?
    b. How do they construe their interactions with the social media apps they use inside their networks?
2. Are adolescents aware of instances of learning while in social media?
    a. What type of learning do adolescents perceive as possible with social media

Choosing participants living in Lebanon for at least a year prior to data collection is valuable for this study for several reasons:

- The studied group consists of participants belonging to developed (Canada) and developing countries (Lebanon), which gives this study a broader context and may allow for a better generalization of the core concept being discovered by this grounded theory, if at all.
- Selecting an extreme case group may enrich this study with issues and intervening conditions (part of axial coding) that probably do not exist in any other purposively chosen group, and thus can assist in the development of the theory.
- According to Cresswell (2008) an "extreme case sampling is a form of purposeful sampling in which [we study] a case with extreme characteristics" (p.215). In the case of this study, Internet connectivity issues and high cost of phone services add barriers to adolescents' use of social media and make this selected group an extreme case group. Understanding the degree and the kind of effort that adolescents would do in order to manage these issues and to be able to stay

connected would give us a better idea about how essential social media is to them.

The next section draws a picture on the status of Lebanon in regards to Internet services it provides to its citizens and gives a general idea of Lebanese adults' social media usage.

Social Media Usage and Internet Connectivity in Lebanon

Based on the study conducted by Bayt.com (2011) on the Internet usage in the Middle East, which consisted of an online survey that yielded 8981 respondents from countries including the United Arab Emirates (UAE), Kingdom of Saudi Arabia (KSA), Kuwait, Oman, Qatar, Bahrain, Lebanon, Syria, Jordan , Egypt, Morocco, Algeria, Tunisia and Pakistan, Lebanon achieved the highest percentage of users accessing the Internet from their mobile phone/smartphones, with 41%, right before Qatar 33%, KSA 33% and UAE 31%. A total of 92 % of users access the Internet from home, 55% from work, 16% from schools, colleges and universities, 22% from Internet café, 17 % from wireless access at malls, shopping centers, and 25% from mobile data (such as WAP, GRPRS and 3G) (Bayt.com, 2011).

In the Middle East, the availability of Wi-Fi at home is the highest in Lebanon, followed by Qatar, Bahrain, KSA and UAE. The average time spent on Internet was also reported the highest in Lebanon with 6% users who spend 1 hour a day, 14% users who spend 1 to 2 hours a day, 34 % users who spend between 3 and 4 hours a day, 20 % users who spend between 5 to 6 hours a day and 26% users who spend more than 6 hours a day. Among those surveyed, 59% were using Skype. As far as socializing using the social networking sites, 46% said they did it daily, 15% said they did most days of the week, and 18% said at least once a week. According to the data retrieved, 92% of the

respondents used Facebook and 24% used Twitter. Again the highest percentage of respondents using Facebook daily in the Middle East was in Lebanon.

As for the mobile cellular market, according to Byblos Bank Group's economic publication (2011), "one of the leading banks in Lebanon", Lebanon was ranked the 19th among 19 countries in the Arab world, with only 68% of Lebanese subscribed to the services at the end of 2010. The data presented in this section describes the general Internet and mobile phones services population in Lebanon.

In sum, chapter 2 discussed what characterizes contemporary adolescents regarding their osmosis with social media and how it meets their need for connectedness to one another, and the skills they developed through the adoption of these technologies. It provided a description of the nature and level of risks adolescents might be taking while being online and from whom they were getting guidance and advice, followed by an explanation about why adolescents are enthusiastic about social media. The chapter then sheds the light on instances of informal learning happening in social media and whether this form of learning was invested in the classrooms. The chapter continued by presenting arguments to justify the need for a study that would aim to understand adolescents' representations of their behaviors in social media and whether there was a possibility of experiencing learning. It ended with a discussion regarding the choice of an extreme case to study and an overview of the context of this group, which is living in Lebanon. The following chapter describes the methodology that will be used to answer the research questions.

Chapter 3- Methodology

This chapter begins by explaining my choice of a class of methodologies to answer my research questions. It then explains how I designed the study: describing the population that allowed this study to be efficiently conducted, the instruments that were used to collect the data and the means of collecting it. Afterwards, it provides a detailed description of the data analysis strategies, the chapter ends with the data interpretation strategies and procedures that were taken in order to ensure the credibility and trustworthiness of this study and to deal with bias and ethical issues.

Research approach

The purpose of this study was to better understand adolescents' practices in social media in order to explain how they construed learning and, what type of learning they thought was possible in that context, through the analysis of the mental representations they had of their own authentic experience. Although there are many studies providing descriptive statistics on the extent to which adolescents used social media, little research explored how it was integrated into their lives.

To understand, from the adolescents' emic (self-reported) perspectives how they did so, and to have them describe and demonstrate how they were using social media, needed descriptive-explorative-interpretive study that went beyond descriptive statistics. Therefore, to achieve this study's purpose, I adopted a qualitative-interpretive methodological protocol. Choosing to collect qualitative data, which involves, according to Miles and Huberman (1994), " (…) focusing on naturally occurring, ordinary events in natural settings (…) with their emphasis on people's lived experience, [is] fundamentally well suited for locating the meanings people place on the events, processes and structures

of their lives: their perceptions, assumptions, prejudgments, presuppositions, and for connecting these meanings to the social world around them" (p.10).

This study typifies, through its various components, the major aspects of a grounded theory. The grounded theory design, on one hand, "generates a theory when existing theories do not address [the] problem or the participants [intended to be studied]" (Creswell, 2008, p.432). In a grounded theory, the researcher "does not begin a project with a preconceived theory in mind (…) rather (…) begins with an area of study and allows the theory to emerge from the data" (Strauss &Corbin, 1998, p.12). On the other hand, the grounded theory design aims "to study a process", it explains participants' actions and interactions (Creswell, 2008), such as how the adolescents acquired their skills in social media, and how they modified their behavior accordingly, which was a major objective of this study.

Interviews in this grounded theory were "a co-elaborated act on the part of both parties [researcher and participant], not a gathering of information by one party" (Miles & Huberman, 1994, p.8). In other words, this study primarily relied on the participants' mental representations of their practices in an attempt to understand, analyze and explain them in collaboration with the adolescents, through their own interpretations. Moreover, this study took the process a step further to draw a general picture of what might be the model behind adolescents' behavior or practices and how they learn informally in social media. Through a micro picture of individual practices, the grounded theory aimed to provide a macro description of what was happening.

Participants' Selection

This section starts by listing the criteria adopted to select participants, than it explains the ethical measures taken to protect participants, since they are considered as "vulnerable population". It continues by detailing how this study's nine participants were recruited and ends with a description of them.

Criteria of selecting the participants.

For the purpose of this study, which focused on adolescents' behavior in social media, and to ensure best possible representation of the adolescents, the participants selected needed to be:

- Adolescents. I further refined the selection to those between 14 and 16 years old because of the experience requirement (further in the list).
- From both gender. Since Valkenburg & Peter (2009) and Margalit (2010) reported gender differences regarding adolescents' purpose in using social media and their benefit from it, gender equilibrium was hoped for.
- Having at least three years in-depth experience in interacting on one or more social networking sites, such as Facebook or Twitter, and a minimum of basic knowledge of video sharing sites, such as YouTube.
- Possessing a smart phone and actively using instant messaging regardless of the devices they used or messaging software or applications they preferred.
- Living in Lebanon where they had to deal with Internet connectivity issues and high costs of phone services.
- Coming from lower, middle or upper class environments (high cost of 2G services might affect adolescents' access to social media).

- Attending private French or English secular schools, or private or public Lebanese schools.
- Fully understanding the study, their role and rights and accepting to participate. Since participants were considered as "vulnerable population", their parents' approval was mandatory prior to any kind of interviews with the adolescents (procedure will be discussed in the section that follows: "dealing with ethical issues").
- Proficiency in language was not a requirement because of the fact that social media was available in many languages.

Dealing with ethical issues before starting recruiting participants

To comply with ethical guidelines for conducting study with minors, several measures were taken. First, the Concordia University Research Ethics Committee approved the project. One of the reasons of this review process is to ensure that study with adolescents does not cause them harm. Second, both the participants and their parents signed informed consent forms before participating in the study. These forms explained the purpose of the study, the expectations of participants (including the time needed), potential harm and risk as well as benefits from participation, and their right to withdraw from the study at any point during study process. To note that participants were referred to by "Ado 1", "Ado 2", etc. for several reasons. This study was labeled as "confidential" as per the SPF. There is also the fact that in Lebanon, any pseudonym would automatically categorize my participants under a specific religion, and I wanted to stay away from these issues. I found "Ado 1", which referred to "Adolescents 1", was the most objective and neutral solution.

Procedure of recruiting participants

Nine participants were recruited through a mix of purposeful and snowball sampling. Participants were purposefully selected, through other participants' recommendation, to help describing what was "typical" to those unfamiliar with or unsure of what was happening in social media (Creswell, 2008).

I knew two of the participants. I contacted them through their Facebook page, private messaging, and gave them a thorough explanation of the reason behind the study. This reason was to understand adolescents' behavior in social media, what motivated them and triggered their interactions. I then asked them whether they were interested to participate in my study or knew some friends who might be. Questions about informal learning were introduced in the second interviews and elaborated in the third. I also explained their role and their rights including all the aspects of confidentiality, paramount to ensuring their protection.

When the two adolescents showed their enthusiasm to participate, I contacted their parents prior to sending them an information letter about the study, and a consent form to sign, in order to get their approval (see appendix 1 & 2 for the information letter and the consent form). Both families mentioned that they preferred the meetings to be held at their homes, with their presence, but not necessarily in the same room with the participant and I. Although the parents and I were acquaintances, I took the time to clearly explain to them all the components of my study, including the process of getting the SPF (Summary Protocol Form) approved for this study. I wanted to ensure that they and their children were confortable to sign the consent and ascent forms (see appendix 3 for the ascent form). After the first meetings, my two participants talked to their friends

and neighbors and gave me the contacts of the other adolescents who might be interested. I also had two participants recommended from a colleague I had in Lebanon. I followed the same procedure with the new recruited adolescents and their parents.

Description of the participants

The following table (1) describes the 9 participants involved in this study, the social media they used and the interviews they went through.

Descriptions	Details	Participants									Total	
		Ado 1	Ado 2	Ado 3	Ado 4	Ado 5	Ado 6	Ado 7	Ado 8	Ado 9		
Sex	Female	✔	✔	✔	✔			✔	✔	✔	7	9
	Male					✔	✔				2	
Age	14			✔	✔				✔	✔	4	
	15		✔			✔	✔				3	
	16	✔						✔			2	
Socioeconomic status	Low middle class	✔						✔			2	
	High middle class		✔	✔	✔	✔	✔		✔	✔	7	
Country of residence	Lebanon since birth	✔		✔		✔	✔	✔	✔	✔	7	
	Moved to Lebanon a year ago		✔		✔						2	
Nationality	Canadian		✔		✔	✔	✔			✔	5	
	Lebanese	✔	✔	✔	✔	✔	✔	✔	✔	✔	9	
Abroad connections	Family, friends…	✔	✔	✔	✔	✔	✔	✔	✔	✔	9	
Phone used	iPhone					✔	✔				2	
	BlackBerry	✔	✔	✔	✔				✔	✔	6	
	Other							✔			1	
School	Private French		✔	✔	✔	✔	✔		✔	✔	7	

	Secular										
	Private Lebanese Religious	✔						✔			2
Languages*	Arabic	N	N	N	I	N	N	N	N	N	9N
	French	B	A	A	A	A	A	B	A	A	2B/7A
	English	A	I	I	A	I	I	A	I	I	3A/6I
Social media used	Facebook	✔	✔	✔	✔	✔	✔	✔	✔	✔	9
	Twitter	✔	✔	✔		✔	✔	✔			6
	Blog		✔								1
	YouTube	✔	✔	✔	✔			✔		✔	6
	MSN	✔	✔	✔	✔	✔	✔	✔	✔	✔	9
	Hotmail/Gmail		✔	✔		✔		✔			4
	BlackBerry messenger	✔	✔	✔	✔				✔	✔	6
	WhatsApp	✔	✔	✔	✔	✔	✔	✔		✔	8
	Skype	✔	✔	✔	✔	✔	✔	✔		✔	8
	Loudtalks		✔	✔							2
	Viber						✔				1
	Cell texting					✔		✔			2
	Phone calls								✔	✔	2
	PS3					✔					2
	ScoutFace					✔					1
Frequency of social media use	Very High	✔	✔	✔	✔	✔			✔	✔	7
	High						✔	✔			2
Interviews	(1) Semi-structured	✔	✔	✔	✔	✔	✔				6
	(2) Construct analysis	✔	✔	✔	✔	✔	✔				6
	(3) Reflection and validation	✔	✔	✔	✔	✔	✔				6
	Combination of (1) & (2)		✔					✔	✔	✔	3

Table 1. Description of the participants

*Languages: N=Native; A=Advanced; I=Intermediate; B=Basic

Data Collection

This section explains how data was collected. It first describes the instruments used, and then it describes the methods used to collect data and the issues that arose during the process.

The data collection took place in Lebanon, during the participants' summer break. All meetings, except one, took place in quiet rooms at the participants' homes, with the presence (outside the rooms) of one or both parents (or legal guardians) who guaranteed freedom from disturbance during the course of the interviews. Due to unexpected travelling of one of the participants, one interview was done through Skype.

Please note that cellular phones 3G services were launched in October 2011. However, when I collected the data for this study, participants were still using the 2G services, the cost for a BlackBerry service was 40 USD and the Internet provider companies were charging around 16 USD per month for a 2 to 4GB with 1 Mbps. BlackBerry phone services allowed its users access to email, phone, data, applications, games and the Internet from a smartphone. The Internet download and upload speed was slow, causing disrupted communication through video calls applications such as Skype, disrupted downloading and viewing of videos from video sharing sites such as YouTube, and lengthy process to upload good to high resolution pictures and files. In fact, 47704 individuals joined the "Lebanese want fast Internet" Facebook group, expressing their exasperation through their slogan: "Broadband a human right!" The Lebanese Minister of Telecommunication, who had to react to the rising anger among consumers and tech-based companies, lunched in October 2011 a project that would increase the Internet speed by up to eight times. The results are yet to be evaluated. To note that according to

Net Index, http://www.netindex.com/, Lebanon is ranked 160th with still 0.99Mbps, as per information retrieved on the 22nd of November 2011.

Instruments' description.

This section describes the role of each of the three interviews conducted for this grounded theory study and why it was necessary to conduct a first interview before generating a repertory grid in a second interview and then to conduct a third interview to validate the first two interviews.

Instruments used to answer the first question.

The first two instruments, which consisted of semi-structured interviews and construct analysis interviews, covered the first research question and its supplement, which were:

1. What are adolescents' mental representations of their practices with social media?
    a. How do adolescents explain their behavior in social media, and its consequences on their offline life?
    b. How do they construe their interactions with the social media apps they use inside their networks?

- Semi-structured interview: After obtaining each participants' ascent and parents' or legal guardians' consent, the first semi-structured interviews were conducted. During the first interviews, which lasted from 25 to 40 minutes, the participants were asked to narrate their experience in social media, through open-ended questions and detail-oriented elaboration and clarification probes. The guiding questions for this semi-structured interview (see appendix 4 for the semi-structured interview's questions) covered adolescents' social media self-reported

practices, and served in identifying the elements necessary for the second interview, which was the construct analysis interview.

- Construct analysis interview: In a second meeting, 50 to 70 minutes interviews, which built on first interview data to develop a deeper understanding of participants' justification of their experiences in social media, were conducted using Kelly's (1955) construct analysis technique (see appendix 5 for the construct analysis interview's questions). A construct analysis is a method of inquiry that is used in order to examine how people view their experiences and find meaning in them and how they interpret relationships between these experiences using words and characteristics that participants themselves choose and define (Chevalier, 2009, Jankowicz, 2004). During a construct analysis, a repertory grid is created using Kelly's (1955) method, which consists of listing experiences in a particular field. These experiences can be any element of knowledge, such as concrete situations, problems, events or people. Once these experiences, called elements, are listed, they are used to generate underlying constructs through a process of triadic elicitation. Once the elements are listed and the constructs generated, participants are asked to give a score ranging from 1 to 5 to each element by using the two poles of each construct as a semantic differentiation scale.

  Jankowicz (2004) argues that the grids generated from the constructs analysis, and which are "a way of expressing underlying preferences", are very powerful for two reasons:

1. They allow people to express their views by means of their own constructs, not the researcher's, in other words, to talk about the world in their own terms. No one can object that someone else's assumptions have been laid on them; no one has put words into the person's mouth.
2. Once the investigator has discovered a person's constructs, the person's own terms of reference, the grid will allow to identify exactly what the other person means when s/he uses those terms. Each element is rated on each construct, to provide an exact picture of what a person wishes to say about each element within the topic (p.15).

Instrument used to answer the second question.

The third instrument, which consisted of reflection and validation interview, covered the second research question and its supplement, which were:

1. Are adolescents aware of instances of learning while in social media?
    a. What type of learning do adolescents perceive as possible with social media

Reflection and validation interview: The third interviews (see appendix 6 for the reflection and validation interview's questions), which occurred in a third meeting, targeted the informal learning that might be happening in social media. During these interviews, which lasted between 20 to 30 minutes, the data from the first two interviews was validated with the participants as they were asked to reflect on it to explain how they might be learning with social media.

How data was collected.

All interviews were recorded using an iPod. Then the recordings were transferred to my laptop and deleted from the iPod. Parents and their participating child read,

understood and signed the consent and ascent forms prior to the first interviews. Once these forms were signed, we proceeded to the first interview.

Semi-structured interview course of action.

The first interviews were the gateway to the adolescent participants' social media world. Identifying me as an "adult enthusiastic about social media" and knowing that what they would say would remain confidential and had no repercussion on their lives, encouraged the participants to provide rich, thick descriptions to answer my questions and openly discuss their passion about social media, their need for it and the fears they had about some of its aspects. During these interviews, I acted as an attentive listener, threw some probing questions from time to time and asked them to define certain concepts they brought up in their explanations.

Construct analysis interview course of action.

During the second meetings, the interviews I conducted were comprised of ten steps. These interviews adopted the format of a construct analysis, which is the method used to generate a repertory grid, based on Jankowicz 's (2004) procedural explanation.

1. I started by explaining to my participants that my aim was to understand their behaviors and experiences in social media in their own terms, and there were no "right" or "wrong" answers. I also explained that although I asked for precisions, they could choose how much detail they wanted to share. I reminded them that I would ensure both confidentiality and anonymity
2. The self-reported practices identified during the analysis of the first interviews were used to inform the second interview by generating a draft of the list of the elements to be used with individual participants for the construct analysis. These

were validated with the participants through member-checking. To prepare the construct analysis, I wrote each element on an individual index card. These elements represented the various social media (web-based and mobile technologies) they used.

3. To generate the constructs, I used a triadic elicitation technique during which I randomly selected three elements (three index cards). I asked the participants which two of these elements could be put together and which one was different from the two others. Then, I asked them to explain why. The construct emerging for the pair was the emerging construct, the one that was the closest to their experiences. The construct that emerged from the separated element was the distant construct, which corresponds to more distant experiences.

   At that point, several participants were confused during this step and compared the social media sites and applications based on how they were defined, in general, by the producers of these media and the general public. I had to stop and explain again that the comparison between the elements must be based on the participants' individual experiences with the medium, even if it contradicted the "normal or preconceived" idea of the medium usage: "What I'm interested in is how you use it, to understand your specific need of the medium and how and why it became part of your everyday life, you, specifically, I don't care about the rest of the world".

4. The process of triadic elicitation was repeated to obtain pairs of constructs against which participants could rate the elements, asking for a fresh construct each time, until my participants couldn't offer anymore –that is until we reached saturation

of constructs.

While listening to my participants I was taking notes about emerging constructs and writing each set of construct on index cards, which were to be positioned to the left and the right of the grid.

5. When my participants ran out of new constructs, I gave them the index cards with the elements and asked them to make their own groups and explain their logic and strategy behind their grouping: what were the common aspects of each group and how did it differ from the others? This process ensured that we reached a full saturation of the constructs.
6. With the help of the participants, I placed the elements on the floor and I presented the constructs as a semantic differentiation scale. The constructs at the left stood for a "1" and the constructs at the right stood for a "5", as shown in figure 1).

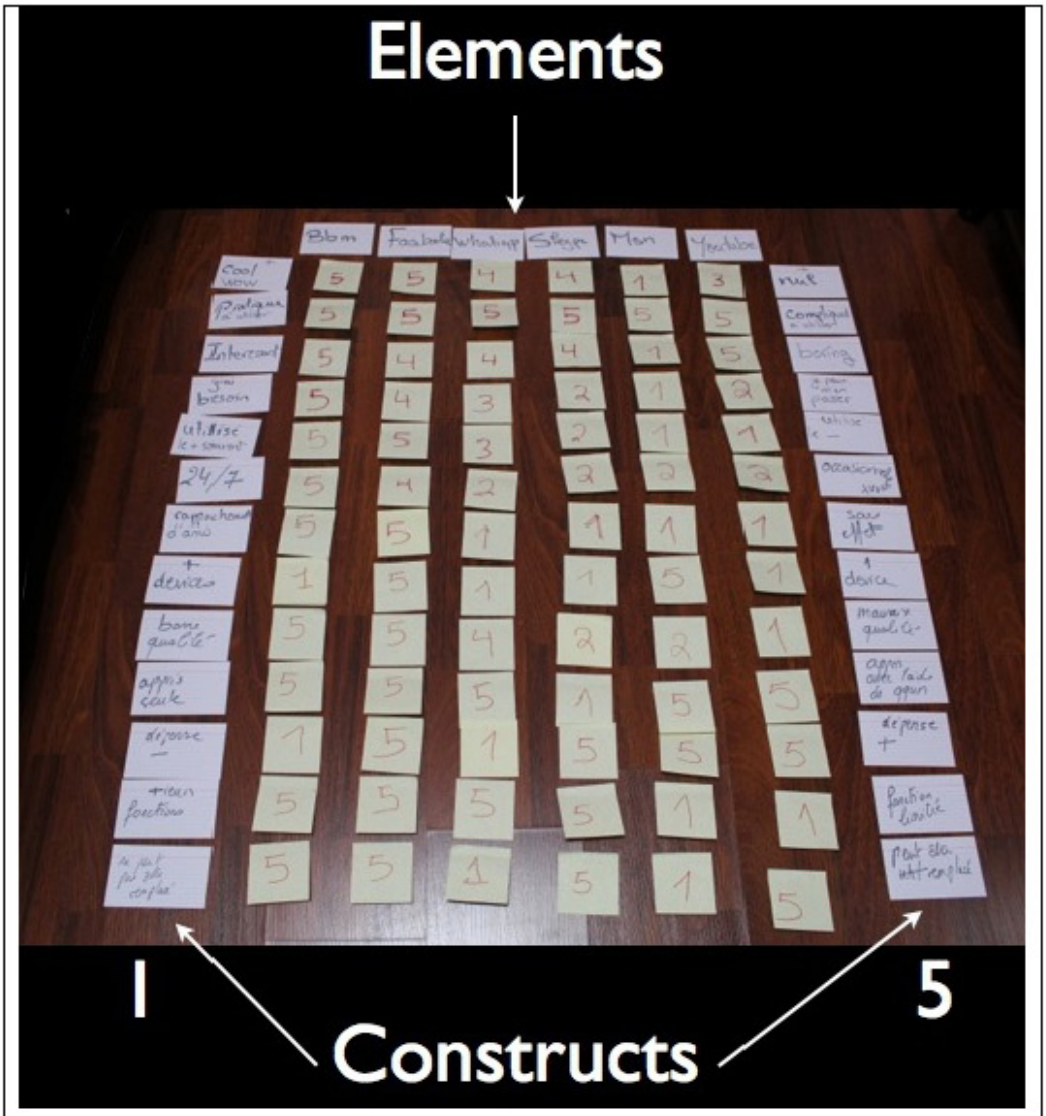


Figure 1. Example of construct analysis interview: Including the elements, the constructs displayed as the two poles and the ratings from 5 to 1

The "emergent pole" of the construct characterized the two elements that were alike; and the "implicit pole" of the construct characterized the element that was distant. The rule was to put the emergent on the left and associate to it the number "1" and the implicit on the right and associate to it the number "5".

7. I asked the participants to rate each of the elements on a scale of 1 to 5, to identify at which "end" of the semantic differentiation scale (which pole of the construct)

the element was the nearest to and explain the reason behind their choice. For one set of construct, the same rating could be used several times (ex. participants could use 1 more than once).

During the grid elicitation, I accepted what the interviewees told me. I asked questions to clarify what my participants meant and ignored my own beliefs and experiences in social media. According to Kelly (1969), cited by Jankowicz (2004) the importance of respecting the interviewees' ratings is because "people differ from each other in their construction of events and that may include matters, which we usually think of as facts. To be an effective grid user, it's best to accept all facts as beliefs about nature, and to see accuracy as solely to do with a faithful recording of the interviewee's beliefs" (p.49)

8. When the participants finished rating the elements, we looked together at the elicited grid on the floor and I explained that this was their personal representation of their life in social media. I then asked them if they felt any aspect was missing. Four of the participants were satisfied with the results while five added new constructs and completed the grid by rating their elements according to the added constructs.

Reflection and validation interview course of action.

During a third meeting, the third interviews occurred. After going from a simple recall of their social media experiences in the first interview, to understanding and analyzing the meaning of their experiences in the second interview, the participants were asked to engage in a deeper reflection during the third interview. Through a set of prepared questions in addition to some probing ones generated from the participants'

answers, I encouraged the adolescents indirectly to synthesize and evaluate their experiences and guided them towards reflecting about any instances of informal learning happening unconsciously through their interactions in social media. While I was more of an attentive listener in the first two interviews, I controlled the course of actions much more in the third one in order to direct participants to focus on any learning aspect of their experiences in social media.

Improvised interviews course of action.

Because the data was collected during the summer vacation, which involves various unscheduled plans arising randomly, with families coming from abroad or friends rarely seen, three of my participants were either canceling our meetings or adjourning them. I ended up meeting with these three participants only once, between 50 to 70 minutes. I had to improvise the interviews, by using a synthesized version of the initial instruments, in order to get the most of their experience in social media. For this reason, I began by asking them to tell the story about how they started using social media and, as they explained and described their present usages, I interjected with questions from the first and third interviews, as probes to go deeper into their stories. To note that: construct analysis interviews were not conducted with these three participants.

Two issues during data collections.

Two issues arose while collecting the data: 1) language used, 2) interview schedules. First, although the participants understood the questions asked in English, I encouraged them to answer in the language they felt most confortable with (which included English, French and Arabic). Doing so ensured an authentic representation of their experience and alienated any barrier that might have prevented them from saying

exactly what they wanted to say. As a result, in many cases the interviews were a mix of the three languages. Being a polyglot, with Arabic as my native language, I was able to translate the interviews respecting the ideas my participants wanted to express. This procedure will be explained in the section "data analysis" ("translating and transcribing the data" sub-section).

Second, due to logistic problems, three of my participants canceled several meetings and I ended up with having just one meeting with them, so I had to improvise in order to get the maximum of their experience in a minimum of time. The process is explained in the section instruments ("improvised interviews course of action" sub-section). This is the reason why only six out of the nine participants went through the three interviews.

Data Analysis

Two forms of data analysis were required because of the nature of this study: 1) following the construct analysis method, 2) following the grounded theory design.

First I had to analyze the data following the construct analysis method. Because the objective of the study was to develop a deep understanding of the influence of social media on adolescents' behaviors, this study was conducted in a collaborative perspective with the adolescents in order to provide rich answers to the research questions based on how participants construed their experiences in social media. I first proceeded by looking at each single grid to understand the mental map of participants' behaviors in social media. Second, in trying to raise the voice of the group, I went through the content of each grid to find categories of constructs elicited from participants' experiences and finally. It is important to note that the use of the repertory grids was instrumental not

fundamental. In other words, I used the repertory grids for only one purpose: to understand how participants construed their experience in social media. My goal was to conduct a ground theory study where I would understand the phenomenon and infer a theory. Making participants react to the repertory grids' results and reflect on them, as George Kelly would have done, would have influenced participants to modify their behavior and would have transformed my study to an action research, which is the fundamental reason why Kelly created this method. I used the verbatim transcripts of the participants' construct analysis interviews to explain, in qualitative terms, how their system was organized according to them, in order to best answer this study first question.

Second I had to analyze the data following the grounded theory design. I started by conducting open coding where I identified concepts within the interviews verbatim, then I examined relations between the themes (or codes) through axial coding, and finally I determined a core category through selective coding, aiming to build a potential theory explaining adolescents' presence in social media. These are the three steps for coding a grounded theory, as suggested by Glaser and Strauss (1967) and Creswell (2011)

In the next sections I will describe the procedures I took and the instruments I used in order to analyze my data.

Analyzing repertory grids

RepGrid IV, the used instrument, its definition and the way it was used to code data.

RepGrid IV (http://repgrid.com/) is a free application designed to analyze repertory grids, based on George Kelly's (1955) Personal Construct Psychology. The software generates correlation analysis and principal component analysis.

Entering the data in RepGrid IV.

In order to enter my data into RepGrid IV, I first filled out the status page fields, which attributes the grid to specific participants (see appendix 11 for a status pane example). I then proceeded to entering the elements, the constructs and their ratings. After that, the system generated three representations of the data: simple display of the data in the grid (figure 2), focus cluster analysis of the grid (figure 3) and PrinGrid spatial analysis of the grid (figure 4).

During the construct analysis interviews, the elements, constructs, and rating of elements on constructs provided me with a kind of mental maps of the way in which my participants thought of, gave meaning to and construed their behavior in social media (Jankowicz, 2014). These mental maps were materialized through the RepGrid's three forms of data representations, shown below.

The three representations of data analysis using RepGrid

1. The "Display representation" (figure 2): In the display representation, the title, the constructs (left and right), the elements (bottom) and ratings are shown. The purpose of this representation is to help verifying the data, to ensure that it was entered accurately.

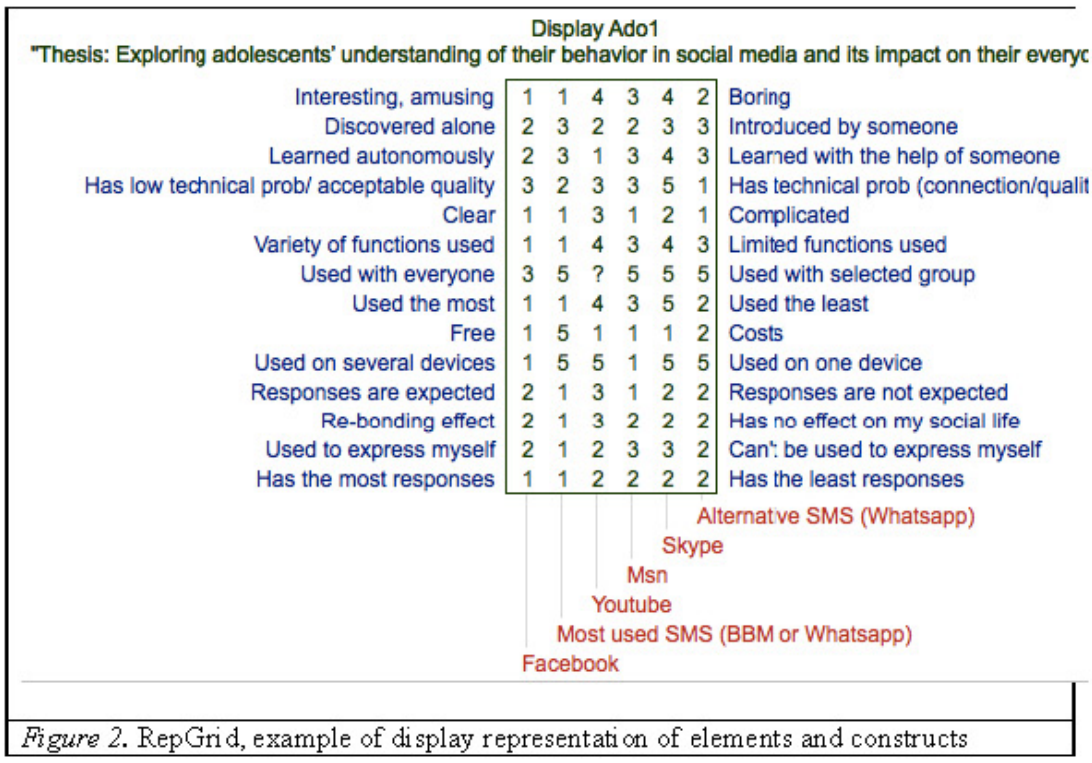


Figure 2. RepGrid, example of display representation of elements and constructs

2. The "Focus cluster analysis" (figure 3): In a focus cluster analysis of the grid, matching elements and matching constructs are brought together. In order to analyze the cluster analysis, I had to examine the elements and the constructs to notice how they have been reordered to create positive correlations, look at the shape of the elements' and the constructs' dendrograms, identify the element similarities and differences, find the highest percentages of similarity score for both elements and constructs and interpret them based on my participant's explanations, collected during the construct analysis interviews (Jankowicz, 2004).

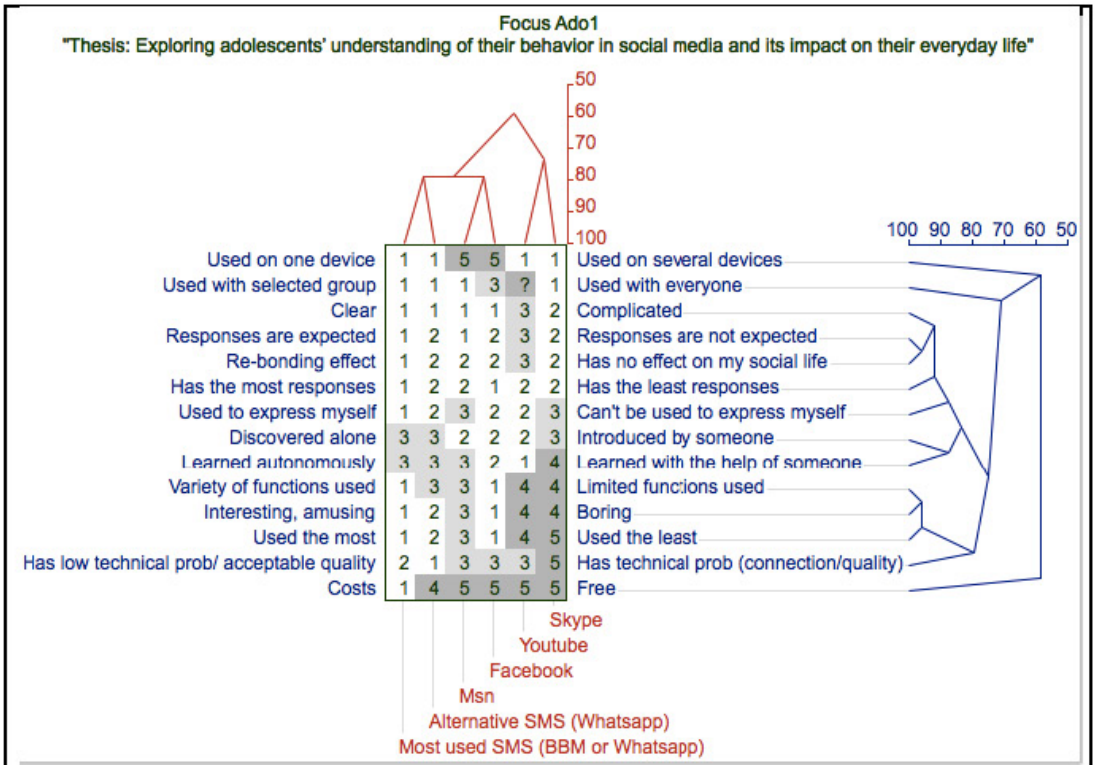


Figure 3. RepGrid, example of focus cluster analysis of the grid

3. The "PrinGrid spacial analysis" (figure 4): In a PrinGrid spatial analysis of the grid, the elements are "points plotted in an n-dimensional space defined by the constructs as axes centered on the means of the elements. The data then rotates through principal components analysis to spread the elements out as much as possible in a 2-dimensional plot" (Gaines & Shaw, 2005). In other words, in order to analyze participants' PrinGrid, first I had to identify the elements, represented in red, and the dots attributed to them. Then I had to find the blue x's that were attributed to the constructs, and were the closest to the elements' dots. Constructs that were the nearest to the elements described these elements the best.

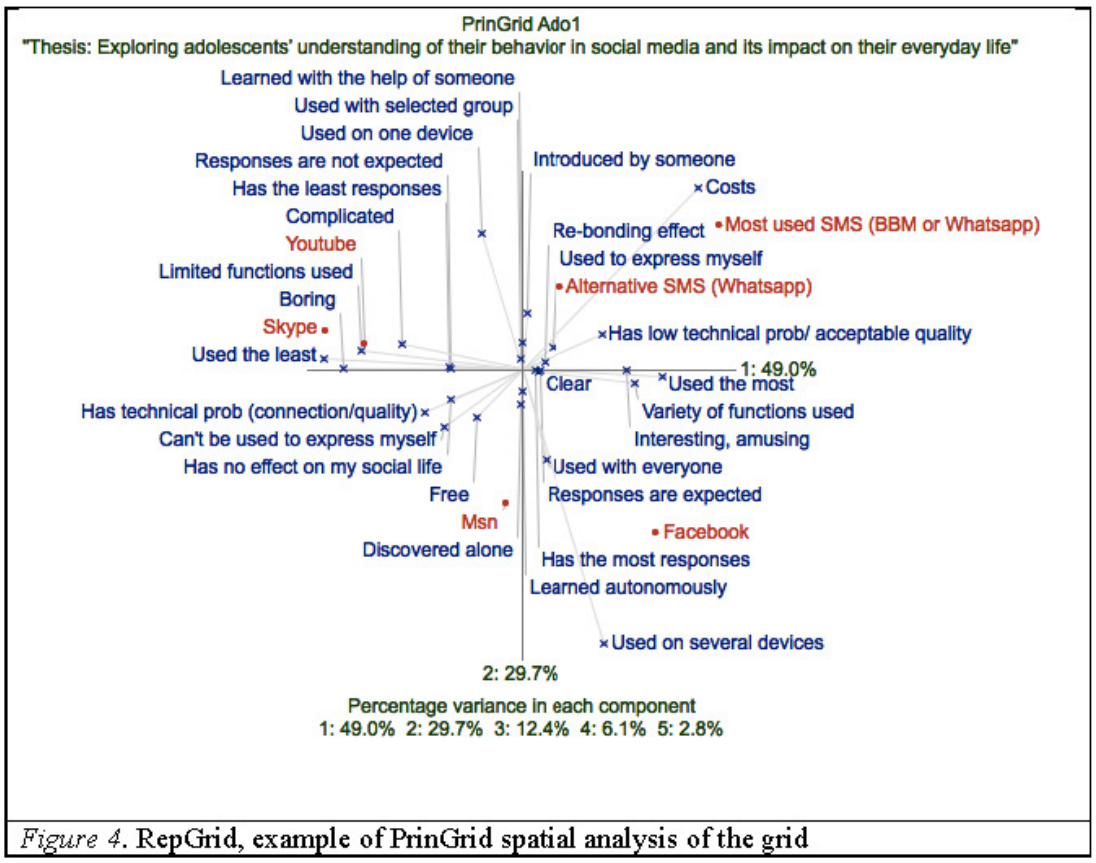


Figure 4. RepGrid, example of PrinGrid spatial analysis of the grid

The reader should note that on the principal components (PrinGrid) representation, 2 axes are drawn, representing the main 2 components: the first on the X-axis and the second on Y-axis. When the variances of the two components grouped together compose 80% and more of the variance between the elements and the constructs, this indicates that the system representing the elements and constructs of the participant is well structured. The focus cluster analysis highlights the relationships in participants' grids to make them visible (Jankowicz, 2004). As we will see, the results of the Focus cluster analysis and the principal components (PrinGrid) are compatible.

Describing participants' experiences based on the results of their PrinGrids and Focus cluster analysis

In order to best describe participant's behaviors in social media, I had to create a synthesis describing the highlights in each of the six participants' experience in social media, based on the reading of participants' PrinGrid and Focus cluster analysis.

Making participants interact with each others through finding their common constructs

Because I assured confidentiality and anonymity to my participants because of their young age, organizing a focus group was not possible. Other methods could have been considered such as doing an online focus group, through Skype or other online medium, but this was also hard to realize because of the connectivity issues in Lebanon. This issue will be discussed in the limitations section at the end of the chapter.

In order to find a common voice for the participants I had to find similarities between their constructs. In order to do so, I had to detect constructs that were similar in meaning but were expressed differently by the participants and articulate them through common words, which, while conserving the gist of each participant's constructs, allowed comparison between the grids.

For example, constructs such as "I use the less/I use the most", "less used/more used" and "use it the least/ use it the most", were replaced by "used the least/ used the most". Another example was constructs such as "has no effect/ bring friends together", "has no effect on my social life/ made me closer to my friends", "has no important effect/ get people closer" and "has no effect on my social life/ re-bonding effect", were replaced by "has no effect on my social life/ re-bonding effect". A third example was constructs

like "useless/cool wow", "less in/more in", "the least in/ the most in", "not fashionable/ fashionable " were represented by "not fashionable/ fashionable" (See appendix 12 for the table with all participants' constructs and their common representatives in the grids). This allowed me to present a synthesis of participants' experiences in social media based on the common constructs.

While going through this process of aggregating the meanings uttered by the participants, I had to deal with accuracy, which was one of the three reliability issues, proper to content analysis, in addition to stability, and reproducibility (Jankowicz, 2004). These issues will be discussed in the section of this chapter discussing the strategies chosen to interpret the data.

Analyzing data based on the grounded theory method of data analysis

According to Glaser et al. (1967), in a grounded theory, the researcher, acting as analyst

> [first starts by] coding each incident in the data into as many categories of analysis as possible, as categories emerge or as data emerge that fits an existing category. [Second, the analyst changes] the constant comparative unit from comparing incident with incident to comparison of incident with properties; in this way, incidents are compared only with the accumulated knowledge on a category...thus incidents integrate into properties; subsequently, properties become integrated. As they do, constant comparisons...force the analyst to make some related theoretical sense of each comparison. [Third, the analyst] generates conceptual categories or their properties from evidence; then the evidence is used to illustrate the concept (pp. 23, 105-108).

In the next sub-sections, I will go through the different steps I followed in order to

analyze my data, merging Glaser's grounded theory method, and Strauss & Corbin's grounded theory' systemic design (1998), including going from open coding to axial coding to selective coding. I will then explain why and how I used a database (Bento 4) to analyze my data.

Translating and transcribing the data.

Before going through the first step, which was to "code each incident in the data into as many categories of analysis as possible" (Glaser et al., 1967, p.105), I translated and transcribed 13 hours of interviews. The interviews were done with a mix of three languages. Since I am polyglot, with Arabic as my native language, I caught the meanings the participants wanted to communicate through their Arabic and French words and expressions and translated them into their equivalent in English, respecting the overall uttered nuances. This step, while being very challenging, was important in order to unify the language in the verbatim. I then sent the verbatim to my participants for validation. To note that while presenting my translated data in the analysis chapter, I sometimes opted to paraphrase instead of using participants' words, since these words were adapted, in order to be as loyal as possible to what my participants wanted to express.

The first step, immersing in chaos of codes.

In the first interaction with the raw data, I proceeded to open coding. Open coding is "the analytic process through which concepts are identified and their properties and dimensions are discovered in data" (Strauss et al, 1998, p.101). I began with a line-by-line analysis, where I examined the data phrase-by-phrase. As I reviewed the interview transcriptions, I grouped together concepts or themes with similar properties, and I

ordered and reordered the categories until saturation (Creswell, 2008). I went from more than 40 codes to 3 principal codes with secondary, tertiary and quaternary codes. The codes are presented in the analysis chapter, table 3, on the page 91of this document.

The second step, making connections.

In the second stage, I proceeded to axial coding. Axial coding is "the process of relating categories to their subcategories, termed axial because coding occurs around the axis of a category, linking categories at the level of properties and dimensions" (Strauss et al, 1998, p. 123). Data categories were grouped under main titles based on Strauss & Corbin's grounded theory' systemic design, which consists of: core category or phenomenon, context, casual conditions, intervening conditions, strategies, actions and interactions, and consequences. The results of the axial coding are presented in the interpretation chapter.

The third step, from assimilating to synthesizing the concepts.

In the third stage, it was time to selective coding. Selective coding is "the process of integrating and refining categories". I was able to transform data into concepts and sets of relational statements that I used to understand and explain what was going on, in terms of learning, with my participants in social media.

Analyzing the qualitative data with the use of a database.

Bento 4 is a database management system application, designed for Mac OS users (http://www.filemaker.com/products/bento/). It lets its users organize, search for and retrieve any type of information according to a personalized categorizing system, through manipulating fields. It is a perfect system to analyze data inductively, without having pre-

defined categories. As I started my line-by-line analysis, I identified specific fields along with their contents, needed to label and sort the data.

During the first step of analysis, the fields were: name of participant, interview, code, definitions and examples and keywords. As I went through the steps 2 and 3, the fields were gradually modified to: research question, participant, interview, list of social media, concepts emerging from the interviews, pertinent keywords, attention and motivation to use social media driven by, social media usage, learning to use the medium, learning with technology, element affecting adolescents' use of social media, interview extract.

In order to retrieve the data from Bento database, three strategies were followed: 1) A keyword search yielded all the records that contained the words we were searching for; 2) Selecting one field content arranged the records accordingly (see appendix 7 for a sample record with fields, appendix 8 for records found after a keyword search for "BBM" listed as in a table and appendix 9 for an example of these records in a grid view) 3) A combination of fields was also possible, and it provided all the records that contained the required fields (see appendix 10 for an example of an advanced research with a combination of fields).

Restating the main points of the data analysis strategy

In this section, I explained the two methods I used to analyze the data I collected through the three interviews I had with my participants: the first was based on the construct analysis design, the second grounded theory design. In the first one, I let the behavior descriptions emerge from participants' justifications of the rating they gave to the constructs in the grids; in the second, I let the codes emerge from the interviews

verbatim. After proceeding with analyzing individual grids, it was interesting to make the participants interact with each other through detecting differences and similarities in their way of construing their experience with social media.

All the data, including individual construct grids and Bento records, was easily shared and discussed with my supervisor and auditor. In the following section, I lay down the strategies I took in order to ensure this study's credibility and trustworthiness and how I dealt with bias and ethical issues.

Ensuring credibility and trustworthiness and dealing with bias and ethical issues during data collection, analysis and interpretation.

According to Glaser (2007), in a grounded theory design, "the data is what it is and the researcher collects, codes and analyzes exactly what he has (…) there is no such thing as bias, or objective or subjective, interpreted or misinterpreted etc. It is what the researcher is receiving (as a human being, which is inescapable). As he [she] collects data his [her] job is to deal with exactly what is happening, not what he [she] would want to happen, not what his [her] own interest would wish the data to be" (p.1).

Nevertheless, this inductive study followed the grounded theory design guidelines in collecting, analyzing and interpreting the data. Although the process was based on a transparent reflection about the reality, it was not exclusively objective. While Glaser is convinced about the objectivity of the grounded theory design, his words must be interpreted carefully as Glaser also recommends not to conduct a literature review before conducting the research. While I tried to be as objective as possible, one must humbly admit that human beings are biased by their own experiences and by what they think is valuable. In the next section I will explain the strategies I followed to ensure credibility

and trustworthiness of the data and dealt with bias and ethical issues during this grounded theory, such as: guaranteeing transparency, ensuring stability, reproducibility and accuracy, the three reliability issues proper to content analysis, pilot testing the instruments, discussing bias and researcher effect, employing member checking, triangulating, auditing (or checking out rival explanation), reassuring confidentiality to participants and insisting on the value of their authentic experiences, and complying with ethical guidelines for conducting research with minors.

Guaranteeing transparency.

To ensure transparency, this study's methods and procedures were described explicitly and in details and how my values and biases might have affected the study were clearly disclosed, as suggested by Miles & Huberman (1994).

Ensuring reliability through dealing with stability, reproducibility and accuracy.

According to Jankowicz (2004) there are three forms of reliability in content analysis. The first form is stability, which refers to "the extent to which the results of a content analysis are invariant over time" (p.150). For this study, stability was ensured through the use of three interviews with the majority of participants, distributed over a period of 2 months. Each interview validated the content of the one that preceded. The second form is reproducibility, which refers to " the extent to which other people make the same sense of the construct as the [researcher does]" (p.150). The third form is accuracy, which refers to "the degree of consistency applied when using the categories of the constructs" (p.150). For this study, member checking, cross-checking and external auditing ensured both reproducibility and accuracy.

Member checking.

Member checking, which is "the process in which the researcher asks one or more participants in the study to check the accuracy of the account" (Creswell, 2008, p.267) was achieved through the continuous collaboration with the participants. Participants were consulted during every phase of the data collection, which allowed a continuous validation of the data. To note that when translating, instead of putting the participants' exact words, I sometimes paraphrased in order to ensure that the explanations of the participants were accurately expressed.

Validation of the findings through cross-checking the data.

Interpretative qualitative study attempts to understand the phenomenon through the meaning that participants give. In other words, since the aim of this study was to understand what the participants perceived as reality, the story or experience reconstructed by them was the data that was collected through three different occasions, compared and analyzed. Comparing the answers the participants gave to the questions in the semi-structured interviews, with the synthesis they generated during and after analyzing their constructs, in the second interview (see instruments) was a method to cross-check the data and validate it.

External auditing.

The external auditing involved an "individual outside the study to review different aspect of the research" (Creswell, 2008, p.267). A colleague, who was also a researcher with deep expertise in construct analysis and the field of social media, and pertinent background knowledge in adolescents' development, was asked to check the categories of the constructs and evaluate its consistency over the entire data. The colleague was also

asked to answer the following questions, related to the grounded theory design and quoted from Creswell (2008):

1. Were the findings grounded in the data?
2. Were inferences logical?
3. Were the themes appropriate?
4. Could inquiry decisions and methodological shifts be justified?
5. What was the degree of researcher bias?
6. What strategies were used for increasing credibility? (p.267)

The audit identified instances where bias resulted from the fact that the interpretation of the data was filtered through the background and views of the researcher, a typical qualitative design problem.

Ensuring rigor through pilot testing the instruments

Prior to data collection, all three instruments used in this study were pilot tested with two adolescents (12 and 14 years old), and modified in order to best serve the study objectives and answer the research questions. This procedure added rigor to the methodology of the grounded theory.

Ensuring collected data's credibility

The interview data might have been deceptive. The participants might have provided me with the perspective they wanted me to hear, instead of the reality of their practices, which was another fact important to deal with. In order to prevent this problem, I thoroughly and repeatedly valued the participants' authentic practices in social media and highlighted the fact that this study's success relied on their real experiences. I also assured them that their participation was private, confidential and anonymous, and the

use of pseudonyms was possible if they wished to. This was intended to ensure a higher level of disclosure by the participants, recognizing that anything they would say would not be linked back to them. No reader would ever identify the participants in any context. The participants and their legal guardian were assured that the interview transcripts would be only completed by me, the researcher, and would only be accessible to myself, my supervisor and a trusted colleague doing the auditing.

Dealing with researcher effect through "suspending personal values", listening credulously" and "reflexivity"

According to Fransella (2005), there are several skills necessary to any personal construct practitioner, including "the ability to subsume another's construing" (p.41), "suspending personal values" (p.42), "listening credulously" (p.42), and "reflexivity" (p.43). During the course of the data collection I put myself in my participants' shoes while listening to their stories. I disregarded my enthusiasm or aversion towards specific social media tools and my personal experiences and habits, and acted as an inexperienced social media adult user, very interested in understanding and learning about this mysterious world called social media.

My participants knew that I was an active social media user, but did not know my level of expertise. They saw me as an adult they were discussing their social media practices with, without feeling judged, and it made them eager to discover how much I knew in order to enlighten me about all sort of tricks and techniques so they could transform me into a cool adult. In other words, during the interviews, I tried to adopt an attitude that would allow my participants to disclose their behaviors in social media. However, it is important to note that, whenever my participants tended to reveal a

personal information or talked about the content of their posting or texting I stopped them immediately, and explained why I did so, then redirected the conversation to the questions I had prepared for the interviews.

Dealing with bias

According to Strauss and Corbin, since the data collection and the analysis are alternated in a grounded theory design, the researcher must maintain a balance between objectivity and sensitivity. Strauss et al. explain: "objectivity is necessary to arrive at an impartial and accurate interpretation of events. Sensitivity is required to perceive the subtle nuances and meanings in data and recognize the connections between the concepts" (pp. 46, 47). As Steve Jobs suggested in a speech to Stanford graduates (2005), I had to connect the dots, but in my study, this connecting the dots was based solely on the participants' mental representations of their practices and their logic in explaining and interpreting them.

After each interview I recorded, in a journal, memos listing ideas and impressions I had during and after our discussions, about what was discussed during the interviews and about questions that emerged as a reaction to participants' answers. This exercise had three objectives. First, by writing down my thoughts I became aware of my bias on paper which allowed me to control it in following meetings. Second, it gave me set of leading questions that were interesting to use with other participants. Although these questions didn't differ much from the questions that were planned, but I acquired different ways to ask them. In a grounded theory design, the participants and the data emerging from the interviews control the course of the study. Third, it helped me develop and keep ideas and concepts to be used while comparing collected data from other interviews both with the

same participants and from different ones. In construct analysis, bias is mostly monitored by the design itself since the explanations of the grids are based on the ones given by the adolescents. Yet, to guarantee a minimal risk, the already mentioned strategies were used including external auditing.

Dealing with deception

From the beginning, while designing this study, I took all necessary measures in order to ensure not to deceive my participants. I clearly informed participants and their legal guardians of the aims and procedures of the interviews prior to signing their consent forms. Moreover, they were aware of all the details during the study, since they collaborated in the analysis, the validation and the interpretation of results.

Limitations of the Study

This section explains the limitations of this study. The first limitation was the need to comply with recruiting all participants who accepted to get involved, and met the criteria, disregarding their gender. Although I targeted gender equilibrium through my searching for participants I couldn't achieve it because the adolescents who agreed to be involved in this grounded theory and answered to the criteria mentioned above happened to be mostly female.

A second limitation was the impossibility to select participants based on their personality traits. Adolescents' extroversion and introversion also affected their preferences while seeking online social interactions and their gains from CMC usage (Amichai-Hamburger et al., 2010; Margalit, 2010; Ong et al. 2011), but during the selection of the participants it was not possible to take personality traits into consideration because of the nature of the sampling. A third limitation was due to the

technology and the low Internet speed, which would have impeded any attempt of achieving an online focus group.

The next chapter will present the findings of this study based on the two qualitative designs, first the construct analysis design and second the grounded theory design, and present it under main themes and categories, which will be later on interpreted in chapter 5.

Chapter 4- Results

This chapter presents the results of this study in an effort to answer the research questions. In this chapter, I first present the construct analysis results of the six adolescents who participated in the three interviews in order to describe how they, individually, construed their experiences in social media. Next I attempt to raise the voice of the group through: first, expressing similarities in participants' constructs when they existed; second, describing a typical day in adolescents' life through the different episodes reported by the nine participants (the six participants who went through the three interviews in addition to the three participants with whom I only had the chance to meet once and did the improvised interviews) and third, present this study's findings categorized under four main themes: 1) reasons for first use (initiation to social media), 2) elements affecting social media use, 3) consequences of a hypothetical absence of social media on participants' offline life, 4) learning in social media (see table 1 for themes and sub-themes, and participant(s) who had answers that led to them).

These themes emerged from the contents of all participants' answers to both semi-structured and construct analysis interviews. The individual description of the six participants in addition to the description of adolescents' typical day on social media and the first three themes emerging from the findings will answer the first research question while the fourth theme will attempt to answer the second research question.

Six Participants Expressing their Understanding of their Practices in Social Media

To start answering the first research question, which is "What are the adolescents' mental representations of their practices with social media?" the construct analysis results of the six participants who attended these interviews will be presented individually, in a

review of their PrinGrid and Focus cluster analysis presentations (see appendix 11 for participants' PrinGrids and Focus cluster analyses).

A synthesis of how Ado 1 construed her practices in social media.

Ado 1's most significant social media experiences were through her use of BlackBerry messenger (BBM), WhatsApp, MSN, Facebook, YouTube and Skype. As shown on figure 5 in appendix 12 (PrinGrid) She considered Skype and YouTube boring, complicated, with technical problems and limited functions used, which explains why she used them the least (see cluster A). According to her experience, BBM was costly (see cluster B). She found that WhatsApp was clear, interesting, amusing, had a variety of functions and low technical problems, therefore she used it the most to express herself and re-bond with others (see cluster C). MSN, although it was free and was used with everyone, it didn't have any effect on ado 1's social life and she couldn't use it to express herself (see cluster D).

Looking at ado1's focus cluster analysis (appendix 12, figure 5), it seems that she used the most social media when it was clear, interesting, amusing and with low technical problems. Cost was not a determining factor. She used BBM the most, despite the fact that it cost and used Skype the least despite the fact that it was free. When, in order to learn a social medium, she needed others to teach her and when that medium had limited functions, she considered it boring and used it the least. When a medium triggered numerous responses and she was able to use it to express herself, and re-bound with others socially, ado 1 used it the most.

A synthesis of how Ado 2 construed her practices in social media.

Ado 2's most significant social media experiences were through her use of YouTube, BBM, Facebook, email (Hotmail or Gmail), WhatsApp, Skype and MSN. As shown on figure 6 in appendix 12, Ado2's PrinGrid reports the following: According to Ado 2, BBM was costly and might be used with strangers (see cluster A); YouTube was useful, used the most, 24/7 (see cluster B); MSN had limited access but was synchronous (see cluster C); Facebook was useful, used 24/7 and was accessible from everywhere (see cluster D); and email (Hotmail or Gmail) was used with a selection of people who Ado 2 already knew, and it had no effect on her social life.

Examining ado2' s focus (appendix 12, figure 6) cluster analysis shows that similarities between her experiences with different social media she used were low, 70% and under. When a social media was fashionable, useful and accessible from everywhere, ado 2 used it the most despite its cost.

A synthesis of how Ado 3 construed her practices in social media.

Ado 3's most significant social media experiences were through her use of BBM, WhatsApp, MSN, email (Hotmail or Gmail), Skype, YouTube and Facebook. As shown on figure 7, in appendix 12, she used YouTube alone and considered it complicated with limited functions (see cluster A). Facebook was fashionable and she used it with everyone (see cluster B). As for BBM, she used it the most to re-bond with others, 24/7, despite its cost. She used a variety of functions on WhatsApp because they were clear. Ado 3 learned to use MSN with the help of someone and for her, sending emails was no more fashionable.

Examining ado 3's focus cluster analysis (appendix 12, figure 7) shows that when a social medium was clear and had low technical problems, ado 3 used a variety of its functions on one device while opening other applications at the same time. And when a social medium had no effect on the participant's social life and was unessential, he used it the least for a limited time.

A synthesis of how Ado 4 construed her practices in social media.

Ado 4's most significant social media experiences were through her use of Facebook, BBM, WhatsApp, Skype, YouTube and MSN (see appendix 12, figure 8). According to her, Skype couldn't be taught autonomously (see cluster A). She used YouTube the least, for limited time because of its technical problems, and this did not affect her social life (see cluster B). WhatsApp, which was fashionable, interesting and amusing, had a variety of functions that she used. Ado 4 considered WhatsApp as irreplaceable (see cluster C). MSN was boring and out of fashion which made it replaceable (see cluster D). As for BBM, although it cost, it was essential, so she used it the most, 24/7(see cluster E). She used Facebook to re-bond with others (see cluster F).

Ado 4's focus cluster analysis (see appendix 12, figure 8) explains the following: When a social medium was not fashionable, had technical problems and had no effect on ado 4'social life, she considered it unessential, boring and replaceable and thus she only used some of its functions for only a limited time. To be used the most, a social medium had to have low technical problems, it had to be fashionable, interesting, amusing and most of all it had to have a re-bonding effect. Then, it could be considered essential and used 24/7.

A synthesis of how Ado 5 construed his practices in social media.

Ado 5's most significant social media experiences were through his use of email (Hotmail or Gmail), Skype, MSN, Facebook and WhatsApp (see appendix 12, figure 9). Ado 5 considered Facebook, which he learned autonomously, to be interesting, amusing fashionable and public (see cluster A). He considered WhatsApp as his property and used it on one device (see cluster B). Although MSN was synchronous, it was not useful and thus replaceable (see cluster C). Skype's characteristics that ado 5 retained were that it was used on several devices, it was free and it was not ado 5's property (see cluster D). Lastly, sending emails was formal and not fashionable.

As illustrated by figure 9 (appendix 12), Ado 5 used a social medium the most when it was informal, fashionable, interesting, amusing, private, used on one device and could be considered as his property. When the social medium was interesting, ado 5 learned to use it autonomously, and used the variety of functions that it offered.

A synthesis of how Ado 6 construed his practices in social media.

Ado 6's most significant social media experiences were through his use of WhatsApp, Facebook, Skype and MSN (see appendix 12, figure 10). Ado 6 considered Facebook as public (see cluster A); Skype as synchronous and with limited functions (see cluster B), MSN having technical problems and thus used the least (see cluster C) and WhatsApp, which he discovered alone, as asynchronous.

As illustrated in figure 10 (appendix 12) when a social medium had low technical problems and was learned autonomously, ado 6 used it the most. He used social media with limited functions, technical problems and hard to be learned autonomously the least.

How the six participants construed the meaning of their social media experiences

To find participants' common constructs regarding social media may give an idea on how, as a group, participants shared similarities and, if they have had to meet and discuss their practices, to which extent they would have been able to understand how others construed their experiences. This comparison, in addition to a description of participants' typical day in social media, will be presented as introduction to the group voice before starting analyzing participants' answers, explanations and justifications based on the grounded theory design.

Table 2 presents the most representative and common constructs between the 6 participants (see appendix 11 for all the participants' constructs and their percentages):

Common construct for 100% of the construct analysis interview participants:	Used the least/ Used the most
Common constructs for 83% of the construct analysis interview participants:	Learned with the help of someone/ Learned autonomously Costs/ Free Limited functions used/ Variety of functions used
Common constructs for 67% of the construct analysis interview participants:	Has no effect on my social life/ Re-bonding effect Used on one device/Used on several devices; Has technical prob. (connection/quality)/ Has low technical prob.+ acceptable quality Not fashionable/ Fashionable
Common constructs for 50% of the construct analysis interview participants:	Used with selected group/ Used with everyone Asynchronous/ Synchronous Limited time/24/7 Boring/ interesting, amusing Complicated/ Clear 50%
Common constructs for 33% of the construct analysis interview	Introduced by someone/ Discovered alone Not useful/ Useful

participants:	Unessential/ Essential Replaceable/ Irreplaceable Formal/ informal Public/ Private
Table 2. Common constructs between participants	

For all six participants, the first construct regarding their use of certain social medium was the amount of time they spent using it, but when it came to the variables that determined and influenced this frequency of use, some answers were different. For instance, when participants were able to learn how to use a medium autonomously, they delved in the functions of the medium and were motivated to use them, but when they needed to ask for others' help, some of the participants lost this motivation. The cost of using the medium was not an issue. Although it was a construct, it did not determine whether the medium was used or not. Another construct uttered by a majority of participants was the existence of a variety of functions provided by the medium and the extent to which participants benefited from it.

Adolescents used social media to connect with their friends, and when they discovered a medium that contributed to this and emitted a social re-bonding effect, they were enthusiastic to use it as often as possible. "Used on only one device or on many devices" was another construct describing the experience of participants in social media, but it was not a restricting one since many applications such as BBM and WhatsApp were only usable on mobile phones and yet they were highly used whereas Skype could be downloaded on a variety of devices and yet its usage was limited by the majority of participants. Contrastingly, when a medium revealed technical problems, including low quality and slow connectivity, many of the participants were reluctant to use it. Two

thirds of the participants declared that the construct "fashionable or not fashionable" was a major criterion for them to adopt the social medium or neglect it.

Based on their experience, participants explained that, depending on the affordances of each social medium, they used it either with everyone or with a selected number of people, and it didn't matter if the interactions were synchronous or asynchronous. In order for participants to use a social medium 24/7, it had to be clear and interesting and amusing or else they would use it only for a limited time. Other constructs that were common to one third of participants included how they first knew about the medium, its usefulness, whether it was essential or not, formal or informal, public or private and lastly, replaceable or irreplaceable. For a medium to reach the stage of irreplaceability, and to be considered as essential to participants' everyday interactions, it had to be fashionable, useful, interesting, with no or very low technical problems and contributing to flourishing online and offline social life.

After reporting how participants, individually, described their practices in social media and then presenting their common constructs about their experiences, the following section describes participants' social media's frequency use in a typical day.

Participants' Daily Social Media Frequency Use

When participants were asked to describe their typical day using social media, all except one (ado 6), started their narration from the minute they woke up in the morning, even before opening their eyes. They reach for their phone, usually sleeping with it either under the pillow or on a very close night table, and verify if anyone sent them a message during the night, whether through BBM (BlackBerry messenger), WhatsApp, or simple phone messaging. Ado 5 went into more details by elaborating on the sequence: he grabs

the phone, rubs his eyes, opens them, and then looks at his messages. Participants answer the urgent texts; check their Facebook notifications, check their friends' updates and then, they start their day. Ado 1 broadcasts a "good morning" to all of her contacts, and sends poems to her birthday friends. Ado 4 makes sure to chat for some time with her Canadian friends. Because of the time difference, when she wakes up at 6:30am it's 11:30 pm in Canada, perfect time to talk, and ask for news. Ado 3 and 4 continue BBMing (sending BlackBerry messages) in the bus to school while listening to music.

Except for ado 4, participants' phones are always with them, even in class. Ado 4 has to leave it at the principal's office during the day, because the rules at her school are very strict. However, she stated that if she returns one day to Canada, she is sure she will be having her BlackBerry with her all day long. When in class, ados 1 and 2 answer only urgent messages and leave the rest to the break. Ado 8 never replies in class, she takes a toilet break in order to do so. As they return home, while Ado 1 eats sometimes with her plate on her laps and the phone in her hands, the other participants make some efforts to focus on their homework. They put their phone on silent and if the lack of concentration persists, they hide their devices somewhere, in a drawer of their desk for example (ados 3 and 4). Ados 2, 4 and 5 made it clear that there was not a limited or a specific time of the day for the use of social media; BlackBerry messengers and WhatsApp users are always connected with each other, 24/7. Ado 5 explained that, as any phone user when she/he calls she/he expects the other person to be on the other end. WhatsApp users also expect their friend(s) to be on the other end. Although participants are connected all day long, if they are subscribed to the services that allow them to be so, most of them recognize that the use of social media is heavily happening between 11pm and 2 am. In order to stop it,

ado 2 has to turn her mobile phone off or else she keeps on receiving messages all night long. Ado 3 broadcasts a "good night" to all her contacts and ado 1 puts on her status "sleeping, DND" (do not disturb).

Emerging Themes Regarding Adolescents' Use of Social Media

This section discusses the four themes emerging from the interviews: 1) reason for first social media use (initiation to social media), 2) elements (or factors) affecting adolescents' use of social media, 3) consequences of a hypothetical absence of social media and 4) learning in social media. Before presenting the full-length version of the themes, table 3 summarizes the themes and sub-themes that were retrieved from the interviews verbatim, and categorizes them under the research question they answered. In addition, indications specifying the source of the themes (which participants evoked them) are presented.

Themes		Sub Themes		Participants								
				Ado 1	Ado 2	Ado 3	Ado 4	Ado 5	Ado 6	Ado 7	Ado 8	Ado 9
Research question 1) What are the adolescents' mental representations of their practices with social media? a. How do adolescents explain their behavior in social media, and its consequences on their offline life? b. How do they construe their interactions with the social media apps they use inside their networks?												
Reason for first use (Initiation to social media)		Wow effect	Majority effect	✔	✔	✔	✔	✔	✔	✔	✔	✔
			Novelty effect			✔	✔					
		Peer pressure + Fear of disappearing (being forgotten)		✔			✔	✔	✔		✔	✔
		Curiosity/ Search/ Discovery		✔			✔	✔	✔		✔	
of social media	**Related to the technology**	Constraints to use (technical/connection/quality/cost/etc.)		✔		✔	✔	✔	✔	✔		
		Access- Practicality (wherever, whenever)			✔		✔	✔		✔		✔
		Level of complexity (complicated/simple, clear, easy)		✔	✔	✔	✔	✔	✔			
		Synchronicity (instant/delayed messages)			✔	✔	✔	✔	✔			
		Updates of the technology			✔			✔	✔			
		Degree of privacy		✔	✔	✔		✔				✔
		Negative effects of social media		✔		✔	✔			✔	✔	✔
		Prior impressions		✔		✔		✔		✔	✔	✔

	Related to the user	Degree of formality/ amusement			✔	✔	✔	✔	✔			✔	
		Level of satisfaction						✔			✔		
		Degree of usefulness (as an indirect communication method, as a rapprochement facilitator, as self-disclosure tool)		✔	✔	✔	✔	✔	✔	✔	✔	✔	
		Identification as a present or future need		✔	✔	✔	✔	✔		✔	✔	✔	
		Out-datedness of the medium & Technology replacement		✔	✔	✔	✔	✔	✔	✔			
		Egocentrism		✔	✔	✔	✔	✔	✔			✔	
		Relationship with the medium (technology)	Cyborg		✔		✔	✔					
			Personification of the medium				✔	✔					
			Shaping of the technology		✔							✔	
		Level of "addiction"	Facebook	✔						✔		✔	
			Cell/ iPhone/ BlackBerry + Red light effect	✔	✔	✔	✔				✔	✔	
		Relationship with online strangers	Level of online xenophobia (fear of online strangers)	✔	✔	✔	✔	✔	✔	✔	✔	✔	
	Related to others	**Expectations from others & Others' expectations**	Replies, comments etc.	✔	✔		✔	✔	✔		✔	✔	
			Double life + Being alive only if active on social media	✔	✔	✔	✔			✔	✔	✔	
		Competition's intensity				✔						✔	
		Parents' reactions		✔	✔	✔	✔	✔					

Absence of social media		Positive outcome											
		Negative outcome		✔	✔	✔	✔	✔		✔	✔	✔	
Research question 2 Are adolescents aware of instances of learning while in social media? a. What type of learning do adolescents perceive as possible with social media?													
	Informal learning to use the medium	Social learning			✔	✔	✔	✔		✔		✔	
		Autonomously through Experimentation		✔	✔	✔	✔	✔	✔			✔	
		Social learning & Experimental learning		✔	✔	✔	✔	✔	✔	✔	✔	✔	
	Informal learning with the technology	Technology as a learning tool		✔	✔	✔	✔					✔	
		Technology as a learning environment	Group knowledge	✔	✔	✔	✔	✔	✔	✔	✔	✔	
			Socialization	✔	✔	✔	✔	✔	✔	✔	✔	✔	
			Management skills	✔		✔	✔				✔	✔	
			Texting/ Chatting abbreviations – Learning abbreviations			✔	✔				✔	✔	
			Texting/ Chatting abbreviations – Creating abbreviations			✔					✔	✔	

Table 3. Themes and sub-themes

First theme: Reason for first social media use (initiation to social media).

While interviewing participants regarding their stories in social media and how they first started using it, three major reasons were recurring among the answers: 1) "wow" effect, 2) peer pressure and the fear of not existing, and 3) curiosity, search and discovery.

The "wow" effect can be defined as the feeling that participants had when they were impressed and exited about the medium. It includes both the majority effect, "everybody has it" and the novelty effect "it was new and exciting". For example, ado 2 said "I used it because it was in, BBM is the most "in" since it started, I know many who don't have it yet, but I'm sure they want it, even if they keep on repeating that they are anti-BBM. In a similar perspective, ado 3 stated: "I used to find Facebook really wow" Ado 4 shares similar views: "When Loudtalks was new, everybody used it. BBM is really wow for me, here in Lebanon everybody has BBM, BBM or WhatsApp, so I had to have one". Ado 5 stated: "For me to decide whether I use an application or not, I compare it with Facebook and tell my friends about it, if they like it we all use it, if they don't, I drop it. For an application to become cool and fashionable, it has to be used by everybody, regardless the functions it offers" Following the others, ado 8 said: "Everybody had BBM so I couldn't be the only one without it. Lastly, ado 9 said; "I started using Facebook because it was trendy".

Another recurring and very enlightening reason for starting to use social media was peer pressure, and the fear of not existing. Participants explained that many of their friends who started their profile on Facebook, were communicating with each other through BBM and WhatsApp were pushing them to join the group. Ado 8 explains: "At

the beginning, I didn't really like BBM, but everyone was asking me to have it, so I did". Ado 9 said: "I think when we are young we are naïve and we need to do like the others, so it was mainly to resemble the others that I got my BlackBerry. I believe that the entourage influences us to have BlackBerries. It puts us in the ambiance of BBM. Ado 2 said: "My friend in Canada created a Skype account for me and sent me the password so I had to use it". Last but not least, ado 8 stated: "If one doesn't have Facebook or BBM, she's out, she's not cool, she can't communicate with others and no one will remember that she exists".

Some adolescents were simply curious about discovering new applications (ados 1, 4, 5, 6 & 7), so they went to the Apple app store, checked for the top apps and tried some, or were intrigued to know more about what their friends were using to communicate, not by pressure but by pure interest. Ado 6 explained that he used to see on Facebook his friends having on their statuses "this is my Twitter account". He knew nothing about Twitter so he Googled it and started discovering. Others' curiosity was geared towards what was happening with their friends, so they had to create a Facebook page in order for them to stay updated with others' news. After the use was triggered, several factors determined its continuity and frequency. The following section lists and explains the elements considered by the adolescents as encouraging or hindering their use of social media and their interactions.

Second theme: Elements (or factors) affecting adolescents' use of social media.

According to participants' explanations, the "wow" effect, peer pressure and curiosity only initiate a specific social medium use, but they may fade away if the

circumstances are not favorable or the affordances of the medium are not beneficial to its user. Elements affecting participants' use of social media may be categorized under three characteristics: 1) elements related to the technology, 2) elements related to the user, and 3) elements related to others.

Other ways of categorizing these elements could have been possible, for instance grouping them under 1) element encouraging the use of social media 2) elements obstructing the use of social media and 3) elements that engendered no significant effect. This grouping would have been also interesting because, although many of the elements were common between the participants, the effects they engendered were sometimes individualistic. This grouping might have led to a more thorough comparison between the participants and to an attempt of understanding how and why participants reacted to specific elements differently and which ones triggered the same reactions. But this would be a different study, answering a different research question.

Factors related to the technology.

Participants identified several factors related to the technology that were influencing their motivation to use specific media. These elements encompassed 1) technical constraints that hindered the usage, such as low Internet connection, bad quality; 2) easiness of access and practicality of the medium such as using it whenever, wherever; 3) level of complexity of the technology; 4) degree of synchronicity of the interactions; 5) frequency of the technology updates; 6) degree of privacy provided by the technology; and 7) extent to which the technology may engender negative effects on its user. These elements were expressed through the following examples.

Regarding technical constraints, ado 1 explained: "In Lebanon, the connection is very slow, Skype is hell, it keeps on disconnecting". Ado 4's explanation was: "When I was in Canada, I used to check all the new songs on YouTube. You Tube in Lebanon has very bad quality so I stopped going there. If I ever return to Canada, I'll be back on YouTube for sure. As far as ado 5 was concerned: "MSN is related to Hotmail and Hotmail keeps on blocking me and I don't have the patience to redo the configurations so I stopped using MSN". In a similar perspective, ado 7 stated: "When I call my relatives in Dubai through Skype, I can see them but they can't. This was frustrating so we stopped skyping (calling through Skype)". Ado 6 said: "I don't like MSN quality, it is very slow here; it takes forever for something to happen. The Internet is very slow. Once it took me 15 min to upload a picture on Twitter. I watched television while waiting".

As far as access and practicality go, participants (ados 2, 4,5, 7 & 9) explained that having social media on their portable devices was very handy. They can open Facebook and connect with their friends through chatting, or BBM and WhatsApp messaging anywhere anytime. Ado 2 added that since all her friends had easy access to Facebook from any device they used, communication became very easy. While they consisted of technical issues, practicality and accessibility were key factors to either adapt the technology or leave it. Participants (ados 1, 2, 3, 4, 5 & 6) faced the level of technological complexity differently. Ado 2, for instance, explained that she found Twitter a bit complicated and complex to her, so she didn't use it often. She continued by saying that a technology was simple and motivating to use when what you needed to do was clear and " Twitter was not".

Three participants offered competing opinions about Facebook's technological complexity level. They all evoked its functions and updates, but they regarded them differently. While for ado 4, "Facebook was complicated at the beginning, it was new, the functions were hard to understand, but with time and the changes and updates they did to the interface, it became easy to use", ado 2 found that the first Facebook was the easiest and the clearest to use, and she was worried about any upcoming updates because it would require her to learn the new added or modified functions and get familiar with their positions on her page again, for the fourth time. However, she said, this would not prevent her from continuing using Facebook. Ado 5 had another position regarding the complexity of using Facebook, he said: "Facebook is clear and precise, even 5 years olds can manipulate it. Everything is displayed. At my right my friends' birthday, on my left there are the applications. I only need to pay attention once to know the place and function of every icon".

Synchronicity was also a factor mentioned by several participants (ados 2, 3, 4, 5 & 6) as they repeated how important it was for them to be able to connect directly with their friends. Another factor was privacy (ados 1, 2, 3, 5 & 9). Ado 5 and ado 9 discussed the effect of privacy issues on their use of social media. Ado 5 explained:

> I don't like Twitter, it's a place where you only say where you are and will be doing and everybody can read about it. It's like taking out the privacy of a person. In Facebook, you can choose what you want to share and what you want to keep private. On Twitter you cannot control who will follow you and read your tweets. On Facebook, you choose your friends and what you want to share with them.

Ado 9 also expressed her worry about the loss of privacy in social media. She said, "nothing is personal anymore; we lost our intimate life, if we go out for example and someone acts crazy, his or her pictures will be on Facebook and her life is ruined. Everything is on Facebook."

A last factor related to the technology was the negative effect that it might engender and its risk to harm its user. Ado 1, ado 3, ado 4, ado 8 and ado 9 insisted on the fact that using social media was extremely distractive, especially during exams period. Ado 1 explained that during class, she gave her mobile phone most of the time to a friend or else she would not resist checking her messages and answering them. Ado 3, ado 4 and ado 9 were doing their homework very quickly and recklessly in order to start chatting. Ado 8 talked about deception as she gave the example of the information that Facebook users gave about themselves and were not true. She gave her own behavior as an example since she put pictures of herself that gave the impression she had a thin silhouette while in reality she is not thin. Ado 9 expressed her concerns about the rising uncertainty regarding the information that could be shared in social media and the ones that must be kept private. She said: "the more we become addicted to Facebook, the more we want to tell everything about ourselves, so we stop paying attention to what we are posting. I, for example, don't know what are the things that I can express on Facebook, and what I should keep to myself, I have doubts sometimes"

Factors related to the user.

Participants identified several factors that can be considered as directly related to them as users of the technology and which were modifying their use of social media. These factors or elements were 1) prior impression participants had about specific

technologies; 2) degree of formality imposed by the medium or the fun it provided; 3) level of satisfaction the user had from the affordances of the medium; 4) degree of usefulness of the social medium; 5) extent to which the medium is identified as a present and or a future need; 6) social medium's likelihood to be outdated and replaced; 7) egocentrism of participants; 8) participants' relation with the social medium; 9) participants' addiction to the use of the social medium; and 10) participants' understanding of the proper relationships with online strangers including their level of xenophobia.

Prior impressions that the participants had about specific social media might have delayed them from acquiring it and starting to explore its affordances (ados 1, 3, 5,7, 8 & 9). As a matter of fact, ado 1 used to criticize people with BlackBerry phones, always texting. She used to look at them and think, "someday these obsessed guys will be run over by a car". Ado 3 was the last one between her friends to have a BlackBerry; she used to be the only one with an LG phone and was proud of it. She used to "hate BlackBerry phones". Ado 9 shared the same feeling, but at the end, she had no choice but to have one. Ado 8 was also against having it; she believed it was a big distraction; she continued on believing this but bought the phone anyways and started BBMing.

Participants attempted to group the social media they used under two categories, the ones that were formal, and the ones that were amusing and used for fun (ados 2,3,4,5,6 & 9). The second category was hard to restrict because many participants modified the use of informal social media and used it more or less formally. Facebook for instance, intended to connect friends, was used as an environment for school group projects. Nevertheless, most participants identified Hotmail and Gmail as being formal

and thus the less used, since they solely served to sending documents or projects to their professors.

Ado 5 and ado 8 expressed their total satisfaction with the social medium they most frequently used. Ado 5 insisted on the fact that the creators of Facebook knew exactly what was needed and whoever would invent a better social medium: "chapeau!" (Hats off!) Ado 8 believed that BBM had it all; the functions provided by this service were all that she would ever need and nothing would make her change her opinion.

Social media play three essential roles in participants' social life. It is their preferable communication method, it acts as a rapprochement facilitator and it serves as an effective self-disclosure tool. The following is few of the descriptions given by participants regarding the usefulness of social media regarding their social life:

> I like the fact that with social media, I 'm connected with my friends 24/7. I like to share what I have on my mind with friends, what I have in my heart, I do it through updating my statuses everyday. I just express myself; it's faster than calling. I talk with some of my friends face to face, but on Facebook, I feel that the words I use help me express my feelings more. I changed school couple of years ago, it was a big change, I couldn't see my old friends anymore, so the only way for me to talk with them was through Facebook and MSN, now I have a strong relationship with everybody because of this, I was rebounding through these messages (ado 1).
>
> Because of social media, I got much closer to people I used to only say Hi! Bye! People from my school, we became very very very close, and we started organizing programs together. When I travel I tweet where I am, what I 'm doing,

I share my impressions. I also follow celebrities on Twitter and I feel that I'm closer to them (ado 2).

Ado 2 also discussed the fact that social media provided an indirect way for shy people to express themselves from behind their screens, without having to deal with their emotions when they were in a face-to-face communication. More examples from participants' comments were:

Social media get people much much much closer. We talk we laugh we have fun, especially from 11pm till 2 am; everybody is active during this time (ado 3).

BBM helped me know people, their characters, looking at the pictures they put, the statuses they wrote, I knew what they loved how they thought, I discovered their personalities (ado 4).

I once traveled to the Czech Republic, and I met someone there, how do you want me to stay in contact with him? I added him on Facebook of course! (Ado 5)

Social media keeps my friends close to me, when I feel that it's been like two weeks without seeing one of my friends, I send him a message on WhatsApp, poke him on Facebook…my friends in other countries I call them with Viber or Skype, they answer and we start exchanging news (ado 6)

Even people with no close friends, if they start BBMing they will have many, I'm sure (ado 7).

I used to look at many older students in my school and find them wow! Their personality, their look, how they treated others, and then I started BBMing them and I realized that they weren't that wow, they used to be my idol, now I find them very normal, and even less (ado 8).

> Let's say I have 100 contacts on Facebook or on BlackBerry, I post a picture or a status, all my contacts will see that, and probably comment. I will feel important because I will feel I'm one of those 100, I'm important to them; instead of being just a no one of the 5 billion people living in this world (ado 9).

Most of the participants (ados 1, 2, 3, 4, 5, 7, 8, 9) considered social media as being a present and future need, as they explained that communicating with their friends through these technologies became a necessity for them, something they couldn't live without. Ado 5 went further by explaining that having access to social media was like having electricity in our houses, it was not a fashion, nor a trend; it was simply a basic indispensable necessity. To fulfill this need, participants used several social networking services and applications on varied devices. Some were replaceable and others were not. For instance, most of the participants declared that although MSN was a big hit few years ago, it became outdated and new tools substituted its functions such as charting, replaced by BBM or WhatsApp texting, video calls replaced by Skype or Viber (ados 1, 2, 3, 4, 5, 6, 7):

> I was bored with MSN; since I got my BBM I stopped being interested in using anything else, except Facebook of course (ado 1).
>
> I don't like MSN anymore because at beginning, it was a hit, everyone was using it, I had so many contacts added everyday, then I don't know why it had a great fall, no one is opening MSN anymore, it became boring (ado 4)
>
> When everybody had BBM, they stopped using MSN. Facebook was a little bit replaced by BBM too. BBM, will never be replaced (ado 4)
>
> I use WhatsApp and Facebook, no need for MSN anymore (ado 5)

MSN is dead now (ado 7)

The verdict for labeling a medium as outdated or worth conserving was entirely determined by participants' and their friends' experiences in social media and their egocentric rationale:

> Facebook is my life. Twitter is nothing compared to Facebook, in my opinion. I feel that Twitter, I feel like it's not of my age, I don't know, now I'm 16, I don't feel that people who are 16 are into it, I have so many friends they're uncountable so it's weird, we don't feel it has anything, it's like the same concept in everyone's mind, my age, Twitter doesn't have anything and it's useless (ado 1)
>
> There are so many sites, for my age, MSN is old now, ...for me (ado 2)
>
> WhatsApp is not in, because mainly people who don't have a BlackBerry use WhatsApp, and these people are rare (ado 3).
>
> Everyone in Lebanon has a BlackBerry, everyone, and who has not; well he or she has an iPhone (ado 4).
>
> Facebook is the top, to determine which site is interesting or not, I compare it with Facebook (ado 5).
>
> People don't really open Twitter a lot, that's why I don't tweet much (ado 6)

While spending an important amount of their awaken hours in social media, participants developed a special relationship with the social technology they used, whether it was simply social networking sites, or web-based applications and services or even the devices on which they had access to these services. Almost like cyborgs, participants' phones were "always in [their hands]". Ado 2 explained: "My friends and I, we always have our phones with us, unless the phone was broken, we would be without a phone, but

this is rare". Ado 4 said: "My phone is always in my hand, always always, with BBM opened". Another stated:

> For me Hotmail it's like a friend I always worked with, and this friend I knew since I was a child, this is it, this is my Hotmail, even if we fought some times, and it drove me crazy, but I never replace it, it would be like being unfaithful with him. It's like having a girlfriend and cheating on her. I will never replace my Hotmail (ado 5).

Adolescents explained that they shaped the social technologies for their needs and used various functions differently, to serve objectives belonging to their users, not the ones they were designed for, in the first place. As an example, ado 9 explained that BBM was at initially destined to belong to the business market, and adolescents transformed it to become their number one communication tool. Ado 2 gave a different example regarding the use of Facebook. While this social networking site was firstly created to connect friends, her teacher was using it as a forum or a study environment for his art students. Participants were not only conscious of their need to use social media and the modification they did with the technology so that it served them the best, many of them described this need as an addiction:

> I tell you, this is an addiction, my phone always in my hand and when the red light goes on, OMG, I can't ignore the red light (ado 1)
>
> I sleep with my BB (BlackBerry phone), because everybody texts me during the night, but I put it on vibrate. I just look at it and check who is sending the messages. I need to know, even if I don't read the messages, I need to know if messages are coming (ado 1).

> It bothers me to feel that I'm an addict. I don't like to feel that the machine controls me, I need to be able to say, from 11pm till 7 am I don't want to use it…but I just can't (ado 2).
>
> When I study, I need to put my BB in my drawer; I can't resist the red light (ado 3)
>
> I used to be addicted on Facebook, obsessed with it, always on it, now it's mostly BBM, I have it always opened in my hand, it never took me more than 5 minutes to answer my messages, when I see the red light, I open it immediately (ado 4).
>
> I have to stop it but I can't. During my exams, I can't have it with me and see the red light and do nothing. This bothers me (ado 8).
>
> When I go out with friends, I have to take pictures to post on Facebook; I have to, even if it's something stupid, I just have to, I'm so addicted on Facebook that everything I do must be there (ado 9).

Several participants described their behavior in social media as a sort of addiction where they lose control; nevertheless, many of them drew a firm indisputable line when their interactions involved online strangers. As a rule of thumb, they said that they rarely accepted to add a stranger to their friends list, unless they had more than 30 mutual friends (never for ado 2 and more than100 mutual friends for ado 4). They first check the stranger out, look at his or her page, evaluate the kind of posts and friends he or she has than accept him or her for a testing period, before starting really interacting with him or her (ados 1, 2, 3, 4, 7, 8, 9). Ado 5 explains that the major reason why he avoided using Twitter was the fact that anyone could follow him and read his tweets. People who didn't even know him were reading about his everyday life. That gave him the impression of

having strangers spying on him. He said: "like in real life, do you like strangers following you in the streets and watching all your steps?"

Factors related to others.

Both online and offline surrounding, composed of friends, acquaintances, family and parents, had major influence on participants' use of social media. In this particular grouping of verbatim's passages, participants discussed 1) mutual expectations between themselves and others; 2) living a double life and existing only if active on social media; 3) competition intensity between the social media users and 4) participants' parents' reactions.

One of the major motivator of participants' postings was the mutual expectation between themselves and their friends. They knew which statuses would trigger which comments and they predicted from whom. They also shared pictures knowing that it would generate a great number of "likes". As participants expected their friends to acknowledge their online contributions, they reciprocated with a similar behavior –i.e. commenting and liking their friends' postings and replying to messages and broadcasts. The following explains further this behavior through participants' descriptions of their online interactions:

> I always comment on my friends' posts, they expect me to do so. I have friends living far, we always chat using posts (ado 1).
>
> When I post, I expect to have "likes" and comments. I choose my songs and videos, I never share anything that may touch someone's beliefs, and I always put neutral things. I know my friends will react to certain songs; they will like them and comment. My friends are active. I know my friends (ado 2).

> For example, if I write" not in the mood", everybody will ask "why? Did you have a fight with someone? What's happening?" I know this because if any of my friends posts this, I will ask the same questions. We all think the same (ado 3).
>
> I check Facebook every night before I go to sleep. I feel that I'm obligated to do so, I don't know, maybe a friend needs me or something, I need to be there and see what he or she wants. I have the application on my iPhone; it takes me two seconds to check. It's like if somebody calls me on the phone and I don't answer, I can't do this. My friends expect me to answer them, because we are always connected (ado 5).
>
> I usually post jokes and I know that some of my friends will reply with other jokes, and this is fun! Some will reply with "hahaha". I wait for their comments; this is why I post things in the first place (ado 6).
>
> When I have no comments or reply to my messages, I get angry because I think no one wants to talk to me (ado 9).

In addition to being lead by others' expectations, participants were describing social media as a "second life" they were living, parallel to their offline life, with all its rules, demands and obligations. According to them, online life, which was even becoming more important than their offline one, was determining the degree of their "being alive offline" in the eyes of their friends and acquaintances. While most participants discussed this issue indirectly, through giving examples on how they would stop existing and would be forgotten if they ever stopped their social media activities, ado 9 clearly put these facts into words:

> Life in social media is becoming more interesting than our real life. Because everybody is on Facebook, everybody forgets that real life exists, so in order to exist, they put everything on Facebook. In other words, all our life is going on Facebook. I don't know how to explain this, Facebook is an example, but Facebook became part of our life, if we are not on Facebook, we don't have any common subject with our friends when we are out of Facebook. And it's not only social networking, it's everything, we buy online, we meet friends online, we share photos online, and this is what is happening, we stopped doing things in our real life, everything is becoming online. When we go out, if we go out, we continue conversations that were happening online. If we are not part of them, we are outsiders. Most of our going out happens on BBM; BBM replaced our real life.

As in real life, some participants reported the high intensity of competition between the citizens of this online world, mainly the females. Ado 3 discussed the issue of having the highest number of contacts, of replies, comments and likes. Ado 9 explained that she invests real effort to please others through her video and photo sharing, in order to be "liked". She said:

> Facebook is becoming a continuous test of life. Pictures, for our generation, they really became a scary issue. In fact, we, girls, all believe that we are top models, and we put pictures of ourselves and then we cry if we don't receive all the "likes" we expect. It became a serious addiction for us, for example, I post my picture, I receive 35 likes, I check my friend's picture, she has 70 likes, so I start screaming, why did she receive all these likes? In fact, it's not because she is

more beautiful than I am, it's simply because they like her more than they like me. So now, this is transformed into a competition between all of us. It's like in real life, if someone gets a better grade than I do, it's a competition.

Lastly, regardless of participants' motives to use social media, and all the obstacles they successfully surpassed, the foremost controllers of their access to social media, and the time and frequency of their activities there, were participants' parents. They were the providers of the devices, they were the ones paying for the services and they were the ones who threatened to deprive their adolescent from this luxury if he or she overused social media. According to participants' assertion, although most of the parents were supportive to their children's wish to network socially online, and they accompanied them during their first steps, a good number still had a great control over when and how much their children were allowed to stay online. Participants expressed a feeling of injustice and considered their parents lacking of understanding, and too old to understand their new way of being. Ado 1 had no problems with her mom. She said: "I talked with my mom about it and my mom always understands me. One day she told me, this month I'll take my salary and I'll pay for your BlackBerry services. I was like thank you mom!" Ado 2 created her first Facebook page with her parents looking over her shoulder. She promised not to put any pictures of herself, but after a while, she had no choice. When her mom learned about it, she forbid her from accessing Facebook again. After few months, ado 2 was allowed to come back, under one condition: she had to act responsibly on Facebook. She explained that her mom was her friend on Facebook, so she could always have access to whatever she posted. Ado 3 had a rough time convincing her parents to buy her the BlackBerry phone. She explained:

> At the beginning, they didn't want me to have a BlackBerry. They said it's addicting. Now it's getting on their nerves each time they see me holding it. For them, I'm always texting, but this is not true, sometimes I check Facebook, I tweet, I share pictures, it's not only BBMing. My parents say that if I stay on BBM, I won't have a future. They don't understand that this is my unique way to communicate with my friends. Every time they see me they tell me "go read a book".

Ado 4 had the same issues with her parents who kept on threatening her to stop her BBM services if she continued on using her phones the way she did. According to participants, parents had a hard time understanding why their adolescents were so keen in using social media. They considered their behavior as irresponsible, a total loss of their time and a major threat to their future.

The next section describes participants' viewpoints on the consequences of being deprived of accessing social media.

Third theme: Consequences of a hypothetical absence of social media on participants' offline life.

Given the qualitative-interpretive nature of this study, I asked participants the following hypothetical question and tried to retrieve answers that were as authentic as possible to describe, analyze and understand the degree of adolescents' enthusiasm about social media despite the effort they had to invest into getting familiar with and the several previously mentioned hurdles they had to overcome in order to succeed. Understanding participants' savviness to use social media will contribute in explaining and justifying their motivation to learn how to use it, an issue that is paramount to acknowledging,

exploring, making sense of and then transferring its rationale into our educational system The question was:

> You wake up tomorrow morning and discover that social media ceased to exist, and your only way to communicate with others is through a telephone that has only one function: calling one person. Describe your normal day. What will be different? Why?

Overall, despite the fact that participants were against the idea of removing social media from their lives, they did explain that it would probably be good in some ways. While ado 3 believed that she would have more time to concentrate on more important issues in her life, like her studies, ado 4 predicted that people would be more intelligent since they would have more time to concentrate on "real work". She also said that she would be engaged in more sport activities. Ado 9 replied that she would feel liberated.

Some participants also discussed how they would live the transition between a social media world to a "just a telephone" world. Ado 2 and 4 both shared the confidence that they would be able to stop using social media, but it would take them some time to adjust. Ado 2 explained: "The first days without social media will be very hard because everything is a matter of habit, but with time I will get used to not having social media in my life, although I will miss it". As for ado 4, her reaction was:

> Imagine! ... It will be so hard…because it's a habit now, but I can do it, I actually did it before, during my exam period, the first week was very hard without Whatsapp and BBM, the second week was less hard, the third I was ok

After taking some time to reflect on the issue, and really imagine their lives without social media, participants started to describe the situation with a variety of

expressions that revealed their despair. Ado 1 said: " It would be torture". Ado 2 affirmed: "A world without social media, it would be the misery" In a similar perspective, ado 3 said: "Everything in my life would change". Ado 4 stated: "I would feel very distant from others". In a more creative way, ado 5 said: "If social media disappeared, I would invent one, or else my PR (public relations) would risk falling down by 60 %". Ado 8 said in despair: "Without social media, I would disappear, no one would remember me anymore". Ado 9 was more drastic and said: "I would suffocate".

In fact, all participants were traumatized by the idea of being disconnected except ado 6, who said that during summer he spent much of his time in an area where Internet connection was not available and he managed to survive, he insisted on the fact that: "I can live without".

As far as participants were concerned, they all thought that removing social media from their lives would have an important impact not only on their daily activities, but also on who they were. The following examples illustrate their thoughts:

> If social media was taken away from me, oh my God what will happen to me? I can't live without social media, I will be emotionally affected, it's like a routine in my life; I will loose so many friends (ado 1).
>
> I will be talking to less people so many less, people will hear less about me, know less about me, I will be forgotten, not by the closest friends but by all the others, my social life will change, even at school. Social media is omnipresent in my life, I can't find myself without connection, without network, it will be very hard; it will be unliveable. When I returned to Lebanon, I continued interacting with my Canadian friends through social media, and when I went back to Canada for

vacation, I also connected with my Lebanese friends through BBM, Facebook and WhatsApp (ado 2).

I will stay home watching TV; I will lose the way to communicate with many of my friends, I will not have their news, without my BBM, I feel as I will lose everything (ado3).

I will miss texting; our way of communicating will be very limited. Nowadays when we ask about someone who disappeared, we say: "are you talking to her?" the other answers "no, she has no BBM anymore" (ado 4).

When ado 5 imagined the situation without social media, his first answer was "if I don't have an Internet connection, I go to a network café or I put on Facebook that I won't be available for a while, leave me a message or call in case of emergency" and he continued, "if they take away the Internet from us we will go down to the streets and all of us friends we will revolt. Because being connected is a necessity, it's like having water and electricity, it's basic. I will lose all my connections, not my friends, but my connections whom I hold thanks to social media."

Other examples of participants' reactions to the hypothetical absence of social media were:

I sometime think about people who don't have a Facebook page, they don't share their news, they don't interact with others, how do they live? They must be lonely, I'm afraid, without social media I would become like them. Now, when I'm in the mountains and I'm out of megabytes, when some friends ask me to see pictures or check friends' walls and I can't, I feel I'm "out". I won't understand what they will be talking about (ado 8).

> I stopped using my BBM once and I was suffocating, I felt as if my friends stopped talking to me, when we don't have BBM we feel that people don't need to talk to us anymore, we feel that we are alienated, we feel that we are alone. Without social media no one will know about us, we won't feel important anymore. Our generation needs the "like" to feel important. We need people to like our statuses and our pictures to feel that we exist and we are important (ado 9).

In general, adolescents didn't see the phone as being as valuable as the social media they use. Participants all agreed on the fact that calling was difficult, limiting, slower and expensive. Some examples of their affirmations are:

> The phone is not like Facebook, with the phone I would call once, on Facebook we could chat for hours, on the phone my ear hurts. On Facebook we can talk to so many people at the same time. Calling, we won't be able to say what we want to say, and we need to talk a lot to explain and we lose money. On Facebook, it's easier, a person asks a specific question and we answer specifically at it. It's faster and less expensive. I have limited budget! (Ado 1).
>
> I would be calling only few friends, the ones who are really close (ado 2).
>
> I don't like calling; I find it useless. Nowadays, when you want to get in contact with someone, you ask for his or her pin [BlackBerry messenger pin] not his or her phone number, we don't call we text, we chat (ado 4).
>
> Each time I need to call my friends to go out, I would use my calling units, and it's expensive, specially here in Lebanon we need to pay monthly for a limited number of units (ado5).

In sum, as we have seen in the preceding sections, adolescents' mental representations of their practices with social media are related to two main points. The first point concerns the reasons that initiate adolescents' use of social media –i.e. the extent to which their friends are using the medium, their friends' pressure to use the medium and in some cases, adolescents' curiosity to discover the new medium. The second point is about the elements that may have an effect on adolescents' use of social media –i.e. issues related to technology, for example access, Internet connectivity, cost and more; issues related to the adolescents as social media users, for example to which extent do they find the medium useful; and lastly, issues related to others, for example parents' reactions, their friends ' expectation regarding replies and comments, and more. As far as their behavior in social media and its consequences on their offline life, adolescents were convinced that their online and offline lives were tightly connected, and that they were equally essential to nurture their social life.

The next section answers the last research question, which refers to the awareness of participants about learning while in social media. Precisely, the question and sub-question were: Are adolescents aware of instances of learning while in social media? What type of learning do adolescents perceive as possible with social media?

Fourth theme: Learning in social media.

Instances of learning through social media, manifested during participants' interviews verbatim are grouped into two categories: 1) learning to use the technology 2) learning through the technology. In this section, these two categories will include how participants described the methods and behaviors they adopt to learn how to use social media, whether socially, autonomously or with a combination of both, and then how this

technology was used, both consciously and unconsciously to learn, whether as a learning tool, or as a learning environment.

Learning to use the technology.

As participants were narrating how they had first been introduced to social media, and how they learned how to use it, three strategies of learning were detected: 1) social learning, which included observing others and asking for their help; 2) experimental learning, where participants were discovering the medium autonomously and learning how to use it by trial and error, without any outside assistance; and 3) a combination of both social learning and experimentation, where their expert friends walked them through the first steps, then participants took over and independently went further to discover all the functions and possibilities of the medium.

Many participants were accompanied by a parent, a family member or a close friend in their social media foray. Most of them were initiated to it when they were less than 9 years old. At that time, they started using email services like Hotmail or Gmail, and chatting through MSN. For example, ado 2 learned how to use Skype by observing her mother skyping with her sisters. Ado 4 asked her cousin for help when she started using her BlackBerry messenger: "he showed me that when it was a D under the sent message, that meant delivered, R meant read, he explained in depth almost all the functions". She also needed his guidance for starting to use Twitter, "it was very hard, till now, and I asked my cousin and many friends to explain it to me".

Several participants were curious and eager to start using social media, so they rushed into experimenting it through playing with the device or application, touching

every button, testing every function, consulting the help section, restarting and trying again. Ado 1 explained that she had "the curiosity to learn by herself". She explains:

> Facebook is a web application that has many sub-applications, so no matter how much you learned, you will not learn everything; it's like endless. It took me about 3 days to get used to Facebook, but 3 days means everyday 3 to 4 hours on it. I kept searching and doing, and as I've told you, you can't learn everything on Facebook, so every day I learned something new, now I consider myself a professional, I see an application I 'm able to understand it immediately and know how to use it

Ado 2 complained about the Facebook updates, but she had no problem to venture into any new version and familiarize herself with it. Ado 4 clicked on every button, every icon, opened every possible page extension, to see where they leaded her. She explained that when she was interested in a technology, she kept on playing with it for over 5 hours per day. Facebook took her two weeks non-stop, Skype a month, BBM not more than a week. WhatsApp was the "simplest of all", she even downloaded it herself, she said. According to ado 5, "everything is clearly displayed on Facebook and Skype. There is nothing to learn. It's all about experience". He also explained that universal code of colors used in social media facilitated the users' fast adaptation since "in all instant messaging, green means available, yellow means absent and red means busy. When friends are offline, it's grey". Ado 6 learned autonomously how to use his iPhone:

> When the iPhone was launched in Lebanon, I was the first one to have it, before all of my friends, so it was a mystery device, trial and error, if something went wrong, I connected it to my laptop and restore it again. As for any new

application, if it interests me and I'm curious about it, I click on "try it now". It takes me 30 minutes to learn about it and evaluate whether I'll use it or not.

When I asked ado 9 how she learned to use Facebook, she answered: "It's so easy, it's written when we enter Facebook", and she laughed as if my question was stupid. She continued by saying that whenever she wanted to start a new application, like Angry Birds for example, she always started by experimenting it for at least an hour, than, if she still had some difficulties, she sought help from her friends. Ado 9 was not the only one who preferred to discover the technology by herself, and had no problem asking for help when she needed it. Ado 1 explained that it depended on the application, if it looked like one that she already used, like WhatsApp and BBM; she had no problem with, even if it was more developed. However, if it were not related, she would need someone to guide her. Before Ado 2 started tweeting, she asked her friends, who were already Twitter users, to show her the first steps to proceed. She was planning to start her own blog, and in order to do so she was going to visit many blogs, including her best friend's, take ideas and ask questions if something was not clear to her.

Whether alone or through the help and guidance of a close person, participants' motivation to learn adequately how to use specific social interaction tools, and getting familiar with them gave them the artistry to shape these tools and use them naturally and unconsciously for learning purposes. In the following section, instances of informal learning happening with social media as a learning tool and social media as a learning environment will be presented.

Learning through the technology.

More than half of the participants (ados 1, 2, 3, 4 and 7) were using their smartphones as a learning tool to conduct group work for school. Ado 1 and 4 studied math and solved math problems through sending and receiving voice notes and pictures of the steps and results they achieved in math exercises. Ado 2 was receiving lessons and explanations through Facebook and BBM when she traveled for a while during school months.

Social media was considered as a practical and seamless tool, but it was also a place where participants went, met and learned, intentionally and/or unintentionally. Ado 1 and ado 2 went to YouTube when they had questions. While ado 1' s questions usually targeted understanding physics, ado 2 was more interested in learning about makeup, how to put it and its new trends. Ado 1 explained that if she encountered information that would interest her friends, she shared it on Facebook and tagged it with their names so they would be notified. Ado 2 was impressed by her art and culture teacher, who created a Facebook closed group page for his class, where he posted information, news, and explanations about projects. She explained that it was a great and easy way to communicate within the group, but also with the teacher, who although may not always be available to answer their questions during school hours, he made sure to reply to their posts on their group page. She said: "our teacher became accessible". Ado 2 also discussed the practicality of acquiring new information in social media:

> On Facebook, or Twitter we can read newspaper headings, watch the latest videos, and read about what's happening in the world, all from one place and at our own convenience. If we miss something, everything remains here, we do

some search and we find all the information we need. I learn about many things when reading my friends' posts, and we comment and discuss and…

Participants shared their knowledge in social media, tested it with their friends and modified it when needed. Ado 1 learned something new about her religion. Ado 5 knew about upcoming concerts, and learned new techniques to flirt with a girl he liked. Ado 6, who insisted on the fact that "we learn nothing in social media", spent around 2 hours per day on Facebook because " there are so many interesting things happening on Facebook, you scroll down, you see something interesting, you read about it and then again, another interesting link, you click on it, and then more interesting facts, also you read them". Ado 9 shared ado 6's opinion regarding the absence of learning in social media, and that she only used it to have fun and connect. However, Ado 9 who had previously discussed how, with time and experience, she "learned" what kind of photos yielded the highest number of "likes" and what kind of posts would trigger her friends comments implied that she learned the rules she had to follow in order to have the best interactions with her friends. She learned to socialize online:

> When I post a picture or a status, if I receive many likes that means my friends like it, so I repost similar pictures or posts, but after a while people get bored so they stop liking my posts, I have to come up with new stuff, always do better in order to keep them interested in my wall. I also go to others' wall and see what kind of pictures they like to post, and what are the subjects they like to talk about. I learn about my friends and it becomes easier to expect their reactions to my posts and the kind of comments they would leave on my wall (ado 9)

Many other participants went through the same spontaneous training and acquired new socialization skills. Ado 1 learned how to avoid online strangers and how to deal with the situation if she encountered them by accident. Ado 2 learned what to publish and what to keep private. Ado 2 continued by saying that she, not only had access to new information in social media, but also learned about her friends' habits, hobbies, ways of doing things and culture, while interacting with them and observing the pictures they posted and the links they shared. That facilitated her interactions with them and kept going their friendship. Ado 3 confessed that she thought a lot before posting or sharing. She reflected on every status and predicted what might be the responds based on her knowledge about her friends' personalities. She explained that through observing their posts and the comments they wrote on her wall and on others', she understood how they thought. Ado 4, ado 7 and ado 8 gave the same explication; they also went through their friends' pages, considered the words and expressions they put on their statuses or walls and based on that, they learned how and what to post in order to attract, entertain and charm most of their friends. Before Ado 5 shared a link or a joke posted by his friends, he looked at the comments they received and evaluated if they were worth sharing or not, mainly based on others' reactions. Ado 6 explained that his choices of posting were derived from his experiences: "I tried it before, so I know what works and what doesn't, what my friends will like and what they will find stupid".

While sharing their friends' knowledge and gaining soft skills in social media, participants had to handle essential managerial issues such as using effectively the amount of megabytes they were allocated to them by month without exceeding it:

> I once paid 75 USD for a one month BlackBerry service because I didn't pay attention to my megabytes, I won't ever do that again. Here in Lebanon we have EDGE for BBM, we pay 40USD per month and we have connection all the time, with or without Wi-Fi, the important thing is not to exceed our 100 Megabytes (ado 3)
>
> All my friends have BlackBerry phones, so they all have WhatsApp, when I'm not home and I need to send them a voice note, I send it through WhatsApp, because it uses less megabytes (3)
>
> On my BlackBerry I have 45 minutes of calling, I have my music and BBM, I don't browse the Internet when I'm not home because my megabytes will finish quickly, in Lebanon megabytes are a big problem and I pay weekly, so I only have 24 megabytes per week for 10USD (ado 4).

In addition to paying attention to their megabytes, participants had to juggle their social media to best fit their friends' situation. They used BBM and WhatsApp with BlackBerry phone users, WhatsApp with iPhone users, Facebook with those who lived in other countries and they lost touch with, in order to get their BlackBerry pin or phone number and start texting. To stay connected with most of their friends who used varied social technologies, participants had to develop managerial skills and choose the best tool to serve the best target.

Furthermore, participants managed to learn a new universal language, which is the language of chatting, and had some input to it:

It's easy, everybody writes with the chatting language, so I learned it because I needed to understand and chat with it. I also invented some words with my friends (ado 3)

With time, all my friends use it; even my Math teacher uses it when writing on the wall, when I didn't know something I asked my friend. I use most of the abbreviations, but some are complicated (ado 4)

First I hate LOL, but I use it cause it's faster than HAHAHA. BTW, and the others I use. There were tests on Facebook, so I took them and learned this language. Sometimes I need to use my logic to discover what some abbreviations mean. Sometimes I invent some words, I just throw them in the chat and my friends need to know what they mean (ado 8)

It depends with whom I'm chatting. My mother tried so hard but she is so bad in this. I use some, not all; I use brb (be right back) for example. With my closest friend, we created many words (ado 9)

In sum, two situations of learning were occurring when participants joined social media: first, they had to learn how to use the technology, and second, they had to learn, through the technology, how to perform in social media. This learning was mostly happening through exploration or through observing friends and family members using the medium.

This chapter presented the data collected during the semi-structured and construct analysis interviews, focusing on answering the two research questions of this study. It started by presenting individually six participants' understanding of their practices in

social media. It continued by introducing the voice of the group through finding similarities in how six participants construed the meaning of their experiences. Next, it synthesised the nine participants' daily social media frequency use, before proposing the four themes emerging from the interviews. These themes were: "reason for first social media use (initiation to social media)", "elements (or factors) affecting adolescents' use of social media", "consequences of a hypothetical absence of social media on participants' offline life" and "learning in social media". The next chapter will strive to interpret these findings.

Chapter 5-Discussion

This chapter concludes the study by describing the implications of the results. It first presents explicit answers to the research questions, synthesized from the findings presented in the results chapter. Next, this chapter proposes a model of adolescents' use of social media based on participants' self-reported practices and personal interpretations, which is presented through the axial coding of the grounded theory. As part of this, this chapter presents the selective coding emerging from the axial coding from the grounded theory approach: learning to [exist] and learning [to exist] and explains why this is a valid construct for adolescents' learning in social media.

The two first sections of this interpretation chapter will take the literature into consideration to shed the light on the similarities and differences of this population. The third section of this chapter is an interpretation of the results mostly in the light of my opinion as a researcher who has lived in Lebanon and in Canada.

Summary of research questions

Answer to question 1: adolescents' description and interpretation of their practices in social media and their outcomes

The first question asked in this study was "what are the adolescents' mental representations of their practices with social media; and how do adolescents explain their behavior in social media, and its consequences on their offline life?" The answer was: According to participants, their practices in social media were an addiction, resulting from a necessity and managed by functionality. The three sub-sections that follow will start by discussing functionality, then elaborate on necessity and end by explaining what adolescents believed to be an addiction.

Functionality.

Functionality was a major criterion that determined participants' choice of devices to use and applications and social networking sites to adopt for their practices in social media. Participants to this study used social media mainly on their smartphones, they opted for a device that could easily merge with their corporeality –i.e. their phone was always in their hand, as if it were a vital extension to their body. BBM and Whatsapp were the most frequently used applications followed by Facebook. As participants explained, these applications and social networking sites were fashionable, which meant used by "all" of participants' friends and thus interactions were seamlessly enabled; they were easy to download, with clear functions that could be discovered and learned autonomously and with the least technical problems regarding quality and connectivity with the Internet. In addition, these three social media were accessible anytime, from any place (wherever, whenever); they allowed connectivity with one or more friends at the same time, both synchronously and asynchronously and thus, they had an exceptional rapprochement and re-bounding effect, the reason why they were dubbed irreplaceable.

Necessity.

The use of social media was paramount for participants for two reasons: first, as reported in the literature, the fact of being adolescents implied their vital need for their friends' close presence in order to survive this critical phase of development, and second, as explained by participants, being present to their friends, which was confirmed by the participants' existence in social media.

- Need for the social presence of others: Adolescents needed the presence of friends; this was the bottom line of their savviness to communicate. As described

in the literature review, adolescence is the phase where a child metamorphoses into an adult and, in order to succeed in this transition, he/she has to define his/her identity, determine his/her values and goals, redefine his/her relationship with his/her parents, and strengthen his/her ties with his/her friends, which leads to building his/her personality. During this phase, adolescents' perception of their level of success correlates with their level of belonging to their circle of friends (Erikson, 1959; Subrahmanyam & Lin, 2007; Berk, 2008; Ito, 2008; Santrock, 2008; Margalit, 2010; Van Cleemput, 2010). They need to feel accepted, to share intimate issues, disclose thoughts and emotions and project images and test them through the reactions of their friends. Social media provided participants with a "wherever/whenever" environment to do this. It was their preferred mode of communication, a reliable mode of getting together and an unrestricted self-disclosure milieu. A strong relation between participants and their friends grew in social media based on trust, empathy and mutual expectations (Blais et al., 2008; boyd et al., 2007; Thompson et al., 2008; Greenhow et al., 2009; Mesch, 2009; Valkenburg & Peter, 2009; Margalit, 2010; Amichai-Hamburger, et al., 2010).

- Need social presence for others: Participants recognized the need to be present in social media in order to exist. As they observed how their friends were ignored or "forgotten" when they stopped interacting in social media, participants felt the urge to stay connected, to take part of their friends' everyday lives and to share theirs. As participants explained, adolescents lived in two separate yet interconnected worlds: their offline world and their online world. While their offline word primarily served as provider of content to share with friends, their

online word was the environment where they actually interacted with others and built and nurtured relationships. In order to "be", participants needed to "be online". They were afraid of ceasing to exist in the world of their friends if they lessened their presence in social media.

Addiction.

Addiction was a recurrent word used by female participants to describe their use of social media. Before going further, a definition of "addiction" is required in order to determine whether these participants gave an accurate interpretation for their behavior, or if they simply exaggerated it, mirroring what they reported to be ongoing comments and critiques of some of their parents regarding their passion for social media.

As explained previously in the literature review, excessive texting, messaging and social media usage may be categorized under the behavioral addiction, which is a repetitive impulsive behavior occurrence, affecting negatively the person engaging in it and his/her surrounding (Brown, 1993). The person is dominated by the activity to the extent that it creates conflicts with his/her other activities and with people who are close to him/her. When the activity is achieved, the person goes through euphoria, which is a state of extreme but short pleasure. If he/she is unable to engage in the activity, he/she goes through withdrawal, an extreme unpleasant feeling accompanied by craving. Addict persons loose control on their behavior and when they decide to stop their addiction, they are usually at high risk of relapse and reinstatement, which means, they not only go back to the previous behavior but they also engage in a higher level than the one they used to have (Villella, 2011). Villella (2011) explains that:

The core elements of addictions are: craving state prior to behavioral engagement,

> or a compulsive engagement; impaired control over behavioral engagement and continued behavioral engagement despite adverse consequences; behavioral addictions may share clinical features with substance addictions, and similar phases seem to occur for behavioral and substance addictions, with physiological and emotional arousal before the act; pleasure, high, or gratification associated with the act; a decrease in arousal and feelings of guilt afterward, and the possible development of tolerance and physiological withdrawal. The reward circuits are implicated in the development of both substance and behavioral addictions (p.204).

Examining participants' description of their usage of social media, one can describe their behavioral engagement as excessive for several reasons. First, participants, both male and female, acknowledged the fact that it was impossible for them to be separated from their mobile phones, even when they were sleeping. Second, as stated by several participants, they felt an uncontrollable urge to share their offline lives with their online friends, they had to update them with the details about their latest activities including where, when and with who they were. They also admitted their great passion for navigating others' social networking sites' pages or BBM and Whatsapp statuses to get updated about their friends' latest news.

Participants didn't only consider their behavior as "too much"; they also said that it was uncontrollable, which according to the literature, corresponds to an addiction. One participant had to give her mobile phone to her friend to prevent her from answering her messages while in class, others had to lock them in their drawers in order to be able to focus and study. Participants had to make great effort to disregard the BlackBerry's red

light that announced the entry of a message and kept on flashing as long as the message was not viewed, and to resist picking up their phones to see who was texting them.

This excessive and uncontrollable behavior was bothering the participants when it affected their concentration during exams periods. It was also causing them disputes with their parents, who were annoyed to see their adolescent's phone "obsession". According to participants, their parents thought they were always texting and were absent minded when they talked to them. Many participants mentioned that their parents, who despite the fact that they agreed on paying the Internet and BlackBerry messaging services, considered social media, including BBM, Whatsapp and Facebook as a total waste of their adolescent's time and a great threat to their future.

To stop using social media was very hard for participants. The ones who actually tried to stop it explained that, during the first weeks, they craved to text and they suffered from not being able to stay connected, but with time this urge calmed down. Several participants explained that using social media was a habit that was deeply embedded in their daily routine and abandoning it needed great effort. Participants who succeeded in cutting off on their social media usage confessed that their success was achieved because of the fact that they knew it wasn't permanent, it was only for a limited period of time, like the exam period, and that they would get back into action soon.

Social media usage – benefits masked by addiction.

Although all the evidence gives the impression that participants were addicted to the use of social media, a key argument can justify their overuse: using social media was a necessity, they had to be in social media in order to exist. While addiction results in the destruction of its victim, being in social media actually benefits its user in several

aspects: it gets them connected, it strengthens their feeling of belonging, it gives them confidence in their value through a feeling of being important to a good number of people/friends, it provides them with the support needed to go through their transition to adulthood, it gives them access to their group knowledge and it teaches them autonomy, social skills and managerial skills, as it will be discussed in the following sections.

Answer to question 2: Adolescents' conscious and unconscious instances of learning in social media

Let's be reminded that the second research question was "Are adolescents aware of instances of learning while in social media, and what type of learning do adolescents perceive as possible with social media?" In sum, according to participants, their main reason for using social media was to stay connected, to communicate and to have fun. Learning was never the purpose, unless one of their teachers used social media as an environment for class interactions.

Nevertheless, also based on participants' reports of their own practices, we can infer that learning, which was defined by O'Donnell, D'Amico, Schmid, Reeve and Smith (2008) as a "relatively permanent change in behavior or knowledge that occurs as a result of experience" (p.5), was happening informally. To be more specific, two forms of informal learning were occurring: 1) Self-directed learning, defined by Carliner (2012) as any variety of experiences initiated, planed and completed by the learner including, inter alia, hands-on experiences, and aiming to increase his/her knowledge, skills, accomplishment or personal development; 2) Incidental learning, defined by Carliner (2011) as "knowledge and skills acquired unintentionally in situations not formally intended to provide instruction—that is, learning is an unanticipated incident" (p.15).

Learning incidents identified by the participants.

To note that the following learning incidents were identified by participants when they were directly asked 1) to expand on how they learned to use their mobile devices and social media applications and sites, and 2) to try to recall examples of information they discovered and knowledge they acquired while interacting with their friends in social media.

- Gaining technical skills through learning how to use the medium: To use social media on their mobile phones, the device chosen by the participants for its practicality, participants had to learn first how to use their smartphones, and second, they had to get familiar with the applications and social networking sites, discover their affordances and grasp their different functions.
- Gaining new knowledge through accessing the group knowledge and receiving and sharing new pieces of information: While interacting with their friends in social media, whether through instant messaging or through navigating social networking pages, posting, liking, commenting and sharing, participants were accessing the knowledge of their circles of friends and retrieving information that might be of interest to them and transporting it to other circles of friends. This sharing of information became more concrete when some participants' teachers used social media to foster collaborative work between their students. They created private closed group pages on Facebook where they posted information that students had to know in order to work on their projects and opened the way for inter-students discussions and ideas and information sharing, which constituted an integral step for the projects' completions.

How conscious self-directed learning was achieved.

When participants started using social media, usually around the age of ten, they frequently depended on others' guidance and explanations in order to acquire the technical skills needed to interact in social media. This approach was described in Vygotsky's (1978) socio-cognitive development theory. In this theory, Vygotsky (1978) explains that in the process of acquiring a skill, learners go through a zone of proximal development where they first complete a task while accompanied and supported by an expert until they reach the expert's level. After, they can master the skill and can perform on their own.

As they grew older, participants were engaged in self-driven learning. They gained autonomy and self-efficacy, which gave them confidence in their ability to learn how to use new media autonomously, whether by discovering and experimenting or simply by observing others, both offline and online, performing and then, to apply what they observed. According to Bandura (1969), social learning, based on observational learning, starts by the learner paying attention to the skill he/she wants to learn, performed by another person with whom the learner can easily relate or identify. Then, the learner retains the procedure, and, if motivated, he/she produces or performs the skill. Having high-self efficacy regarding their ability to manipulate the technology and encouraged by their basic need to stay connected with their friends online, allowed participants to take control over their learning and to anticipate successful performance with new technologies.

Learning incidents non-identified by the participants.

The following incidental learning incidents were inferred from participants' descriptions and justifications of their practices and behaviors in social media.

- Gaining socialization skills while learning to socialize through and within the medium: According to participants, soft skills' learning was happening unconsciously in social media. Participants' behavior, attitudes and reactions were shaped by their direct and indirect interactions with their online friends. Adolescents developed the necessary expertise to select their online audience, to discover the individual characteristics of its varied members, to trigger its interest and to keep it longing for more interactions.
- Gaining managerial skills while learning to manage the usage of the medium and deal with its constraints: Participants had to juggle several social media applications and sites in order to stay connected with their friends, moreover, they had to figure out how to do it while selecting the best Internet connection without going over their budget. Participants could interact with their friends using three different social media: BBM, Whatsapp and Facebook. Knowing that not all their connections were grouped on one social medium, participants acquired the skills to distribute their interactions in order to reach most of their online friends. Opting for their smartphones as their major device to use social media restricted participants within specific Internet connection services offered by phone companies. They had limited minutes and data uploads and downloads per month, therefore they developed strategies to manage them. Participants' main concern was to avoid engendering extra fees and to seriously anger parents.

How unconscious incidental learning was achieved.

As described earlier, participants acquired social and managerial skills incidentally through their use of social media. They grasped how the system worked and evolved and modified their behavior accordingly. Recalling Kelly's (1991) fundamental postulate, which declares that: "A person's processes are psychologically channelized by the ways in which he anticipates events" (p.32), adolescents anticipated their friends' reactions and comments in social media based on what they experienced previously and what they observed others experiencing. Consequently, they came up with a hypothesis that they tested through their status updates, comments and sharing of information or photos. They observed and evaluated their connections' reactions, and compared them with the interactions happening on others' walls and instant messaging.

According to Kelly, although witnessing experiences and engaging in trials are important to enrich individual' s experiences and guide him/her in construing them, it is important to possess the answer to the following question: "how does the subject phrase the experience, what recurrent themes does he hear, what movements does he define, and what validations of his predictions does he reap? " (p.52), define when and how an individual will modify his/her predictions and thus behavior to best suit his/her new perceived reality. Participants succeeded in this task, they predicted accurately what their online friends would reply or comment, and adjusted their input in social media to best stimulate responses and strengthen relationships.

In parallel, participants predicted their parents' reactions to any extra fees they would have to pay as a result of an irresponsible excess of Internet and calls usage, so they

adjusted their consumption of minutes and data to stay within the limits authorized for them and tried to benefit from Wi-Fi services whenever possible.

The next section will present the results of the axial coding process, including the emergent categories.

The foundations of adolescents' interaction in social media - the model

Based on deductive thinking, axial coding categorizes the different codes that emerge during a grounded theory analysis of data and defines the relationships between them. In the light of this definition of axial coding and the one given in the methodology chapter, I will proceed in presenting the emerging categories (core category or phenomenon, context, casual conditions, intervening conditions, strategies, actions and interactions, and consequences) and their interdependence (see figure 10).

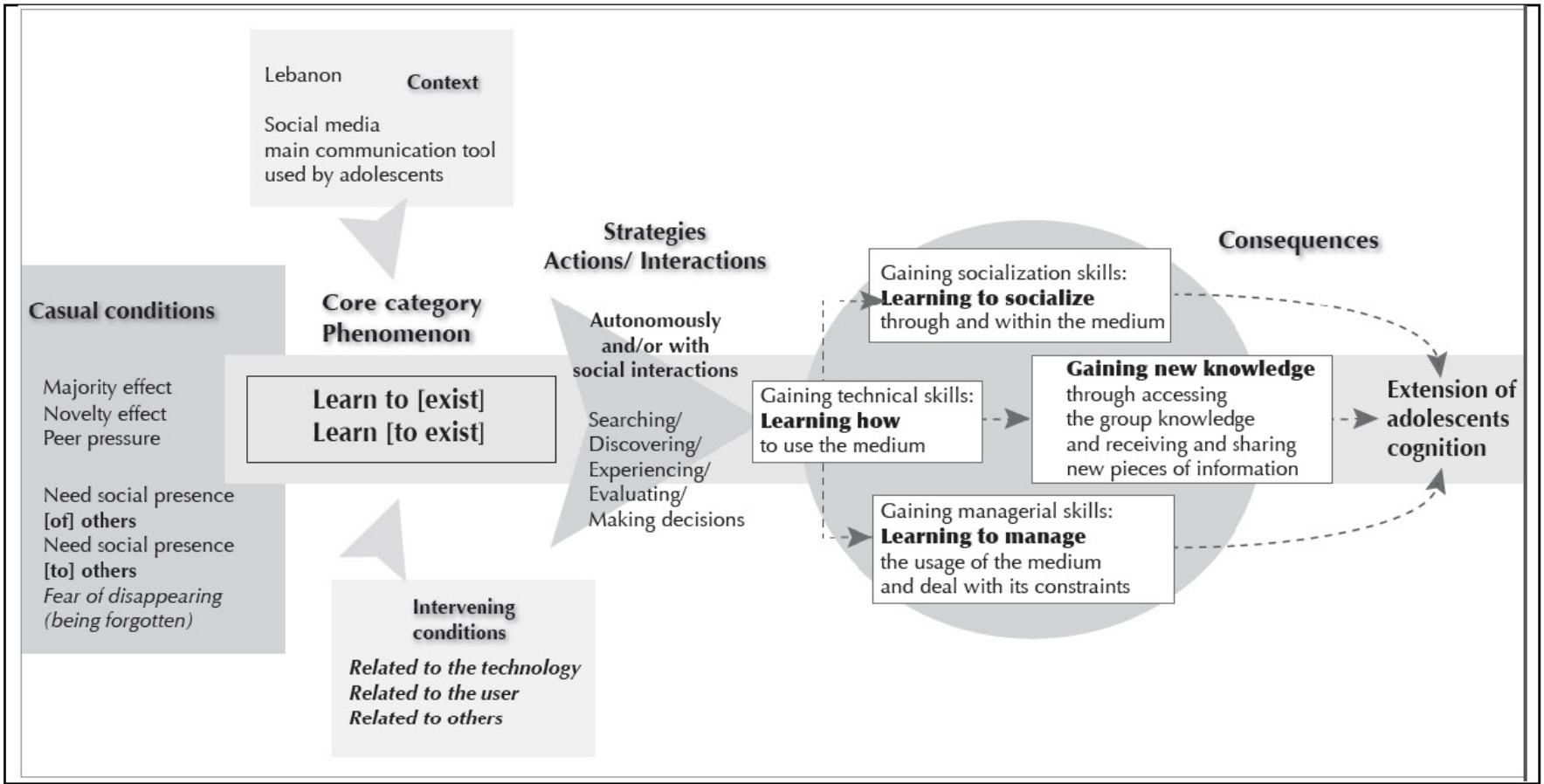


Figure 11. Axial coding representing the foundations of adolescents' interactions in social media

Core category or phenomenon

While the literature exhaustively described how adolescents' use of social media contributed to enhance their social life and inferred how it helped them deal with typical developmental issues, this study focused on understanding adolescents' mental representations of their practices in social media and on detecting instances of learning, relying solely on how participants construed their experiences and interpreted them. The main phenomenon rising from their explanations was "their learning to exist in social media" Participants had to face two challenges in order to reign in social media: adolescents had to learn to [exist] and they had to learn [to exist]. While learning to [exist] meant developing all the necessary technical skills in order to perform online, learning [to exist] meant developing the necessary soft skills that would ensure an advantageous online performance. I will elaborate on this phenomenon in the last section of this chapter, where I will discuss the result emerging from selective coding.

Context

The context of the axial coding of this study was comprised of two codes: 1) Participants were living in Lebanon and 2) adolescents, in general, including the participants, were mostly opting for social media as their frequently used medium of communication with their friends. As described in the methodology section, adolescents living in Lebanon had particularly difficult conditions, which required developing survival mechanisms such as managing their data and exploiting BBM services to avoid the high text messaging fees. This particular tariff system that affects usage resembles the Internet conditions in North America and Europe, when access was primarily through dial-up lines, and North American homes had unlimited local calling (and, therefore,

were online lot) and Europeans had tolled local calling (and therefore tried to minimize time online).

Casual conditions

The causal conditions or the variables that lead to the manifestation of the core category or phenomenon and engaged participants in the learning process were: 1) majority effect –i.e. "since everybody is using social media I need to learn how to use it too", 2) novelty effect –i.e. "everybody is talking about these new applications, they must be interesting, I 'am curious to learn how to use them", 3) peer pressure –i.e. "we are all connected through social media, you are not, what are you waiting for?" 4) need of social presence of others and 5) need of social presence to others and fear of disappearing.

Indeed, what participants referred to as their "addiction" to social media was also the manifestation of a need to follow main trends and to take part in the social group activities, but also as an external pressure to do it. As far as the need of social presence of others and to others, this referred to their need to learn social media to exist, as explained earlier.

Intervening conditions

Intervening conditions regarding the core category consisted of the elements that affected participants' use of social media and they were related to the technology, related to the user or related to others. As presented in the analysis chapter, some examples of these conditions were having access to the technology, having the technology that fits their personal needs and having the technology, such as BBM and other applications, which others use. This suggests that learning to exist in social media is intrinsically related to having the financial means to be part of this trend.

Strategies, actions and interactions

Participants were engaged in the process of learning autonomously and/or with offline and online social interactions. They observed others perform, searched for strategies of use, discovered new approaches to succeed, experienced all possible options, evaluated their choices of actions and then, made decisions about social media. This suggests that learning in social media is fundamentally social, and requires observing others, as observed by many theorists who subscribe to the social cognitive theory of Vygotsky and Bandura.

Consequences

Learning to [exist] and learning [to exist] in social media lead to the extension of adolescents' cognition. Through learning how to use the social medium, adolescents gained technical skills. Through learning to socialize, they gained socialization skills. Through learning to manage the usage of the medium and deal with its constraints, they gained managerial skills. Through accessing the group knowledge and receiving and sharing new pieces of information, they gained new knowledge.

The last section of this chapter discusses the core category that resulted from selective coding.

Learn to [exist] and learn [to exist]

Throughout this study about adolescents' mental representation of their practices in social media, participants alluded to a major concern of theirs: they were terrified of disappearing. In several occasions, they stated that if they would ever stop or just lessen their using of social media, most of their friends would forget about them, they would loose contacts, and only few close friends would stay around. Recalling the fact that

adolescents were leading two lives concurrently, an offline live and an online, and the fact that their "need to exist" exceeds all their other needs, it is interesting to look at this through Maslow's theory. Indeed, even one can draw a relationship between the needs experienced by adolescents related to their online lives and Maslow' hierarchy of needs.

Initially Maslow's (1943) hierarchy of needs was intended to understand human motivation through dealing with individual needs, in offline life. Considering that his theory has transpired across many disciplines over the ages, if we wished to adapt it today to social media, respecting the hierarchy identified by Maslow, and based on participants' emic representation of their experiences, the needs would be as follows (see figure 12 for an adaptation of Maslow' hierarchy of needs for social media user):

1st. Physiological needs refer to having access to the interface, or possessing a device on which social applications are be used and to have access to the Internet connection that affords such interactions.

2nd. Safety encompasses privacy, digital health (moderated and controlled digital use) and protection from strangers, cyberbullies, hackers, thieves and others.

3rd. Online users need the love/attention of their friends and connections and they need to feel that they belong to a community and/or a group.

4th. Esteem refers to the need of self-esteem, feeling of online individuals' own value and the respect from others which is be materialized through high interactivity, receiving constant comments, and "likes".

5th. Lastly, according to Maslow's hierarchy of needs, comes the need for

self-actualization, which involves self-efficacy, personal growth, personal fulfillment self-development and learning to be online.

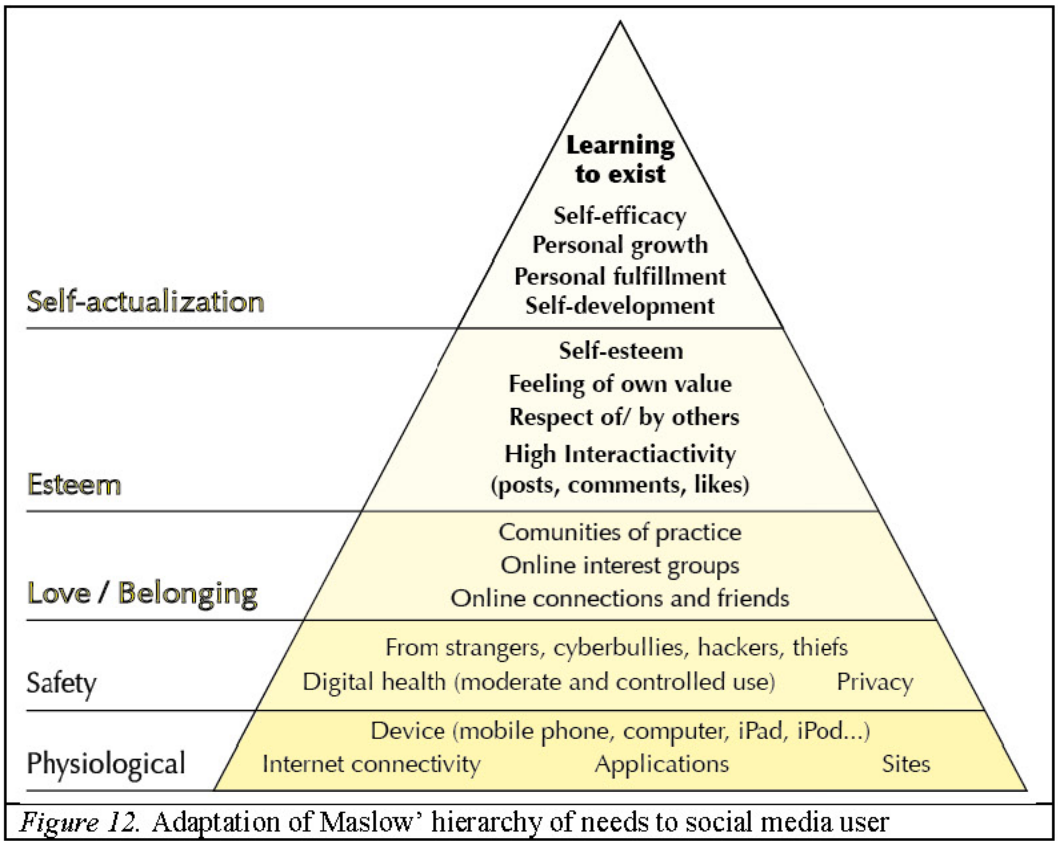


Figure 12. Adaptation of Maslow' hierarchy of needs to social media user

Rutledge (2011) has several interesting arguments regarding Maslow's hierarchy of needs. She states that, although Maslow's theory is deemed valid across all the disciplines that applied it, including psychology, business, technology and education, the theory missed "the role of social connection" (p.1). With the rush of individuals towards social media, connectivity became at the same time a need and a key to fulfill needs.

Let us suppose we could represent each participant of this study with one pyramid (like the one shown in figure 12) and we could connect them together, they would all be connected at the center of the nonagon represented in figure 13, where all the top points

of the pyramids meet. When adolescents decide to "be" online and when they possess the interface to "be" online, their first objective is to connect with others, interact, have fun, develop and feel alive. The needs that motivate adolescents for being present and active online are needs for personal growth, personal fulfillment, self-development, feeling of self-efficacy and most of all, the need to exist both mentally and physically to others. When adolescents exist physically online, their existence persists in the mind of their friends. When self-actualization needs are fulfilled, adolescents develop self-esteem, and gain control over their choice of connections, groups and communities. Worrying about safety would come later own, after they established a well-defined and active presence online and gained insight and experience in the kinds of interactions that happened online. Would all the above needs be satisfied; adolescents would consider more options to enrich their online presence through experimenting new applications and different devices. Eventually, what they learned informally in social media would become, a means to survive in the new workforce that is emerging for digital natives.

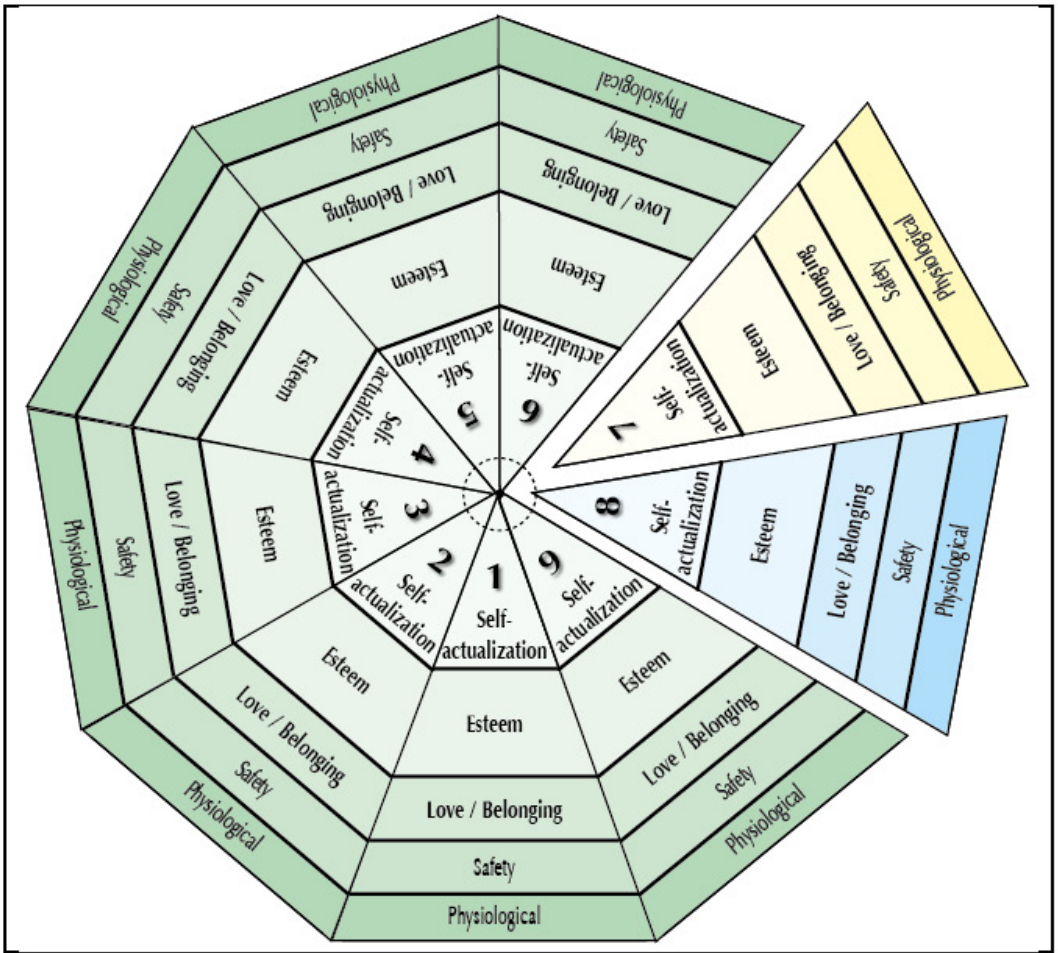


Figure 13. **Active social media adolescents' hierarchy of needs**

This explanation suggests that in social media, Maslow's hierarchy of needs is reversed. According to the participants of this study, their first need was existence. They needed to exist online in order to exist in the minds and lives of their friends, and thus they needed to learn how to exist. In order to do so, they first had to learn to [exist], –i.e. to become digitally literate, to develop all the necessary technical skills needed to join their friends in social media and to master the functions that would allow them to interact. Second, adolescents had to learn [to exist], –i.e. to acquire the "know-how of interactions" in order to maintain and nurture their connections and ensure that their

online social life flourished. Learning to exist starts at the center of where pyramids unite, but doesn't stop there; learning to exist becomes an overarching theme that encompasses all the sections of the pyramids and assist in answering all of adolescents' needs. Much like the structure of a snowflake, in the initial formation of the system, symmetry is essential: all have to be there in order to form the system. However, once the nucleus is formed, then all can develop independently, thus the system doesn't have to be symmetric. This explains, for example, why some adolescents might prefer one phone model rather than another, or prefer some applications to others.

Conclusions, Limitations, and Suggestions for Future Research

> When we look at the rapid innovation and ubiquitous nature of technology, our reptilian brains get nervous with all the change. In the face of uncertainty, we ask the wrong question. We ask 'what does technology do to us?' The question we should ask is "what can we do with technology?" (Rutledge, 2011)

This qualitative interpretive study aimed to understand adolescents' mental representation of their practices in social media and detect instances of learning, based solely on how participants' construed their experiences. The findings retrieved from semi-structured and construct analysis interviews revealed that adolescents were living two different yet complementary lives: an offline life and an online life. While both were equally necessary for the flourishing of their social life and emotional and cognitive growth, adolescents believed that, in order for them to socially "exist", they needed to "exist online". In other words, would they limit or lessen their presence online, they would be soon forgotten by both their online and offline friends and connections.

When they started using social media, they were encouraged by the fact that the majority of their friends were using it, moving and expanding their offline interactions to their online environment. As they integrated social media in their lives, it became a habit, more even a sort of an addiction, triggered by the need to exist in the mind of their friends. Adolescents faced two challenges to flourish online, they had to learn to [exist] through acquiring technical skills, and they had to learn [to exist] through developing online soft skills, which they achieved due to their self-determination and intrinsic motivation to learn. This construct –i.e. learn to [exist] and learn [to exist] is the construct that is generalizable from this grounded theory. It could help explain the savviness about social media.

The results of this study might interest parents and educators and give direction for practice. Being in social media is barely a choice for adolescents and learning to exist online is a necessity of survival. Being in school is also barely a choice for adolescents, but the need to learn the imposed curriculum is still ambiguous for most of the students. On one hand, when students question the material they are studying, teachers' and parents' typical answers are: "It will benefit you in your future, you will value all of this as you grow up, one day you will look back and say, yes I remember I learned this" which leave students with a predetermined curriculum, conceived by ministries of education, justified by a group of adults, and imposed on them with absolutely no concrete or logical justification or explanation. On the other hand, while in social media, adolescents are in their survival mode, they need to learn how to use social media and how to "be" in social media to exist. Their motivation rises from their basic need of existence. They set goals, identify gaps, determine what is needed to be learned in order

to overcome the gaps and they persevere, autonomously, and with the help of their network, until they succeed. In social media the gain is fast, tangible and rewarding, and adolescents attain personal growth, personal fulfillment and self-development.

While many parents and educators panic with the idea of "what is technology doing to our children/students?" as Rutledge (2011) stated earlier, the question to be asked today is: Now that we understand the motives behind adolescents' autonomous and seamless informal learning in social media, how can we create a learning environment in our schools, that incorporates the lessons learned from social media, where students feel the need and the passion to learn, set goals for themselves and thrive autonomously to achieve them?

In retrospect, this thesis suggests that a joint effort should be made by various education stakeholders. Curricula designers should include cross-curricular competencies and content to help adolescents to develop the technological competencies and digital literacy competencies to survive and thrive in Web 2.0 technologies. Teachers and teacher education programs should try to transfer the lessons given by the adolescents of this study to formal learning activities. The last number of the professional journal of the Ontario College of teachers showcases an article about using Facebook in the classrooms. This article underlines the power of such a social media tool but it also points out to pedagogues that these tools must be used wisely (Foxman, 2011). Indeed, this advice is the same that emerges from this study. While adolescents might need to have access to social media and related interfaces, more than ever, the educational system should prepare them adequately to manage addictions, over consummations, and the protection and safety of their person and their identity. Finally, parents should make an effort to

recognize that the need to exist is an authentic need at the phase of adolescence, but also to contribute to their education and ensuring their safety and protection, just as they would do in offline life.

Limitations.

The results of this grounded theory should be interpreted carefully for two reasons. The strengths of this grounded theory, as described in the previous chapters, are also intrinsic limitations. First, this study focused on adolescents' representations of their behaviors in social media in order to understand how they interact and to infer what type of learning they achieved and how. Therefore, it is not possible to verify the accuracy of their statements –that is, if what they are saying is really true. Second, the convenient sample selected for this study –that is, a group of teenagers from the middle to upper social class living in Lebanon at the moment of the data collection (Summer 2011) is likely to have skewed the results in such a manner that would not be replicable because of the context in which participants were socializing in social media. As per table 1, the sample was composed of Canadian/Lebanese adolescents, age range 14-16, who managed to be active in social media despite the connectivity issues of the country they were living in. In addition, the participants were mostly females belonging to a higher socioeconomic class who owned BlackBerries for the most part. Had the sample been different, the results would not be the same. Therefore, it is not possible to generalize the results of this study. However, one should note that the core concept [learning to exist] is likely to be transferable to other adolescents living similar challenges with social media.

Suggestions for Future Research.

This study may be a starting point for future action research that could accompany

a group of adolescents into their discovery of social media learning affordances then observe the qualitative changes that may occur in how this group construe learning and whether they would engage in new learning processes. Ethnography, narrative or case studies with various groups of teenagers also could be conducted to follow these groups through a significant period of time in order to observe and understand how their social media behaviors affect their cognitive and emotional development directly and indirectly. Novel knowledge could be extracted from their experiences and adapted and applied into the educational system.

Appendix 1: Information letter to parents (or legal guardian)

Information letter- Parents

Concordia
UNIVERSITY

Information Letter – Parents or legal guardians

Dear Parent(s)/Guardian(s),

Attached please find the consent form for the participation of your child in the research project conducted by Nadia Naffi, MA student at Concordia University. This is an unfunded study of adolescents in social media. Please complete and sign this consent form before we start the interviews with your son/daughter. Your adolescent, as a participant in this study, will sign an assent form. In this form, we will explain to him/her the aim of the study, his/her role in the study, and all the details related to the interviews and his/her free choice to discontinue the participation to this study at any time without having to provide any reason. We would also like to inform you that should an unanticipated heinous discovery emerge (i.e. abuse, bullying, intention to harm self or other, or other criminal issue) all concerned parties would be informed, including you, the legal authorities and the ethics committee at Concordia University.

Your son/daughter will be asked if he/she has friends who use social media and may be interested to participate in the study. The name of your son/daughter will not be disclosed to the friends he/she refers.

If you allow your son/daughter to participate in the study, please fill and return the forms attached. By filling these forms you are giving your consent to your son/daughter to participate in this study, and you understand that your adolescent is free to change his/her mind at any time, that his/her participation is strictly confidential, and that the data from this study will be published at a later date, but without your adolescent's name. Should you have any questions or concerns, please contact Nadia Naffi at 514-585 5865 or Dr. Ann-Louise Davidson, at 514 848-2424 ext. 5476.

Thank you for your participation and for taking the time to help us with this project.

Sincerely,

Nadia Naffi
MA Educational Technology student
Concordia University

Ann-Louise Davidson, Ph.D.
Assistant Professor
Concordia University

Appendix 2: Consent form (legal guardian)

CONSENT TO PARTICIPATE IN Adolescents in social media

I understand that my son/daughter will participate in an unfunded study being conducted by Nadia Naffi, student in The Department of Education of Concordia University, for her MA thesis, under the supervision of Dr. Ann-Louise Davidson, assistant professor at Concordia University.

Nadia Naffi: 514 585 5865
email: na_abouk@education.concordia.ca
Dr. Ann-Louise Davidson: 514 848 2424 Ext.5476
email: Ann-louise@education.concordia.ca

A. PURPOSE

This is a study about adolescents' behaviour in social media.

B. PROCEDURES

The interviews will take place at any convenient and safe place designated by the participant. The participant will be asked to attend three interview sessions:

1) First interview: 30 minutes
2) Second interview: 60 minutes
3) Third interview: 30 minutes

In any of these interviews, the participant can stop at anytime for a break. He/she may ask to continue at another time, and or can withdraw from the whole study at anytime without giving a reason. The participant will use a pseudonym (which is another name or nickname) while in the interview. The interviews will be transcribed by the researcher and only accessible to herself and her supervisor.
Your son/daughter will be asked if he/she has friends who use social media and may be interested to participate in the study. The name of your son/daughter will not be disclosed to the friends he/she refers.

C. RISKS AND BENEFITS

This study has no risks for the participant. The study can benefit the participant by allowing him/her to become more conscious of his/her behaviours in social media.

Should a "heinous discovery" emerge such as abuse, bullying, intention to harm self or other or other criminal issue, the researcher (i.e. the student conducting this study- Nadia Naffi) will take the proper procedures. She will inform the principal investigator, Dr. Ann-Louise Davidson, who will contact the legal authorities (police) and the ethical committee at Concordia University.

D. CONDITIONS OF PARTICIPATION

- I understand that my son/daughter is free to withdraw this consent and discontinue his/her participation at anytime without negative consequences.
- I understand that my son/daughter participation in this study is: CONFIDENTIAL (i.e., the researcher will know, but will not disclose my son or daughter's identity)
- I understand that in the event of a heinous discovery such as abuse, bullying, intention to harm self or other or other criminal issue, the researcher (i.e. the student conducting this study- Nadia Naffi) will take the proper procedures. She will inform the principal investigator, Dr. Ann-Louise Davidson, who will contact the legal authorities (police) and the ethical committee at Concordia University.
- I understand that the data from this study will be published.

I HAVE CAREFULLY STUDIED THE ABOVE AND UNDERSTAND THIS AGREEMENT. I FREELY CONSENT AND VOLUNTARILY AGREE TO GIVE PERMISSION TO MY SON/DAUGHTER TO PARTICIPATE IN THIS STUDY.

CHILD NAME (please print) _____

NAME (please print) _____

SIGNATURE _____

If at any time you have questions about the proposed research, please contact the study's Principal Investigator

Dr. Ann-Louise Davidson
Assistant Professor at Concordia University, Department of Education
(514) 848-2424 x.5476
email: Ann-louise@education.concordia.ca

If at any time you have questions about your rights as a research participant, please contact the Research Ethics and Compliance Advisor, Concordia University, 514.848.2424 ex. 7481 ethics@alcor.concordia.ca

Appendix 3: Assent Form

Assent TO PARTICIPATE IN Adolescents in social media

I understand that I will participate in an unfunded study conducted by Nadia Naffi, student in The Department of Education of Concordia University, for her MA thesis, under the supervision of Dr. Ann-Louise Davidson, assistant professor at Concordia University.

Nadia Naffi: 514 585 5865
email: na_abouk@education.concordia.ca
Dr. Ann-Louise Davidson: 514 848 2424 Ext.5476
email: Ann-louise@education.concordia.ca

A. PURPOSE

I have been informed that the purpose of the research is as follows: By describing and discussing my experience in social media I will help Nadia to understand why I use some of my favourite applications and how I use them. Together we will talk about my experience in social media.

B. PROCEDURES

The interviews will take place in any convenient and safe place designated by me. I will also choose the date and time of each interview, during a period of one month starting the date I sign this paper. I will be asked to attend three interview sessions.

1) First interview: 30 minutes
2) Second interview: 60 minutes
3) Third interview: 30 minutes

I may stop at anytime for a break, I may ask to continue at another time, and or can withdraw (stop) from the whole study at anytime with no need of justification. I will choose a pseudonym (which is another name or nickname I like) during the interview and it will be used in the transcripts. No one will ever know that I was the one giving the answers to Nadia's questions. **I will be asked if I have friends who use social media and may be interested to participate in the study. The researcher will not say my name to the friends I refer.**

C. RISKS AND BENEFITS

This study has no risks on me. On the other hand, while discussing with Nadia my experience in social media, I will be more aware of why I use my applications, how I use them and how I may use social media to learn something new.

Also, I understand that if Nadia discovers that someone is doing something illegal to me (i.e. bullying me, hitting me etc.), or if I intend to do something bad to others or to myself (intention to harm self or other) she will report it to the university and to the police.

D. CONDITIONS OF PARTICIPATION

- I understand that I can stop my participation to this research at any time without giving any reason. I will not be punished and the researcher will not be angry.
- I understand that my participation in this study is:

CONFIDENTIAL (i.e., the researcher-Nadia Naffi- will know, but will not disclose my identity, no one will know that I participated in this study)

- I understand that in the event of a "heinous discovery" such as abuse, bullying, intention to harm self or other or other criminal issue, the researcher (i.e. the student conducting this study- Nadia Naffi) will take the proper procedures. She will inform the principal investigator, Dr. Ann-Louise Davidson, who will contact the legal authorities (police) and the ethical committee at Concordia University.
- I understand that the data (my experience in social media and my reflections about it) from this study will be published.

I HAVE CAREFULLY STUDIED THE ABOVE AND UNDERSTAND THIS AGREEMENT.
I FREELY CONSENT AND VOLUNTARILY AGREE TO PARTICIPATE IN THIS STUDY.

NAME (please print) _____

SIGNATURE _____

If at any time you have questions about the proposed research, please contact the study's Principal Investigator

Dr. Ann-Louise Davidson
Assistant Professor at Concordia University, Department of Education
(514) 848-2424 x.5476
Skype ID: a_l_davidson
Or
Nadia Naffi
(514) 585-5865

If at any time you have questions about your rights as a research participant, please contact the Research Ethics and Compliance Advisor, Concordia University, 514.848.2424 ex. 7481
ethics@alcor.concordia.ca

Appendix 4: Semi-structured interviews

a. Tell me your story in social media. How did you start using it?
    - Do you use a computer, iPod, smartphone, or tablet?
    - Why do you use this?
b. What was the first social media you used?
    - What do you do with it?
    - How did you learn about it?
    - Did anyone give you instructions on how to use it?
    - Why do you use it?
c. What was the second social media you used? (Question asked to help the participants recreate the sequence of his/her social media story and to become conscious of its progress)
d. What do you do in social media?
e. Please describe your normal day in terms of use with social media
f. You wake up tomorrow morning and discover that social media ceased to exist, and your only way to communicate with others is through a telephone that has only one function: calling one person. Describe your normal day. What will be different? Why?
g. Name at least five social media applications you frequently use
    - Explain why you use them.
h. With whom do you use them?
    - When and how frequently do you use them?
    - How do you use them? For what reasons?
i. Explain how your experience using social media evolved with time?
    - In your opinion, what affects your interactions in social media?

In addition to the previous semi-structured questions, participants were asked to define concepts they brought up in their answers such as addiction, complicated applications, double life, fear of disappearing, and others.

Appendix 5: Construct analysis interviews

There are no questions for the construct analysis that will take place during the 2nd meeting. I used the data from the first interview and asked the participant to provide further explanations about reasons for using social media and the underlying mechanisms for interacting in social media and learning to use the technology.

Appendix 6: Reflection and Validation interviews

a. What did you have to learn in order to use social media applications?
   - How did you learn about them? With whom?
   - How much time did it take for you to feel familiar with the functions?

b. What are the applications that you would like to learn how to use in the future?
   - How do you think you'll be able to learn how to use them?
   - Will you need the help of someone or you can learn how to use the apps on your own?

c. Please explain how you determine what to share with your friends in social media

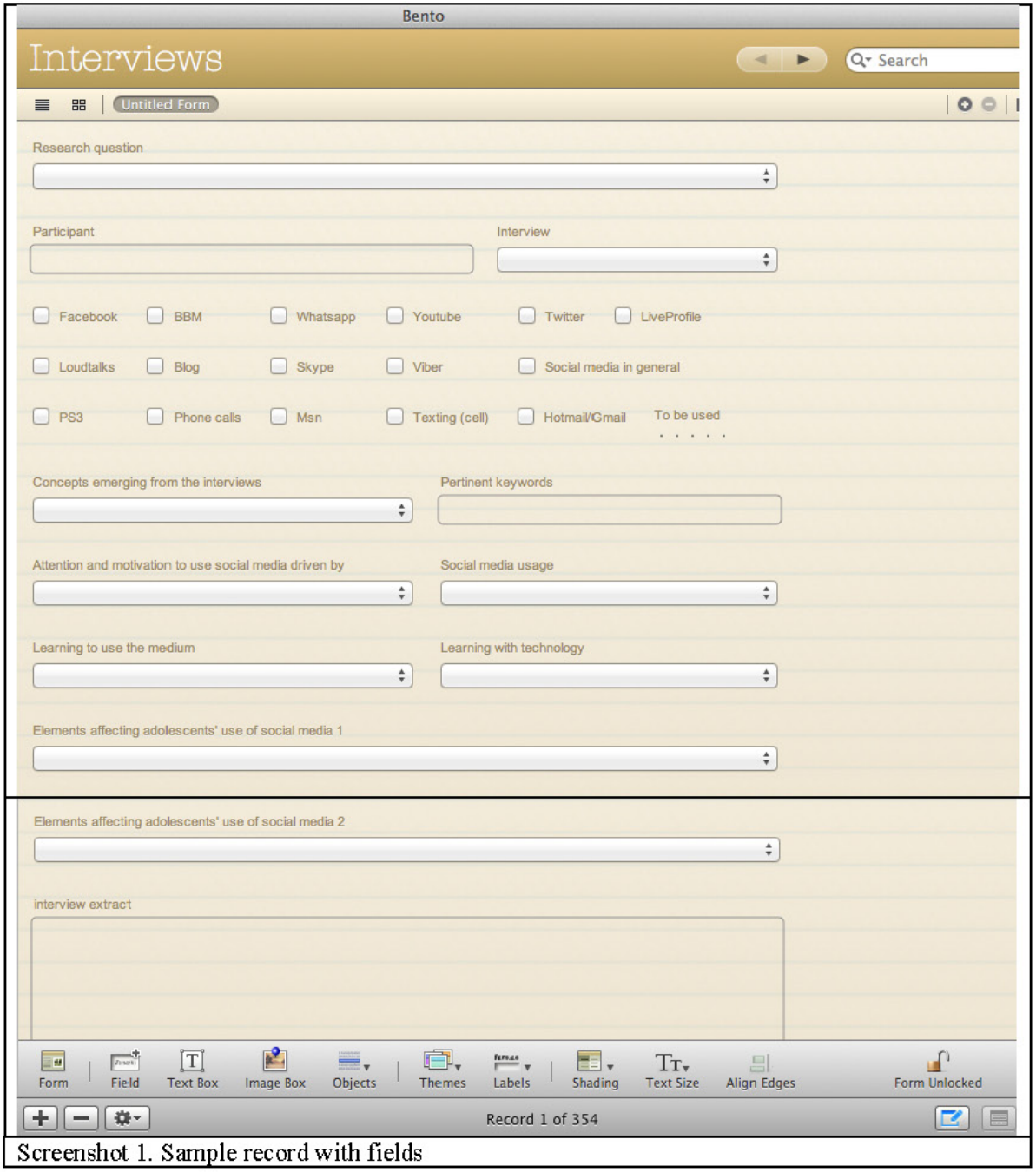
d. How do you determine what to post on your status?
   - What kind of information you put there?
   - What kind of comments do you expect from your friends?
   - How do you know this?

e. Give an example of something you learned while interacting with your friends in social media?
   - How did you do it?
   - What kind of information was it?

f. Please describe the language you use while interacting in social media.
   - Do you use texting and the chatting abbreviations?
   - How did you learn them?
   - Did you ever create new abbreviations?
   - Why did you expect that your friends would understand them?

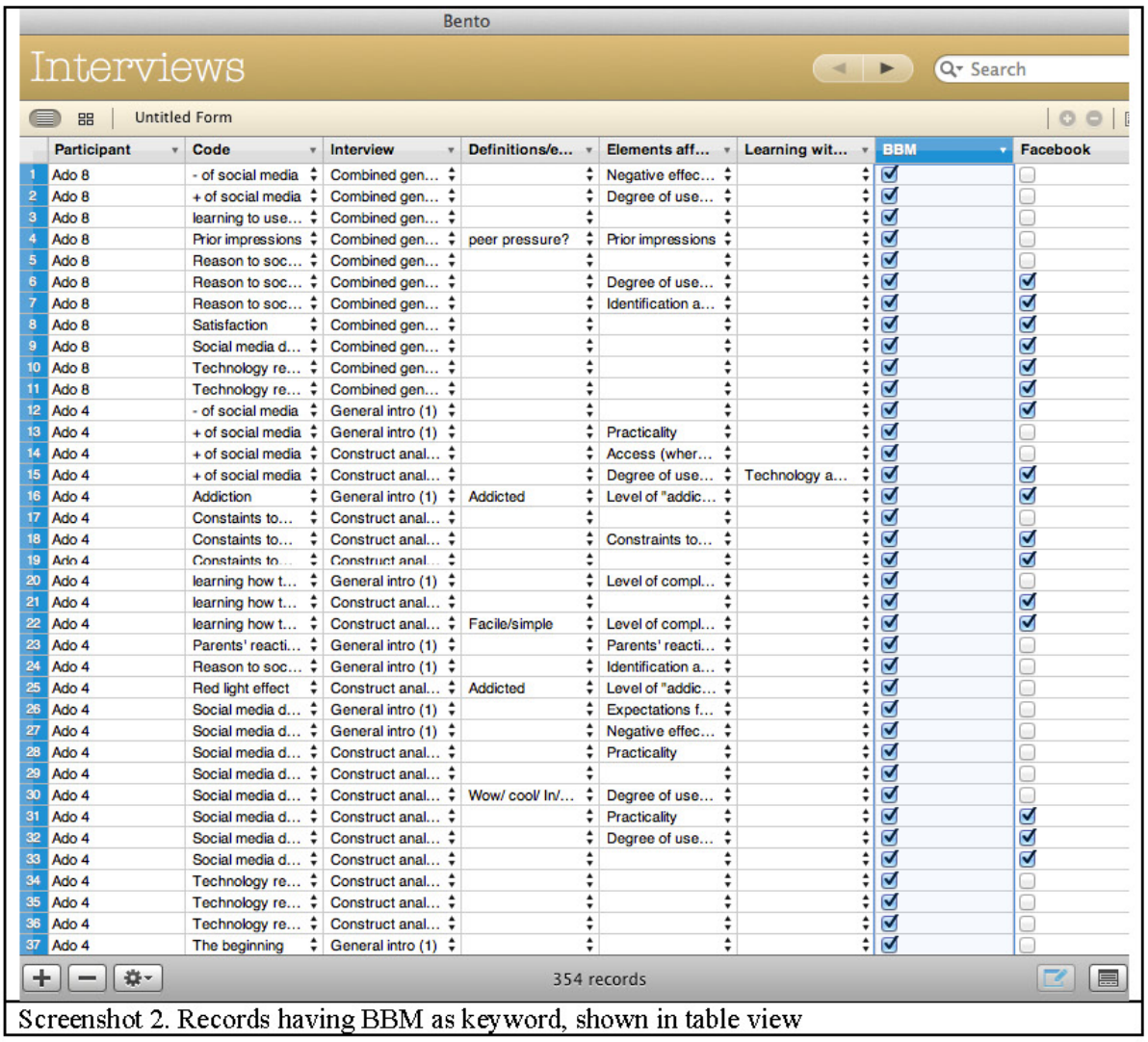
g. Please explain the different roles played by social media in your everyday life

Appendix 7: Sample record with fields



Screenshot 1. Sample record with fields

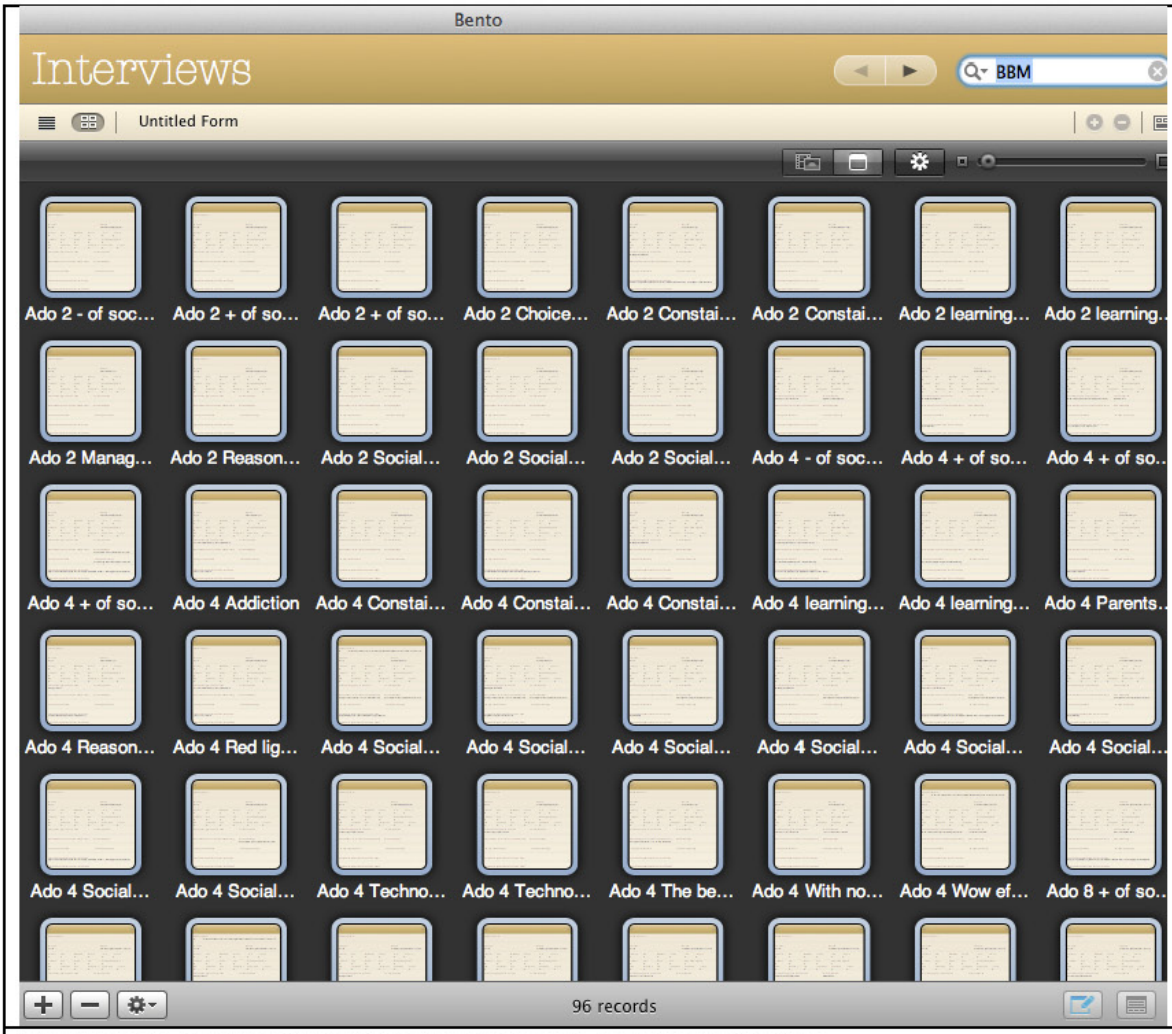
Appendix 8: Records having BBM as keyword, shown in table view



	Participant	Code	Interview	Definitions/e...	Elements aff...	Learning wit...	BBM	Facebook
1	Ado 8	- of social media	Combined gen...		Negative effec...		☑	☐
2	Ado 8	+ of social media	Combined gen...		Degree of use...		☑	☐
3	Ado 8	learning to use...	Combined gen...				☑	☐
4	Ado 8	Prior impressions	Combined gen...	peer pressure?	Prior impressions		☑	☐
5	Ado 8	Reason to soc...	Combined gen...				☑	☐
6	Ado 8	Reason to soc...	Combined gen...		Degree of use...		☑	☑
7	Ado 8	Reason to soc...	Combined gen...		Identification a...		☑	☑
8	Ado 8	Satisfaction	Combined gen...				☑	☑
9	Ado 8	Social media d...	Combined gen...				☑	☑
10	Ado 8	Technology re...	Combined gen...				☑	☑
11	Ado 8	Technology re...	Combined gen...				☑	☑
12	Ado 4	- of social media	General intro (1)				☑	☑
13	Ado 4	+ of social media	General intro (1)		Practicality		☑	☐
14	Ado 4	+ of social media	Construct anal...		Access (wher...		☑	☐
15	Ado 4	+ of social media	Construct anal...		Degree of use...	Technology a...	☑	☑
16	Ado 4	Addiction	General intro (1)	Addicted	Level of "addic...		☑	☑
17	Ado 4	Constaints to...	Construct anal...				☑	☐
18	Ado 4	Constaints to...	Construct anal...		Constraints to...		☑	☑
19	Ado 4	Constaints to...	Construct anal...				☑	☑
20	Ado 4	learning how t...	General intro (1)		Level of compl...		☑	☐
21	Ado 4	learning how t...	Construct anal...				☑	☑
22	Ado 4	learning how t...	Construct anal...	Facile/simple	Level of compl...		☑	☑
23	Ado 4	Parents' reacti...	General intro (1)		Parents' reacti...		☑	☐
24	Ado 4	Reason to soc...	General intro (1)		Identification a...		☑	☐
25	Ado 4	Red light effect	Construct anal...	Addicted	Level of "addic...		☑	☐
26	Ado 4	Social media d...	General intro (1)		Expectations f...		☑	☐
27	Ado 4	Social media d...	General intro (1)		Negative effec...		☑	☐
28	Ado 4	Social media d...	Construct anal...		Practicality		☑	☐
29	Ado 4	Social media d...	Construct anal...				☑	☐
30	Ado 4	Social media d...	Construct anal...	Wow/ cool/ In/...	Degree of use...		☑	☐
31	Ado 4	Social media d...	Construct anal...		Practicality		☑	☑
32	Ado 4	Social media d...	Construct anal...		Degree of use...		☑	☑
33	Ado 4	Social media d...	Construct anal...				☑	☑
34	Ado 4	Technology re...	Construct anal...				☑	☐
35	Ado 4	Technology re...	Construct anal...				☑	☐
36	Ado 4	Technology re...	Construct anal...				☑	☐
37	Ado 4	The beginning	General intro (1)				☑	☐

Screenshot 2. Records having BBM as keyword, shown in table view

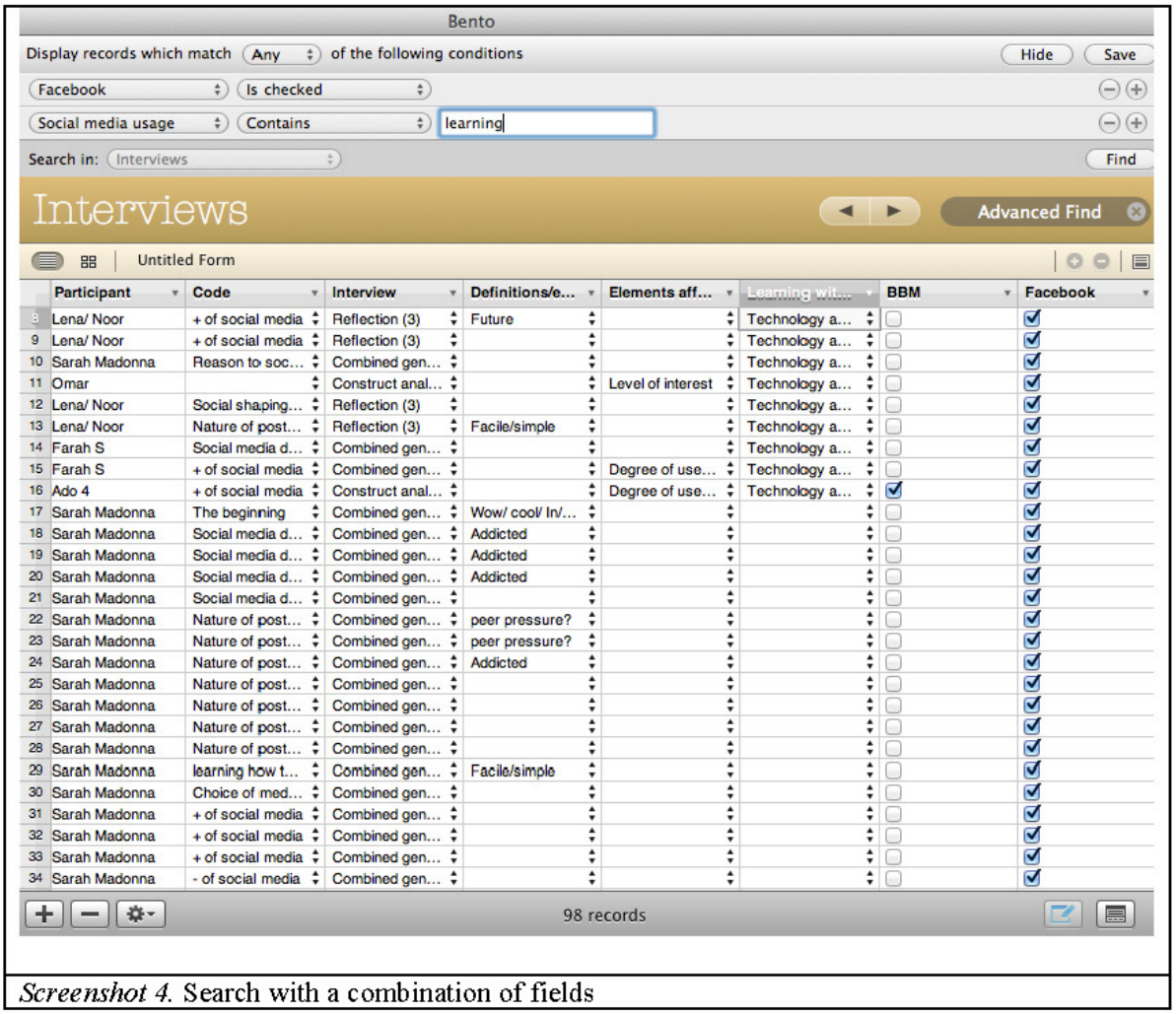
Appendix 9: Records having BBM as keyword, shown in grid view



Screenshot 3. Records having BBM as keyword, shown in grid view

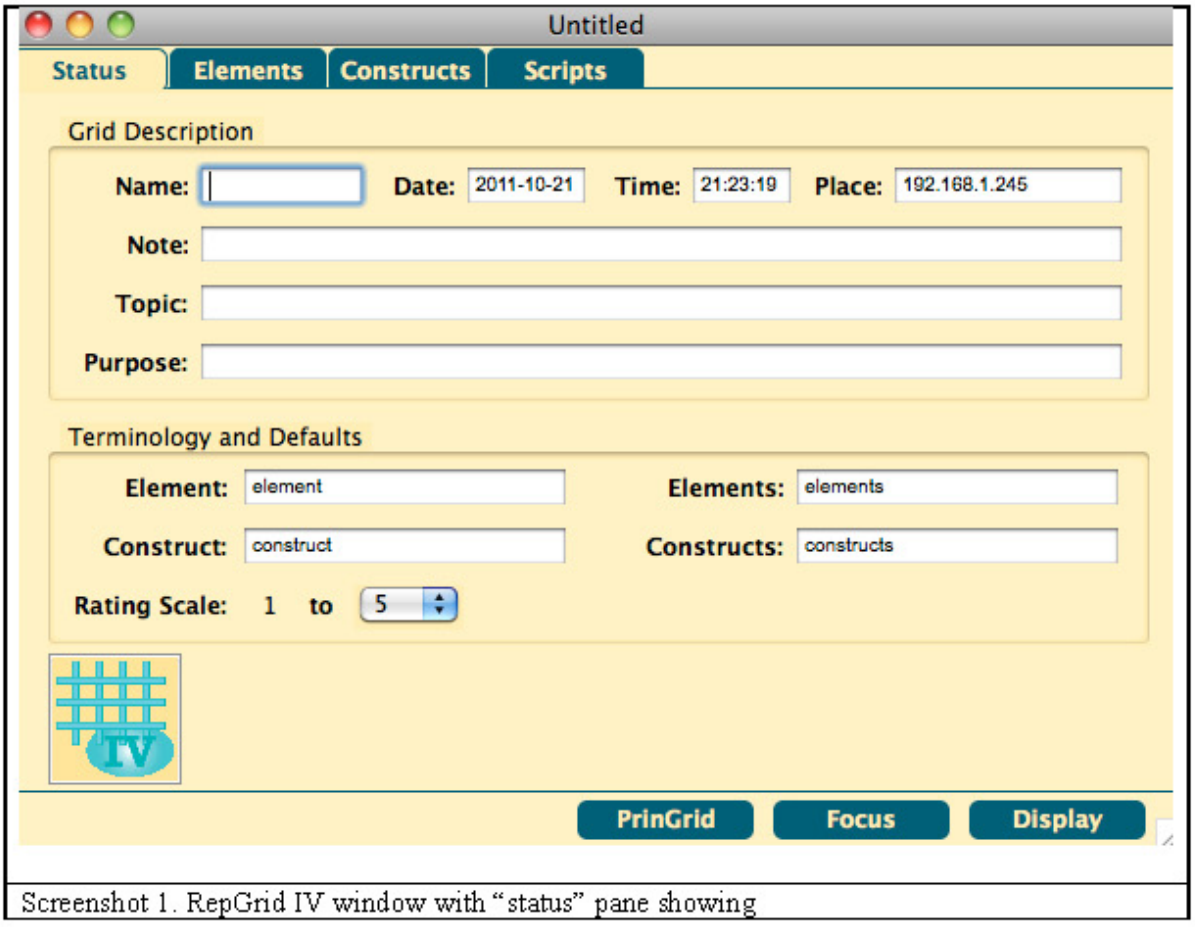
Appendix 10: Records retrieved

after an advanced search with a combination of fields



Screenshot 4. Search with a combination of fields

Appendix 11: Status pane



Screenshot 1. RepGrid IV window with "status" pane showing

Appendix 12- Six participants' individual PrinGrid and Focus cluster analysis

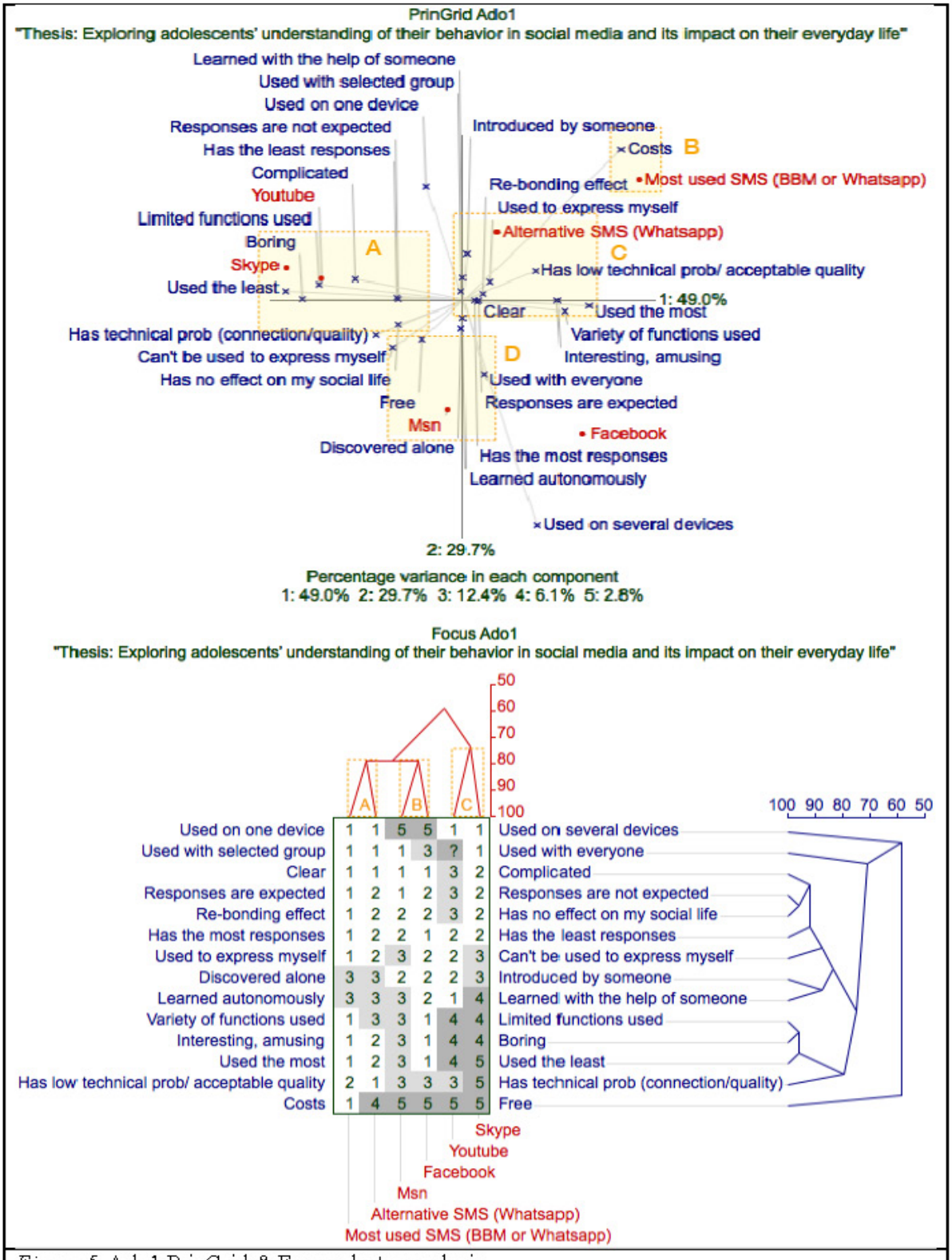


Figure 5. Ado1 PrinGrid & Focus cluster analysis

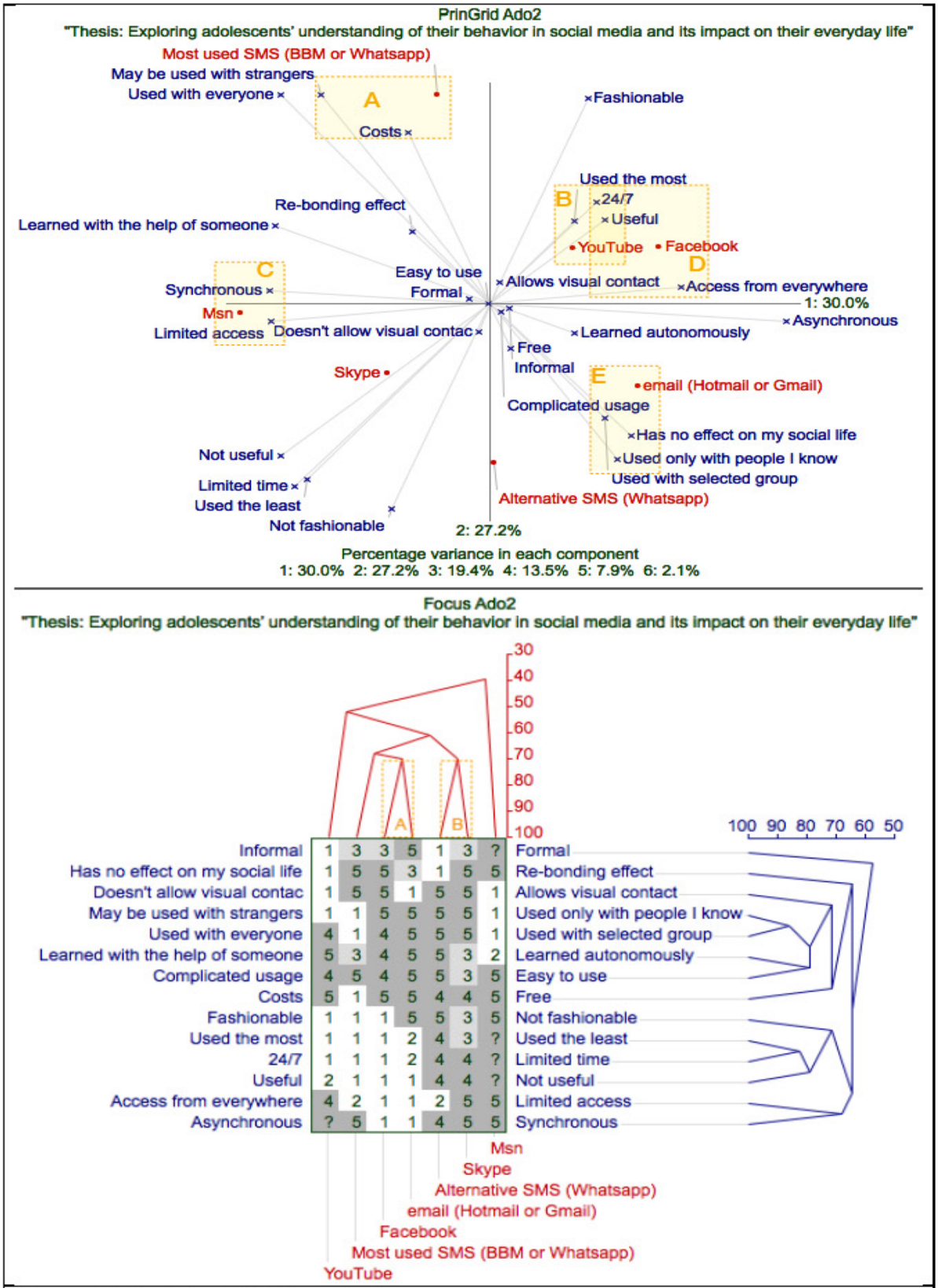


Figure 6. Ado 2 PrinGrid & Focus clusters

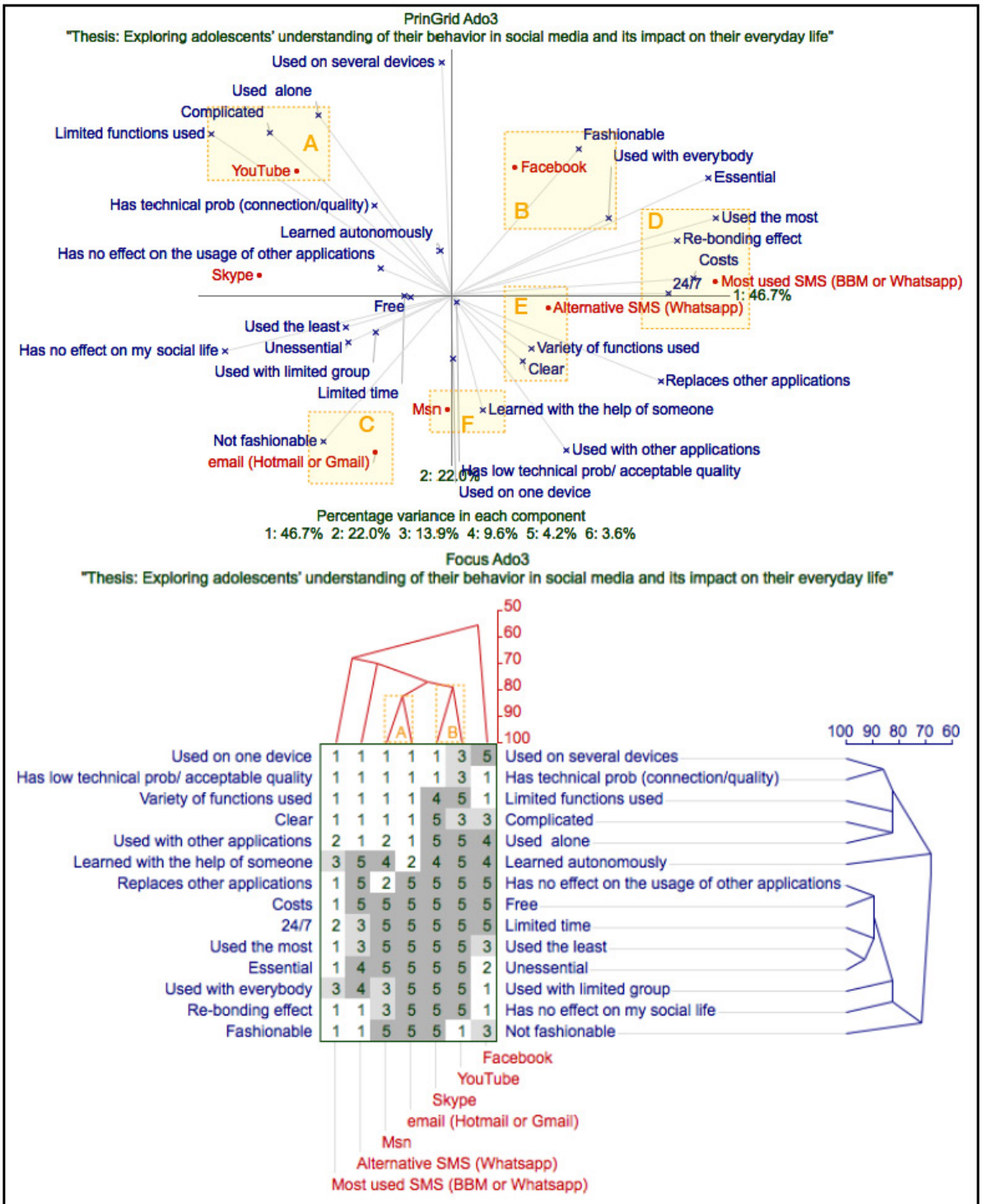


Figure 7. Ado 3 PrinGrid & Focus cluster analysis

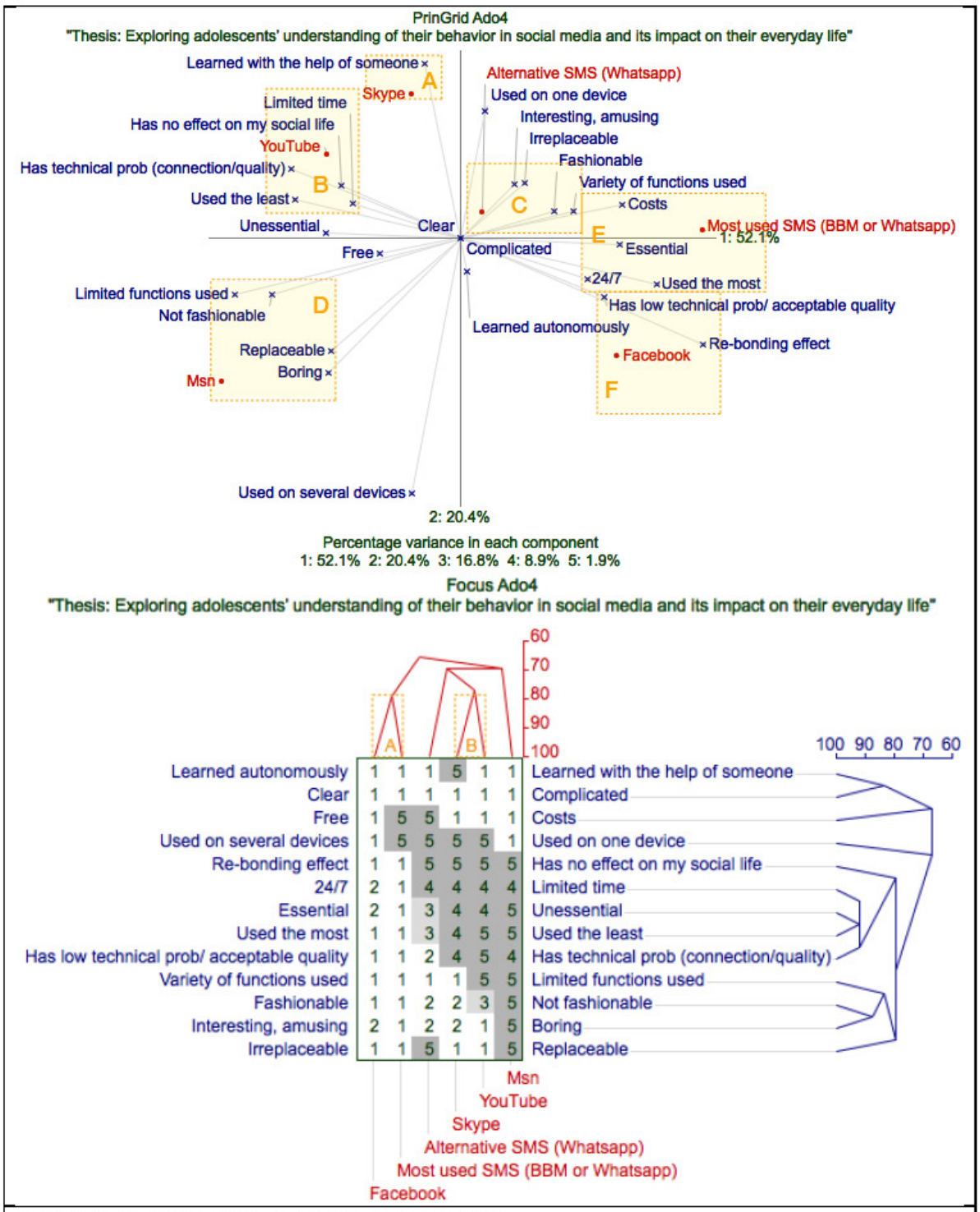


Figure 8. Ado 4 PrinGrid & Focus cluster analysis

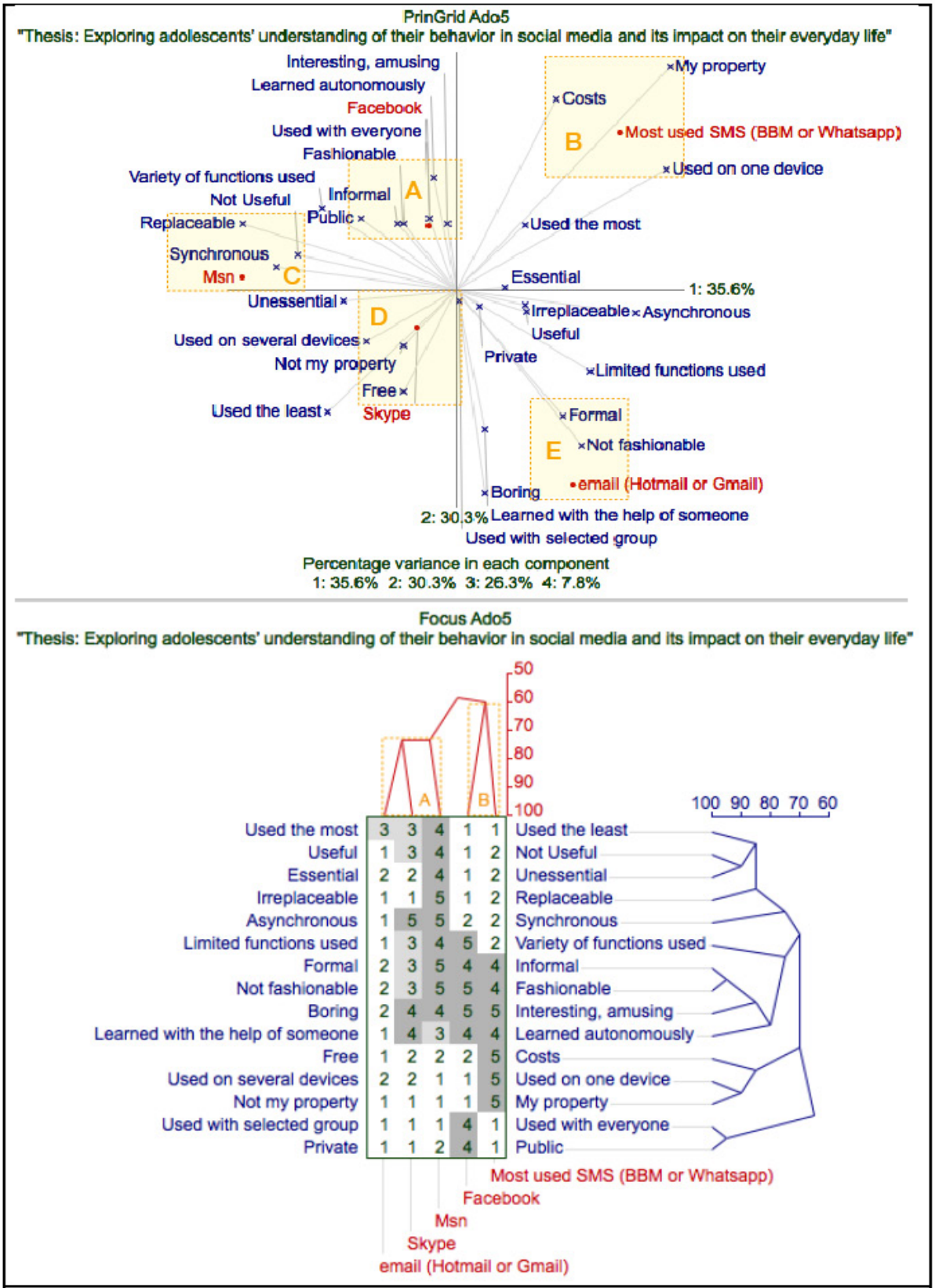


Figure 9. Ado 5 PrinGrid & Focus cluster analysis

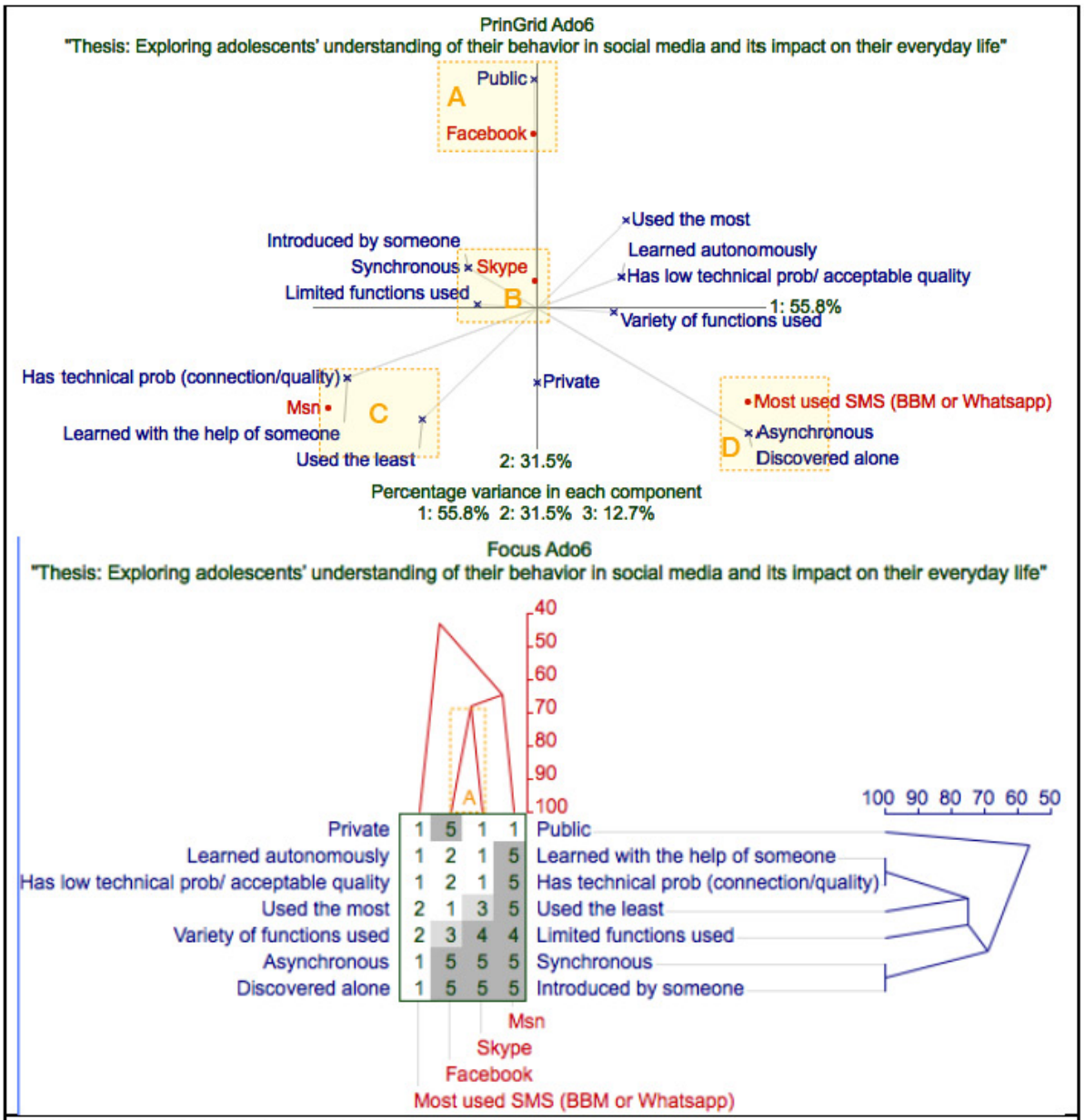


Figure10. Ado 6 PrinGrid & Focus cluster analysis

Appendix 13- Common constructs between six participants

Ado 1	Ado 2	Ado 3	Ado 4	Ado 5	Ado 6	Common constructs	
Use it the least/ Use it the most	I use the least/ I use the most	Less used/More used	I use the less/I use the most	Less used/ Most used	I use the least/ I use the most	**(6) Used the least/ Used the most**	**100%**
Learned with the help of someone/ Learned by myself	Learned with someone (parents, friends)/ Learned alone		Learned with the help of someone/ Learned alone	Learned with the help of someone/ Learned alone	Learned with someone/ Learned alone	**(5) Learned with the help of someone/ Learned autonomously**	**83%**
The most expensive/ The least expensive	The least expensive/ The most expensive	Costs less money/ Costs more money	Costs/ Low cost	Costs/ Free		**(5) Costs/ Free**	**83%**
Just chatting (one function)/ Has multifunction		I use limited functions/ I use several functions	Limited functions/Several functions	Limited functions/ Several functions	Has little apps/ Has more features (options)	**(5) Limited functions used/ Variety of functions used**	**83%**
Has no effect on my social life/ Re-bonding effect	Has no important effect/ Get people closer	Has no effect on my social life/ Made me closer to my friends	Has no effect/ Bring friends together			**(4) Has no effect on my social life/ Re-bonding effect**	**67%**
Used on one device/Used on several devices		1device/Several devices	1device/Several devices	1 Device/ +Devices		**(4) Used on one device/Used on several devices**	**67%**
Has a lot of technical problems/ Has little technical problems		+Technical problems (connections)/- Technical problems	Low quality/High Quality		Has connection problems (very slow)/ Has minimum connection	**(4) Has technical prob. (connection/quality)/Has low technical prob.+**	**67%**

		(connections)			problems	**acceptable quality**	
	The least in/ The most in	Less in/More in	Useless/Cool wow	Not fashionable/ fashionable		**(4) Not fashionable/ Fashionable**	**67%**
Use it with a selected group/ Use it with everyone	Selected group (faraway people, certain groups/ With everybody)			I use it with a selected group/ I use it with all my connections		(3) Used with selected group/ Used with everyone	50%
	Takes time (Asynchro-nous)/ Direct (Instant, synchronous)			Not live (asynchronous) / Similar to reality (synchronous)	People with whom I communicate don't need to be online/ People with whom I communicate need to be online	(3) Asynchronous/ Synchronous	50%
	Limited time/ 24/24	Used rarely/ Used 24/7	Occasionally/24/7			(3) Limited time/24/7	50%
Boring/ Fun (Interactions+ Applications)			Boring/Interesting	Boring/ Fun, amusing, enjoyable		(3) Boring/ interesting, amusing	50%
Hard to use and to learn/ Easy to use		Complicated to use/ easy to use	Complicated/ Practical			(3) Complicated/ Clear	50%
Introduced by someone/ Discovered alone					Introduced by others/ Discovered alone	(2) Introduced by someone/ Discovered alone	33%
	The least useful/ The most useful			Not useful/ Useful		(2) Not useful/ Useful	33%

			I can do without/ I need	Less important/ Most important		(2) Unessential/ Essential	33%
			Replaceable/ Irreplaceable	Can be replaced/ Irreplaceable		(2) Replaceable/ Irreplaceable	33%
	The most serious/ The least serious			Formal/ Not formal		(2) Formal/ informal	33%
				Public/ Private	Public/ Private	(2) Public/ Private	33%
		Has no effect on the usage of other applications/ Replaces other applications				(1) Has no effect on the usage of other applications/ Replaces other applications	16%
		I use it alone/ I use it with other applications				(1) Used alone/ Used with other applications	16%
	Limited access/ Access from everywhere					(1) Limited access/ Access from everywhere	16%
	Doesn't allow me the see the other/ Allows me to see the other					(1) Doesn't allow eye contact/ Allows eye contact	16%
	I need to know the persons I'm communicating with/ No need to know the persons I'm communicating					(1) Used only with people I know/ May be used with strangers	16%

	with						
				Not my property/ My property		(1) Not my property/ My property	16%
I don't expect responses/ I expect responses						(1) Responses are not expected/ Responses are expected	16%
Has the least responses/ Has the most responses						(1) Has the least responses/ Has the most responses	16%

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