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The Relationship between Facebook Use, Envy, Wellbeing, and Loneliness among Lebanese
College Students

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College Students

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DEDICATION

*I would like to dedicate this work to my family, my lovely parents Mohammad and Hanadi,
husband, and friends who helped me to achieve this work.*

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Table of Content

List of Tablesvii

Abstractviii

Chapters:

1. Introduction 1

2. Review of the Literature 14

3. Method.....34

 Participants..... 34

 Materials..... 34

 Procedure..... 38

4. Results.....39

 Reliability Testing..... 39

 Hypothesis Testing..... 40

 Additional Analysis..... 41

5. Discussion.....47

 Future Implications..... 52

 Limitations & Directions for Further Research.....53

References

Appendices

A. Consent Form.....

B. Demographic Form.....

C. Facebook Intensity Scale.....

D. Active versus Passive Use of Facebook Scale.....

E. Life Satisfaction Scale.....

F. Flourishing Scale.....

G. Subjective Happiness Scale

H. Subjective Vitality Scale.....

I. Facebook Envy Scale

J. Loneliness Scale

List of Tables

Table 1: *Cronbach's alpha for the Facebook Intensity Quiz, Facebook Use Survey, Satisfaction with Life Scale, Flourishing Scale, Subjective Happiness Scale, Subjective Vitality Scale, UCLA Loneliness Scale, and Facebook Envy Scale*

Table 2: *Descriptive Statistics for study variables*

Table 3: *Correlation Coefficients for active versus passive use of Facebook with SWLS, Flourishing, Subjective Vitality, Subjective Happiness, Loneliness, and Envy*

Table 4: *Correlation Coefficients for envy, active versus passive use of Facebook, loneliness, and life satisfaction*

Abstract

This study examined the relationship between active versus passive use of Facebook and five determinants of well-being including life satisfaction, subjective happiness, subjective vitality, flourishing, and loneliness. Also the role of envy feelings was examined as a mediator between passive following on Facebook, users' life satisfaction, and loneliness. The study was done on 195 Lebanese college students; The instruments used were the following: Facebook Intensity Scale, Active versus Passive Use of Facebook Scale, Satisfaction with Life Scale, Flourishing Scale, Subjective Happiness Scale, Subjective Vitality Scale, Facebook Envy Scale and the UCLA Loneliness Scale. Results revealed that active use of Facebook enhances well-being. On the contrary, passive use of Facebook increases envy and loneliness. Confirming full mediation, we demonstrated that passive following exacerbates envy feelings, which decrease life satisfaction and increase loneliness.

The Relationship between Facebook Use, Envy, Wellbeing, and Loneliness among Lebanese College Students

Online social networking sites (SNS), such as Facebook, Twitter, Instagram, and others, have spread fast in recent years. Individuals, all over the world, but specifically the young college generation, are spending a lot of time on these popular Social Network Sites (SNSs) (Inside Facebook, 2010). With billions of users worldwide, such Social Media platforms, have changed the ways of communication in today's societies hence introducing new types of leisure patterns. Spurred by the widespread adoption of smartphones, the increasing usage of Social Media raises an important question: Does participation on SNS, specifically Facebook, benefit or harm the regular user?

Facebook was created in February 2004 by Mark Zuckerberg, Dustin Moskovitz and Chris Hughes as a site for Harvard students only. Shortly after, it expanded to any college student with an "edu" email account. Between Fall 2005 and Fall 2006, Facebook expanded to high school networks, then to work networks, and eventually, to Internet users in general (Valenzuela, Park, & Kee, 2009). It has been considered to be the most widely used SNS (Andreassen, Torsheim, Brunborg & Pallesen, 2012). Since its development, Facebook has achieved noticeable growth as one of the world's leading social networking sites (SNSs) (Junghyun, & Roselyn Lee, 2011). Facebook facilitates daily interactions of over 800 million users spending on average more than 40 minutes daily on the platform (LA Times, September 2011). With one billion active users about one in every seven people on the planet actively uses Facebook (Smith, Segall, & Cowley, 2012; Fowler, 2012). As The Wall Street Journal put it in 2012, "Mark Zuckerberg has just six billion more people to go" (Fowler 2012). Moreover, Facebook company states that there are 1.25 billion mobile monthly active users as of March 31,

2015 (Facebook, 2015). It has been revealed also that it is the most widespread social networking site used by college students (Cheung, Chiu, & Lee, 2011; Hargittai, 2007; Selwyn, 2009; Smith & Caruso, 2010). More than four-fifth of young adults between ages 18 and 29 who use the Internet have reported that they use SNSs (Pew Research Center, 2013). College students use SNSs excessively; a recent study reveals that 90% of college students use SNSs, and 97% of those are everyday users of Facebook (Smith & Caruso, 2010). It has also been reported that college-age users spent approximately about 28 minutes per day on Facebook, integrating it closely into their everyday lives (Junghyun, & Roselyn Lee, 2011).

Facebook, which offers free services to its users from communication to information, photos and videos sharing, including providing easy access to view personal information about friends, coworkers, and even complete strangers, has become a closely observed network by the scientific community (Muise, Christofides, & Desmarais, 2009). Scholars from different parts of the world are studying this social media network extensively. For instance, studies have revealed that problematic use of facebook correlated negatively with the psychological well being of the user (Kross, Verduyn, Demiralp, Park, Lee, Lin, Shablack, Jonides, & Ybarra, 2013; Junghyun, & Jong-Eun, 2011; Satici, & Uysal, 2015), including the level of life satisfaction (Krasnova, Wenninger, Widjaja, & Buxmann, 2013; Wenninger, Krasnova, Buxmann, 2014; Verduyn, Lee, Park, Shablack, Orvell, Bayer, Ybarra, Jonides, & Kross, 2014) as well as the degree of loneliness (Burke, Marlow, & Lento, 2010; Cacioppo, Fowler, & Christakis, 2009; Lou, Yan, Nickerson, & McMorris, 2012; Qiu, Lin, & Leung, 2010). Therefore, and because of this relatively new social phenomenon, the author of this study aimed to study the ways of Facebook use (independent variables) and how such patterns relate to different psychological outcomes, such as psychological well-being, envy and loneliness (dependent variables).

Background of the Study

Active/Passive Use of Facebook

Researchers have classified Facebook activities into active and passive forms of usage (Burke, Marlow, & Lento, 2010; Deters & Mehl, 2013; Krasnova, Wenninger, Widjaja, & Buxmann, 2013). Passive following of information others share on the platform is a behavior also synonymously referred to as “*content consumption*” (Burke, Marlow, Lento, 2010) “*social searching*” and “*social browsing*” (Wise, Alhabash, Park, 2010). Some studies draw a distinction between the good kind of Facebook usage and the bad kind. They refer to the good use of Facebook as the active one which is simply using the site to contact friends and family whereas bad Facebook use is the “surveillance use, i.e., browsing the website to see their friends' news feed and to keep tabs on people they know without actually talking to them (Tandoc, Ferrucci, & Duffy, 2015).

This distinction between the two types of Facebook usage, active and passive, is important especially that some research has specifically linked passive Facebook usage with reduced levels of well-being (Krasnova et al., 2013). Therefore, the idea of investigating further the different ways of using Facebook, i.e., active and passive, and their implications on the well-being will be discussed in the proceeding paragraphs.

Active versus Passive Use of Facebook and Well-being

Since its development, many studies have been conducted to examine the relationship between Facebook and psychological well-being. Mixed results were obtained. Some research showed positive relations between Facebook and well-being (Valenzuela, Park, & Kee, 2009; Apaolaza, Hartmann, Medina, Barrutia, & Echebarria 2013; Wang 2013). Other researches revealed negative effects on well-being (Huang, 2010; Kross, Verduyn, Demiralp, Park, Lee, Lin

et al. 2013; Krasnova, Wenninger, Widjaja, & Buxmann, 2013), whereas other studies showed no negative effect whatsoever on well-being by Facebook use (Jelenchick, Eickhoff, & Moreno, 2013; Lee, Lee, & Kwon, 2011). One reason for obtaining mixed results could be that some of these researchers did not distinguish clearly between the active (healthy) and passive (unhealthy) use of Facebook. Therefore, the author of this study integrated the two types of Facebook use in her study (active and passive) and based on that predicted her hypotheses accordingly.

The term psychological well-being is a broad term and different theorists, who are discussed in the review of literature chapter, have defined it differently. The author of this study used Ryan and Deci's (2001) definition of well-being, and that is, well-being "is a complex construct that concerns optimal experience and functioning" (p. 141) and can hence be defined as optimal psychological functioning. This definition of well-being was used by a recent study by Satici and Uysal (2015) in which the authors examined the relationship between psychological well-being as reflected in four specific variables: subjective happiness, subjective vitality, life satisfaction and flourishing, and problematic Facebook use; the authors of that study concluded that a negative association existed between problematic Facebook use and the four variables (Satici, & Uysal, 2015). The author of this study used the same four scales of well-being as used by Satici and Uysal (2015) and hence predicted similar predictions, that is, more problematic (passive) use of Facebook is associated with lower scores on the four well-being variables, namely, life satisfaction, flourishing, subjective vitality, and subjective happiness among users (hypotheses 1-4). Accordingly, the author predicted also that active use of Facebook is associated with high scores on the four scales of well-being (hypotheses 5-8).

Passive Use of Facebook, Envy and Life satisfaction

As discussed previously, life satisfaction is one of the four predictors of well-being in the study of Satıcı, & Uysal, (2015) as well as in the current study. Accordingly, this study formulated two hypotheses stating that depending on the type of Facebook use (passive or active), the scores on life satisfaction (one of the predictors of well-being) will either increase or decrease. However, there are some literature studies that discussed envy as a variable that lowers well-being and specifically life satisfaction when using an SNS (Smith, 2011). Envy is defined as “*an unpleasant and often painful blend of feelings caused by a comparison with a person or group of persons who possess something we desire*” (Smith & Kim, 2007, p. 49).

To clarify more, previous research has found that users of SNS can use different ways to portray themselves in favorable presentations and show the relationships they desire, such as editing messages for a long time using different cognitive ways (Walther, 2007), choosing photos carefully, and overly showing their positive characteristics (Ellison, Steinfield, & Lampe, 2007). Thus SNS provide users with easy ways to compare themselves against other people on the platform. As a result, envy feelings can be evoked due to repetitive exposure to information about others which in return might lead to lower well-being and specifically decline in life satisfaction (Smith, 2011; Krasnova et. al, 2013; Qui et. al, 2010, Verydun et. al, 2014). Based on the above, the author predicted that envy played the role of a mediating variable between passive Facebook use and life satisfaction (hypothesis 9).

Active versus Passive Facebook Use and Loneliness

Loneliness has been associated with feelings of general dissatisfaction, unhappiness, depression, and anxiety (Peplau & Perlman, 1982). All these mentioned variables logically reflect an unhealthy state of well-being, which is one of the main variables of this current study. Therefore, the author included loneliness as one of the variables to be examined since it is associated with lower states of well-being.

In this study, loneliness is defined as a social deficiency i.e., the extent to which a person's network of social relationships is smaller or less satisfying than the person desires (Panicker & Sachdev, 2014; Peplau & Perlman, 1982). Some measures of loneliness are defined as an inability, unwillingness, or emotional feeling of inability to experience or develop satisfactory social relationships (Song, Zmyslinski-Seelig, Kim, Drent, Victor, Omori, & Allen, 2014).

One of the main features of Facebook is to allow users to share personal stories, create new social relationships and promote existing interpersonal relationships. Having this in mind, many studies have been conducted to investigate the psychological factors, including the variable of loneliness, that correlate with the use of Facebook (Song, Zmyslinski-Seelig, Kim, Drent, Victor, Omori, Allen, 2014; Burke, Lento, & Marlow, 2010; Panicker & Sachdev, 2014). Some researchers have found a positive relationship between Facebook use and loneliness (Lou, Yan, Nickerson, & McMorris, 2012; Pena & Sandlin, 2010; Spraggins, 2009). More specifically, Burke et al (2010) found that when people engaged in direct interaction with others—that is, posting on walls, messaging, or “liking” something— which represents active use in this study, their feelings of bonding and general social capital increased, while their sense of loneliness decreased. But when participants simply consumed a lot of content passively, Facebook had the

opposite effect, lowering their feelings of connection and increasing their sense of loneliness (Burke, Lento, & Marlow, 2010). Based on the above, the author predicted that depending on whether Facebook was used actively or passively, the scores on loneliness changed (hypotheses 10 & 11).

Passive Use of Facebook, Envy and Loneliness

A research conducted by Qiu, Lin, & Leung (2010) pointed out that “life comparisons” mediated the relationship between Facebook browsing and individual social well-being and affect. Moreover, “the better they perceived their friends’ lives than theirs, the more loneliness, lower life satisfaction, and more negative emotion they experienced” (Qui, Lin, Leung, 2010 p: 3). In other words, they found that because users on Facebook tend to selectively express the positive side of their lives, browsing Facebook would result in making others assume that other people’s lives are better and thus feel lonely. Qui et al (2010) measured life comparison by asking participants to rate their own life and their friends’ lives separately on Cantril’s Life Ladder (Cantrill, 1966). They subtracted the rating that the participant gave to his own life from the rating that he gave to his friends’ lives. They used that score as the life comparison score to examine how one viewed others’ lives in comparison to one’s own. One definition of envy according to Tai, Narayanan, & McAllister (2012) is an upward social comparison that reveals the perception of inferiority of a person in terms of a desired or important attribute, which is owned by others. Thus envy includes comparing one’s life with others. Based on this study, one of the present research’s goals was also to study the role of envy as a mediator variable not only between passive Facebook use and life satisfaction, but also between passive use of Facebook and loneliness (hypothesis 12).

Problem of Statement

The purpose of this study was to understand more deeply the relationship between two ways of using Facebook, the active and the passive type, and the four predictors of variables of well-being, namely, subjective happiness, subjective vitality, life satisfaction and flourishing, envy, and loneliness. Therefore, and based on the above discussed literature, the following hypotheses were studied:

Hypothesis 1: There is a negative correlation between passive use of Facebook and life satisfaction among Lebanese University Students.

Hypothesis 2: There is a negative correlation between passive use of Facebook and subjective vitality among Lebanese University Students.

Hypothesis 3: There is a negative correlation between passive use of Facebook and subjective happiness among Lebanese University Students.

Hypothesis 4: There is a negative correlation between passive use of Facebook and flourishing among Lebanese University Students.

Hypothesis 5: There is a positive correlation between active use of Facebook and life satisfaction among Lebanese University Students.

Hypothesis 6: There is a positive correlation between active use of Facebook and subjective vitality among Lebanese University Students.

Hypothesis 7: There is a positive correlation between active use of Facebook and subjective happiness among Lebanese University Students.

Hypothesis 8: There is a positive correlation between active use of Facebook and flourishing among Lebanese University Students.

Hypothesis 9: The more Facebook is used passively the higher the score of envy which mediates the decrease in the Satisfaction with Life Scale scores (one of the predictors of well-being) among Lebanese University Students.

Hypothesis 10: There is a positive correlation between passive use of Facebook and loneliness among Lebanese University Students.

Hypothesis 11: There is a negative correlation between active use of Facebook and loneliness among Lebanese University Students.

Hypothesis 12: The more Facebook is used passively the higher the score of envy which mediates the increase in the Loneliness scores among Lebanese University Students

Significance of the Study

Social networking is nowadays an important phenomenon that is spreading so fast among various circles of people, including college students. Lebanese college students use all types of social networking devices, applications, platforms, etc. Spending a significant amount of time on Facebook, in particular, is a phenomenon that should be studied further in Lebanon. In fact, a study that was conducted on the purpose of the internet use in Lebanon, shows that 92% of internet users have Facebook accounts, 34% uses internet about 3-4 hours daily, and 26% browses the internet for more than 6 hours daily (The Main Purpose of Using Internet in Lebanon is for Social Networking, 2011). Few studies are conducted on the implications of using

FACEBOOK USE AND WELL-BEING

Facebook, specifically regarding the associations between specific ways of using Facebook, such as, the passive use, and certain psychological factors, such as envy. Most of the research is done on the psychological factors that lead or play a role in using, or getting addicted, to Facebook and how certain traits can affect the way we use Facebook. But what if the Facebook is taking a lot of our time and thus making us browse others' files most of the time predicting envy and thus lowering life satisfaction and lower well-being in general? These are important issues that this study discussed. In addition, having checked a number of important databases, it seemed that no previous research has been done on linking passive Facebook use with envy, wellbeing and loneliness.

On the other hand, this study is important for clinical psychologists and mental health practitioners in general. With respect to psychologists, this study sheds light on some important variables that Facebook might play a crucial role in. Results of this study can help guide therapists and counselors in dealing with Facebook users who are misusing it thereby guiding them into the positive ways of using it and preventing psychological problems.

Additionally, social media literacy education may be a compulsory course for college students to increase their awareness of how passive use of Facebook may influence their well-being.

Beside the clinical implications, this study is the first to tackle implications of social media on Lebanese people well-being. It might be a wake-up call for people in general and for researchers in particular to further study Facebook.

Overview of Methodology

This study was a quantitative study utilizing correlational analyses in order to determine the relationship between the five variables: patterns of Facebook use (active/ passive), wellbeing, envy, and loneliness. Eight questionnaires in addition to the demographic sheet were distributed either by hand or through Facebook messages or via whatsapp to 200 students (convenient sample) from different universities across Lebanon. The questionnaires were the following: The Facebook Intensity scale and the Facebook Use questionnaire to measure active versus passive use of Facebook; the Satisfaction with Life Scale, the Flourishing Scale, the Subjective Happiness Scale, and the Subjective Vitality Scale to measure well-being, a self-developed survey by Tandoc, Ferrucci, & Duffy, (2015) to measure envy, and the UCLA Loneliness Scale to measure loneliness.

A convenient sample was chosen in order to gather participants because of its easy and fast accessibility to subjects who want to respond voluntarily to the questionnaire. The author made sure that the participants' level of English was appropriate for understanding and filling out the survey.

These questionnaires targeted the mode of Facebook use, well-being, level of envy, and loneliness. Participants needed to have a Facebook account. The participants needed to fill these questionnaires with their consent and be debriefed that these questionnaires constituted a part of an MA thesis requirement. Participants' age was above 18, males and females, as well as undergraduates and graduate students.

Limitations of the study

Although this study was about the relationship between type of Facebook use and well-being among Lebanese college students, the results could not be generalized to all Lebanese

college students. The first limitation related to the sample of the study. Results of this study could not be generalized to all Lebanese people since the sample included only college students, above 18, speak English, and have Facebook account. Another limitation was the possibility of response bias in self report. Moreover, the survey was not translated to Arabic and many Facebook users do not speak English. Therefore, the study missed Facebook users who did not speak English.

Recent review of the Facebook literature indicated different online social networks have varied histories and are associated with different patterns of use, user characteristics, and social functions. Therefore, it is possible that the current findings may not neatly generalize to other online social networks. Also what other mechanisms could underlie the negative effects of Facebook usage on well-being? The study needs to address other factors than envy. Other variables associated with social networks dependence and sleep quality, such as level of education, social support, self-esteem and socioeconomic status have not been considered.

Definition of Key Terms

Active Use: refers to activities that allow for direct exchanges with others (e.g., posting status updates; commenting on posts) (Verduyn, Lee, Park, Shablack, Orvell, Bayer, Ybarra, Jonides, & Kross, in press).

Passive Use: involves consuming information without direct exchanges (e.g., scrolling through news feeds; viewing posts) (Verduyn, Lee, Park, Shablack, Orvell, Bayer, Ybarra, Jonides, & Kross, in press).

Well-being: a combination of four factors defined below: life satisfaction, subjective happiness, subjective vitality, and flourishing) (Satici, & Uysal, 2015)

Life Satisfaction: it is defined as “a global summary of one's life as a whole” (Diener, 1994, p. 107, p. 107); it is also rooted in “the perceived discrepancy between [a person's] aspiration and achievement” (Campbell et al., 1976, p. 8).

Subjective Vitality: Subjective vitality is an aspect of eudaimonic and physical well-being (Salama-Younes, 2011), can be defined as the subjective experience of being full of energy and alive, and potentially represents a significant predictor of subjective happiness (Ryan & Frederick, 1997; Akin, 2012).

Subjective Happiness: a global subjective assessment of whether one is a happy or an unhappy person (Diener, 1996).

Flourishing: Flourishing can be described as living within the most favorable range of human functioning, and experiencing goodness, generativity, growth, and resilience (Keyes, 2002 ; Fredrickson & Losada, 2005). Diener, Wirtz, Tov, Kim-Prieto, Choi, Oishi, et al. (2010) defined flourishing as experiencing the main aspects of social–psychological functioning such as “relatedness, optimism, self-acceptance, feeling competent, having supportive and rewarding relationships, contributing to the happiness of others, being respected by others” (p. 144).

Envy: defined as “an unpleasant and often painful blend of feelings caused by a comparison with a person or group of persons who possess something we desire” (Smith & Kim, 2007, p. 49).

FACEBOOK USE AND WELL-BEING

Loneliness: defined as a social deficiency i.e., the extent to which a person's network of social relationships is smaller or less satisfying than the person desires (Panicker & Sachdev, 2014; Peplau & Perlman, 1982).

Social Networking Sites SNS: is defined as a web-based platform where users connect with other users electronically and are able to share their interaction with the public (Kittinger, Correia & Irons, 2012).

CHAPTER 2

Review of Literature

The purpose of this study was to understand more deeply the relationship between ways of using Facebook, especially the passive type, and the variables of envy, well-being, and loneliness. Therefore, this chapter included all the literature review needed to clarify the background of the twelve predicted hypotheses.

History of Facebook

The internet, in its early phases of development, was mostly used by individuals who were mainly acting as consumers of content. Only few of these internet users had a role in the creation of the content used or had the ability to use the web interactively; this form of internet function is now known as *Web 1.0* (Cormode & Krishnamurthy, 2008). Even though the difference between Web 1.0 and Web 2.0 is hard to be explained, the term *Web 2.0* encompasses the many innovative changes that have been introduced on the internet over the past several years (Cormode & Krishnamurthy, 2008). *Web 2.0*, also known as “social web” or “interactive web,” is a term used to reference web applications that focus on interaction, participation, integration and connections (Schembri, 2008). Applications encompassed in Web 2.0 can include wikis, blogs, digital radio, twitter, and social networking websites such as MySpace, Google+, LinkedIn and Facebook. The interactive interface of Web 2.0 provides the internet user with various functions, such as, photo and video sharing, comment posting, friend networking, profile creation as well as other popular functions of interactive websites, especially those classified as social networks (Schwartz, 2012).

Social networking websites are those that allow internet users to create a profile and connect their profile to others generating a personal network (Lenhart & Madden, 2007). In

2004, Mark Zuckerberg and a team of Harvard students created one of today's fastest growing social networks many have come to know as Facebook. After exactly one year of its development, Facebook was the ninth most visited site on the web and a host to many college students with a valid college or university email address (Stern & Taylor, 2007). Facebook was developed with the idea that it would be a social network exclusive to college and university students. Rapidly, Facebook spread to include any person that had an email address.

Nowadays with more than 70 languages on the site and nearly 75% of all users belonging to countries outside of the United States, Facebook usage has truly become a global phenomenon (Facebook, 2012). Facebook is accessible from any computer, an iPad, and many mobile devices, keeping individuals who utilize the site connected at all times throughout the day. According to a new survey, 89% of internet users in the Middle East/North Africa region use Facebook and 91% of Facebook users are millennials (15-34 years old) (*Facebook was The One Network People used Less in 2014, 2015*).

Facebook as a new research topic

Over the past few years, as usage of Facebook has expanded beyond individual use and into the hands of companies to promote products and services, it became a main concern for many universities, researchers, schools and companies. For instance, some research has focused on certain topics, mainly five, that relate to Facebook use: descriptions of Facebook users, motivations for using Facebook, identity presentation, the effects of Facebook on social interaction, and privacy and information disclosure (for a complete review see Wilson , 2012). Other studies have examined the four primary needs for participating in groups within Facebook: socializing, entertainment, status seeking, and information seeking (Groups, Park, Kee, & Al, 2009). Moreover, a dual factor model was proposed to explain the primary drivers of Facebook

use which were belongingness and self-presentation (Nadkarni & Hofmann, 2012). In fact, another concern, which this study has attempted to address, is whether the way individuals use Facebook, that is, passively or actively, is associated with certain psychological aspects of a person, mainly, well-being, envy and loneliness.

Passive versus active use of Facebook

All previous research done on Facebook focused mostly on Facebook addiction, intensity of using Facebook, time spent on Facebook, etc... (Kross, et al., 2013, Chen & Lee, 2013, Sherman, 2011) On the other hand, more recent research (Tandoc et. al, 2015; Krasnova et. al, 2013; Verduyn et al., 2014; Qui et. al, 2010) including this study, has started to focus more on patterns (active/passive) or types of Facebook use instead, and their relationship with well-being and other variables, paving the way for new interpretations of the relationship between Facebook use and certain psychological variables, such as, well-being and loneliness.

Most studies resort to cumulative measures of Social Media participation, such as ‘time on site’ or ‘number of logins’. This approach is troublesome, since pooling different types of activities makes it difficult to discern between closely-related, yet different behavioral patterns (Koroleva et al. 2011). Overall, significant discrepancies in the conflicting outcomes reported by studies linking SNS use to well-being can be due to measurement errors since most studies look at the general indices of SNS participation thereby possibly “mixing apples with oranges” (Wenninger et al, 2014). It is not unusual to measure SNS participation by asking respondents about their overall time spent using a SNS (e. g. Kross et al., 2013; Muise et al., 2009), login frequency (e.g. Davila et al., 2012) or rely on general scale-based measures of intensity of FB use borrowed from Ellison et al. (2007) (Valenzuela et al., 2009). To address this issue, this study, and other studies on Facebook, attempted to solve the problem of confounded measures by

singling out and testing the impact of more specific usage patterns, with studies concentrating on markers of *active participation* (e.g. sharing content and communicating) and *passive participation* (e.g. following information on SNS) indices of well-being (Wenninger et al, 2014).

Prior research indicated that Facebook activities can be dichotomized into active and passive forms of usage (Burke, Marlow, & Lento, 2010; Deters & Mehl, 2013; Krasnova, Wenninger, Widjaja, & Buxmann, 2013). Passive use of Facebook is passive following of information others share on the platform – a behavior also synonymously referred to as “*content consumption*” (Burke et al., 2010); “*social searching*” and “*social browsing*” (Wise, Alhabash, & Park, 2010). Passive following takes place when users browse their News Feed, click on ‘stories’, follow communication of their friends, or proactively examine profiles of others (Wenninger et al, 2014). In other words, passive use of Facebook is mainly consuming or seeking information without any direct exchange (Verduyn et al. 2014). Recent research recognized the importance of studying the implications of passive consumption of information since it represents the dominant activity on SNSs (Wenninger et al., 2014, Wise et al., 2010). On the contrary, active use of Facebook includes commenting, liking, chatting, posting, sharing, creating events, etc. It refers to activities that require direct exchanges with others (Verduyn et al. 2014). While active use, such as sharing and commenting, has been associated with positive outcomes, such as life satisfaction (Lee et al. 2011), passive use – consumption of the information from others - has been found to be associated to negative consequences such as loneliness (Burke et al. 2010), and depressive symptoms (Davila et al. 2012; Tandoc et al., 2015). Therefore, depending on what pattern of Facebook we use, different impacts result. One focus of this paper was to study the relationship between patterns of using Facebook and well-being.

Active/Passive Facebook Use and Well-being

It is important to explain well-being which is a significant factor that has been studied in relation to internet use. Since Facebook has emerged, several studies were done aiming at revealing the impact of Facebook on well-being. Some studies focused on subjective well-being, affective well-being, psychological well-being, distress, life satisfaction, subjective vitality, subjective happiness, flourishing, depression, etc. Well-being is a broad term that can include all of the above terms. For example, subjective well-being SWB refers to people's evaluations of their lives_ evaluations that are both affective and cognitive (Diener, 2000). There are several components for subjective well-being: life satisfaction, work satisfaction, positive affect, and low levels of negative affect (Diener, 2000). Previous studies showed that the majority of research studies considered psychological well-being as consisting of self- esteem, loneliness (e.g., Kalpidou et al., 2011; Schwartz, 2012; Steinfield, Ellison, & Lampe, 2008), subjective well-being, life satisfaction (e.g., Ellison, Steinfield, & Lampe, 2007; Kim & Lee, 2011; Manago, Taylor, & Greenfield, 2012) and happiness (e.g., Kim & Lee, 2011). Another definition of well-being is based on Ryff's model for psychological wellbeing. Based on the model, the concept of psychological well-being is a multidimensional concept in people's daily life. The psychological well-being includes all aspects of individual's life (Ryff & Singer, 2006). Ryff and Burton (1996), followed philosophical roots of well-being and defined six dimensions of individual's actualization in terms of psychological well-being including autonomy, environmental mastery, self-acceptance, positive relation with others, personal growth, and purpose in life. In addition, well-being is not only limited to happiness and life satisfaction, instead it includes all activities that are necessary for human attitude, behavior or virtue (Ryff, 2014).

In this study, well-being is defined as four predictors, mainly, life satisfaction, subjective vitality, subjective happiness, and flourishing based on a study done by Satici & Uysal (2015). Their study is one of the few researches that aimed at revealing the relationship between Facebook and well-being by defining well-being as a group of independent determinants which are mentioned above. The results of their study suggested that there is a negative relationship between problematic Facebook use and the four predictors of well-being. In other words, problematic Facebook use is associated with a lower human well-being (Satici & Uysal, 2015). In their study, problematic use of Facebook refers to difficulty controlling and limiting the time of using Facebook (Satici & Uysal, 2015); similarly the focus of this study is on studying passive versus active use of Facebook, as was defined above, and in relation to well being and other variables.

Several studies have found a negative association between Facebook use and well-being without, however, characterizing the way Facebook is used, i.e., being passive or not. For instance, one research has found an association between Facebook use and depression among adolescents and young adults (O’Keeffe & Clarke-Pearson, 2011; Tandoc, Ferruci, & Duffy, 2015). Another study concluded that greater Facebook use predicted declines in both cognitive well-being and affective wellbeing over time (Kross et al., 2013). Moreover, frequent Facebook interaction was associated with greater stress directly and indirectly via a two-step pathway that increased communication overload and reduced self-esteem (Chen & Lee, 2013).

Other studies, however, have shown a positive association between Facebook use and psychological well-being. In a study by Mesh and Talmud (2006), the authors showed a positive relationship between internet use/ Facebook use and psychological well-being. Other studies also showed that greater SNS (Social Networking Sites) engagement especially through Facebook

was positively associated with psychological well-being such as feeling good about oneself or feeling closer to other people (Ellison, Steinfield, & Lampe, 2007; Kim & Lee, 2011). Moreover, a survey study on Dutch adolescents' SNS use found that positive feedback from SNS friends enhanced self-reported SWB, suggesting that social support provided by SNS friends may mediate SNS use and psychological well-being (Valkenburg, Peter, Schouten, 2006). Being considered as a social technology as opposed to an educational tool by its college student users (Madge, Meek, Wellens, & Hooley, 2009; Mazman & Usluel, 2009; Selwyn, 2009), Facebook has shown to have some positive impacts on college life (e.g., higher levels of self-esteem, social acceptance and adaptation to university culture), which could improve their learning outcomes (Madge, et al., 2009; Wang & Wu, 2008; Yu, Tian, Vogel, & Kwok, 2010). Moreover, another recent research showed that Facebook had a positive impact on the self-esteem and overall well-being in adolescents (Schwartz, 2012). Therefore, existing research suggests a "Facebook Paradox" in which Facebooking can be both beneficial and detrimental to users' psychological well-being (Hu, 2014). Therefore, this study focused specifically on patterns or types of Facebook use and how the two types, whether passive or active, associate with well-being.

Life satisfaction. The first component of well-being to be studied in this paper in relation to Facebook use is life satisfaction. According to Yetin (1992) the satisfaction with life is described as the individual's general attitude towards life (Yetin, 1992, as cited in Arslan, 2013). Life satisfaction can be evaluated under two criteria, person's whole life itself as well as satisfaction from different phases and stages at life. The well-being is a complex aspect of human's life satisfaction. It concerns cognitive, emotional, social and cultural components and it can vary over time and during different situations (Diener et al. 1999, 2006; Keyes et al. 2002 as cited in Diener, 1985). Every individual has its own way of selecting personal criteria of life

satisfaction (Diener et al. 2004). Life satisfaction is defined as a “*a global summary of one's life as a whole*” (Diener, 1994, p. 107, p. 107) and rooted in “*the perceived discrepancy between aspiration and achievement*” (Campbell et al., 1976, p. 8).

Literature reveals a strong relationship between life satisfaction and Facebook use. Extant studies suggest a positive (or at least a non-negative) relationship between indices of active participation and SWB. For example, self-disclosure was found to have a positive impact on one's level of happiness (Kim and Lee, 2011; Kim et al., 2013), and life satisfaction (Lee et al., 2011; Wang, 2013). This relationship is supported by a large body of related research linking active sharing and communication with increases in emotional support, social connectedness and social capital (e.g. Kalpidou et al., 2011; Koroleva et al., 2011), which may act as mediators in the relationship between active SNS use and SWB. Based on analysis done by Wenninger et al (2014), it is revealed that the type of Facebook activity matters. Specifically, while such active uses of FB as posting and chatting are positively associated with life satisfaction in young adolescents, passive following has an adverse effect. Moreover, Verduyn et al. (2014) found a significant relationship between passive Facebook usage and changes in life satisfaction when controlling for active Facebook use, non-Facebook online social network usage, and direct social interactions, highlighting the specificity of this result. These findings demonstrate that passive Facebook usage undermines life satisfaction. Furthermore, a recent study revealed that connectivity and organizing events on Facebook-which represent active use of Facebook had a positive association with psychological well-being (life satisfaction included), while information seeking- passive use of Facebook- has negative association with psychological well-being. As a result, it is hypothesized in this paper that there is a positive relationship between active use of

Facebook and life satisfaction (hypothesis 5) while there is a negative relationship between passive use of Facebook and life satisfaction (hypothesis 1).

Although these findings begin to illuminate the relationship between Facebook usage and life satisfaction, they raise an important question: Why is passive Facebook use negatively associated with life satisfaction? Based on the previous literature, it is concluded that when people spent their time browsing and seeking information on Facebook, they would have decline in life satisfaction. What is the underlying factor that mediates this relationship?

Passive Use of Facebook, Envy and Life Satisfaction. Facebook is largely about achieving a positive self-presentation (Hogan, 2010; Hong et al., 2012; Walther, 2007; Walther, Van Der Heide, Hamel, & Shulman, 2009 cited in Tandoc et al., 2015). Nadkarni and Hofmann (2012) reviewed the literature and propose that people are motivated to use Facebook for two primary reasons: 1) a need to belong and 2) a need for self-presentation. In their analysis, Toma and Hancock (2013) found that Facebook profiles help satisfy individuals' need for self-worth and self-integrity. But on Facebook, users do not just manage their own self presentations. When navigating Facebook, users are exposed to what others say about them (Hong et al., 2012; Schau & Gilly, 2003; Walther et al., 2009 cited in Tandoc et al., 2015), and also to what other users share about themselves. Thus, users also develop perceptions of other users' social attractiveness. Social media sites function as a community of users (e.g. Gruzd, Wellman, & Takhteyev, 2011 cited in Edson et al., 2015), with individuals identifying themselves as parts of particular networks. The resource of social attractiveness is therefore shared within a group context. Thus, if Facebook users perceive their social attractiveness as lower than that of other users, they will feel subordinated and therefore outranked, consistent with the assumption of

social rank theory. This feeling, which is operationalized in this study as envy, can be related with life satisfaction.

Several researches have revealed the role of envy in mediating the relationship between passive use of Facebook and well-being in general (Krasnova et al., 2013; Tandoc et al., 2015; Verduyn et al., 2014; Qiu, Lin, & Leung, 2010). The term envy can have different meanings depending on the individuals. Russell (1996) proposed that envy is one of the most innate and instinctive emotions that humans experience. Envy is often mixed with the meaning of jealousy, admiration or longing (Glick, 2002; Smith & Kim, 2007 as cited in Tandoc, 2015). People often think of envy and jealousy as the same feeling; however, this is incorrect. Envy is about wanting something that others have but we cannot have, whereas jealousy concerns losing something to a rival (Smith & Kim, 2007). Envy is a hostile emotion that often produces aggressive behavior and occurs in people of all ages, cultures, and genders without prejudice (Smith & Kim, 2007). Envy can lead to numerous personal vices as well as volatile and hostile actions toward the target of envy (Schoeck et al., 1969 as cited in Tandoc, 2015).

Krasnova et al. (2013) coined the term “Facebook envy,” which refers to the envy experienced after spending time passively using Facebook or consuming others’ personal information on Facebook. As online social networks (OSN) are gaining in popularity, a phenomenon termed “Facebook envy” seems to be on the rise (Krasnova et al, 2013): the frustration of logging into Facebook and being flooded with friends’ notifications showing perfect happiness and flawless lives. Scholars have found that one of the causes of envy can be information seeking behavior which characterizes passive use of Facebook (Burke et al., 2010). In fact, Chou and Edge (2012) discovered that envy is one of the most common consequences of consuming others’ personal information on Facebook. Krasnova et al. (2013) also found that

envy feelings are often triggered by following information of others on Facebook. Jordan et al. (2011) established that envy is extensive in SNS environments because users often compare themselves with others who may have a higher social position. While social position may seem like a subjective standard, Chou and Edge (2012) found that individuals who consistently use Facebook were more likely to agree that others had better lives.

Given that Facebook has over 1.35 billion active users (Facebook, 2014) and there are on average 1500 potential stories for users to check per visit (Facebook, 2013), we are eager to understand how Facebook relates with users' emotions, life satisfaction, and loneliness (to be discussed more later), in addition to identifying relevant factors that play a role in these relationships specifically "Facebook envy". Several studies found that Facebook use resulted in envy and that this envy could decrease life satisfaction (Krasnova et al. (2013); Wenninger et al. (2014); Verduyn et al. (2015); and Qiu et al (2010)) among college students. Based on this previous literature, it is hypothesized in this study that envy mediates the negative relationship between passive use of Facebook and life satisfaction (hypothesis 9).

Subjective vitality. The second determinant of well-being to be studied in association with Facebook use is subjective vitality. Subjective vitality is an aspect of eudaimonic and physical well-being (Salama-Younes, 2011). The concept of subjective vitality was developed within the framework of the self-determination theory and has been defined as the subjective experience of being full of energy and alive, and potentially represents a significant predictor of subjective happiness (Ryan & Frederick, 1997; Akin, 2012). It is anticipated that the experience of subjective vitality specifically refers to energy that is supposed to originate from the self, that is, it has, an "internal perceived locus of causality" (Akin, 2012 p: 404). Moreover, subjective vitality refers to more than being merely active, aroused, or even having stored caloric reserves

and is concerned with a specific psychological experience of possessing enthusiasm and spirit (Akin, 2012).

Research revealed that subjective vitality is negatively related to depressive symptoms, anxiety, negative affectivity, neuroticism, somatic distress, physical symptoms, physical pain, and external locus of control (Akin, 2012). In contrast to this finding, Ryan and Frederick (1997) found that subjective vitality was positively related to body functioning, self-esteem, perceived physical ability, self-actualization, satisfaction with life, positive affectivity, extraversion, conscientiousness, and physical self-presentation confidence. Moreover, it was shown that subjective vitality was positively associated with emotional well-being, social well-being, psychological well-being, and satisfaction with life and was negatively associated with psychological distress (Akin, 2012).

As mentioned before, subjective vitality was the second determinant of well-being based on Satici & Uysal (2015). As predicted, results demonstrated that problematic Facebook use has predicted determinants of human well-being negatively (Satici & Uysal, 2015). This finding suggests that a more problematic Facebook use is associated with a lower subjective vitality. Furthermore, another study revealed that there is a negative relationship between Facebook addiction and subjective vitality (Uysal, Satici, & Akin, 2013). In addition, Fini et al. (2010) indicated that there is a high correlation between psychological well-being, life satisfaction, and subjective vitality. Moreover, many studies have suggested that subjective vitality may affect subjective well-being, satisfaction with life, positive affectation (Ryan & Frederick, 1997), social, emotional and psychological well-being, and subjective happiness positively (Akin, 2012). However, no research has been done specifically on subjective vitality and its relationship with patterns of Facebook use. Therefore, and based on the above stated studies, the present

study predicted two relationships between patterns of Facebook use (active/ passive) and subjective vitality (hypotheses 2 & 6).

Subjective Happiness. Subjective vitality predicted subjective happiness (Akin, 2012). Also subjective happiness is positively associated with life satisfaction (Gamble & Garling, 2012). Therefore, another relationship that was studied in this paper is between subjective happiness and Facebook use. Subjective happiness is developed from the positive psychology movement (Lyubomirsky, 2001). It is defined as the psychological state of wellbeing, joy, and contentment (Lyubomirsky, 2001). Subjective happiness has been viewed as a popular concept in research in psychology because of the issue of the reasons that make some people happier than others or that makes some people capable of facing pressure and distress (Lyubomirsky, 2001 as cited in Akin, 2012). It is noted that subjective happiness is a significant part of human life (Lyubomirsky, 2001 as cited in Akin, 2012). Furthermore, it is recognized that the pursuit of happiness is a crucial aim for any person (Lyubomirsky, Sheldon, & Schkade, 2005). Subjective happiness is a construct that is relatively consistent over time and across situations, and it has an impact on how people perceive, interpret, recall, and actually experience life events in a positive or negative way (Lyubomirsky, & Tucker, 1998 as cited in Akin, 2012). Studies have revealed that subjective happiness is associated with self-perceptions of well-being, and satisfaction with life (Diener, 2000; Suh, Diener, Oishi, et al, 1998 as cited in Akin, 2012). It has also been proved that people who are subjectively happy think more positively about themselves (Lee, & Im, 2007; Campbell, 1981 as cited in Akin, 2012), feel more personal control (Larson, 1989 as cited in Akin, 2012), evaluate recent experiences in their lives as more pleasant (Matlin & Gawron, 1979 as cited in Akin 2012).

Problematic use of Facebook, as mentioned before, seems to be negatively correlated with subjective happiness (Satici & Uysal, 2015). However, there are no other studies in literature that focus on passive versus active use of Facebook and subjective happiness. Instead, and as noted earlier, patterns of using Facebook have been linked with life satisfaction, envy, affective well-being, psychological well-being, etc... but not with subjective happiness specifically. Since the construct of subjective happiness is associated with different determinants of well-being, this study aimed to check whether using Facebook in a certain pattern is associated with subjective happiness. In other words, since subjective happiness is associated with life satisfaction and subjective vitality, it is also hypothesized that active use of Facebook is positively correlated with subjective happiness (hypothesis 7, whereas passive use of Facebook is negatively correlated with subjective happiness (hypothesis 3).

Flourishing. The fourth determinant of well-being that was studied in this paper, based on Uysal and Satici (2015), is flourishing. The question of what encourages flourishing and happy human life has been discussed in social sciences such as psychology (Younkins, 2010 as cited in Uysal, 2015). Seligman (2002) said that psychology should focus on the factors that permit individuals, communities, and societies to flourish, and that the main topics of positive psychology are happiness and flourishing. Flourishing, which includes emotional, psychological, and social well-being (Keyes, 2002 as cited in Uysal & Satici, 2015), can be defined as the experience of life going well (Huppert & So, 2009). It is also a construct that includes the presence of positive emotion and positive functioning, rather than just the absence of mental illness (Keyes, 2007). Keyes (2007) described the attributes of people who flourish as cheerful, interested in life, in good spirits, happy, calm and peaceful, and full of life. Moreover,

Flourishers demonstrate many positive characteristics such as less chronic illness, reduced suicide risk, and increased work attendance/productivity (Keyes, 2007 as cited in Uysal, 2015).

According to Seligman (2011), flourishing has five measurable elements that have been identified under the acronym PERMA: positive emotions, engagement, relationships, meaning, and accomplishment. Diehl, Hay, and Berg (2011) revealed that people who flourish have a higher positive affect, well-being, and life satisfaction, and lower negative affect. Moreover, flourishing has been found to be negatively associated with maladaptive variables such as loneliness and depression (Diener et al., 2010; Keyes, 2005).

Moreover, research on the excessive use of Facebook showed that problematic use of Facebook is positively associated with severe depression and anxiety, which are two significant predictors of well-being and flourishing (Koc & Gulyađci, 2013 as cited in Uysal, 2015). Uysal et al. (2013) propounded that the excessive use of Facebook is related negatively to subjective happiness and vitality which are two important factors for human flourishing. Previous studies (Ellison et al., 2007; Kalpidou, Costin, & Morris, 2011 as cited in Uysal, 2015) showed that problematic Facebook use has a negative relationship with subjective well-being, psychological well-being, and low life satisfaction, which are important predictors of flourishing. . Based on these studies, this study predicted a positive relationship between active use of Facebook and flourishing (hypothesis 8), as well as a negative relationship between passive use of Facebook and flourishing (hypothesis 4).

Active versus Passive Facebook Use and Loneliness: The last factor of well-being that was studied in this paper is loneliness due to its relationship with the constructs of well-being, life satisfaction, and subjective happiness. Kross et al. (2013) showed in their study how online social media, rather than making us feel connected, contributes to loneliness and reduces overall

life-satisfaction. Loneliness has been shown to have a moderately strong association with subjective well-being, both cross-sectionally and longitudinally—an association that persists after controlling for baseline subjective well-being and for age, gender, ethnicity, income, and even marital status (Cacioppo, Hawkely, & Kalil, 2008). Also loneliness may lead to lower subjective well-being (Cacioppo, Hawkely, & Kalil, 2008). Loneliness and subjective well-being may each affect the other. For example, in a review paper, Diener and Ryan (2009) suggested and provided evidence that subjective well-being and sociality (not loneliness per se) are bidirectionally associated. Based on the strong relationship between loneliness and well-being, the present study included loneliness as an additional factor to be studied in relation with Facebook use.

Loneliness has been defined as an unlikable experience that occurs when a person's network of social relationships is significantly deficient in either quality or quantity (Peplau, and Goldston, 1984). It is a complex and unpleasant feeling that usually results when individuals experience a disparity between current social relations and desired social relations (Peplau & Perlman, 1982; Perlman & Peplau, 1981).

The topic of loneliness has been the focus of numerous studies all over the world with the main aims of finding out what affects loneliness and how it can be avoided (Cecen, 2008; Girgin, 2009; Jin, 2013; Li-Jane Chen & Shi-Kai Chung, 2007; Nicpon et al, 2006; Oswald & Clark, 2003; Segrin, 1999; Spitzberg & Thomas, 1987; Thoits, 1995; Valås, 1999; Wheeler, Reis, & Nezlek, 1983). For instance, it has been concluded that Social Networking Sites help people to share their thoughts, interests and opinions with those they are connected with, thereby promoting feelings of social support among young adults (Shaw & Gant, 2002). More

specifically, many studies have examined the relationship between Facebook use and different individual characteristics, including individual well-being and loneliness.

Several studies have demonstrated that Facebook use decreases loneliness by engaging people in online social network activities (Baker & Oswald, 2010; Lou, 2009; Lou et al., 2012; Sheldon & Gevorgyan, 2008; Sheldon & Honeycutt, 2009). For example, Baker and Oswald's (2010) study showed that shy individuals who feared face-to-face interaction perceived Facebook as a more comfortable space where they could easily interact with others. People who showed a high level of anxiety and fear in face-to-face communication also used Facebook to feel less lonely. Similarly, Skues, Williams, and Wise (2012) found that individuals with a high degree of loneliness used Facebook to make up for the lack of offline relationships.

In contrast, some researchers have found a positive relationship between Facebook use and loneliness (Pena & Sandlin, 2010; Spraggins, 2009). They explain that, although Facebook provides opportunities for social interaction, online-based social interaction in reality replaces the quality of face-to-face interactions, making people feel lonelier.

More specifically, Facebook adds to the network of relationships present in the offline world through offering a platform for active communication between friends and more passive observation or more opportunities for information seeking activities (Burke et al., 2010).

Consequently, those passive users who focused on content consumption (e.g., reading others' status updates or viewing others' pictures) felt lonelier than those active ones who focused on direct communication with friends (Burke, 2010).

Taking Burke's (2010) study into consideration, it was hypothesized in this study that active use of Facebook is negatively correlated with loneliness (hypothesis 11), whereas passive use of Facebook is positively correlated with loneliness (hypothesis 10).

Passive Use of Facebook, Envy and Loneliness: As online social networks (OSN) are gaining in popularity, as mentioned earlier, a phenomenon termed “Facebook envy” seems to be on the rise (Krasnova, Wenninger, Widjaja, & Buxmann, 2013), which is the frustration of logging into an OSN and being flooded with friends’ notifications showing perfect happiness and flawless lives. Seeing that others are seemingly better off than one self is aversive for most people (Jordan et al., 2010). OSNs offer abundant opportunities for impression management, such as the selection and editing of posts and pictures (Ellison, Heino, & Gibbs, 2006; Krämer & Winter, 2008), and they make social comparison highly salient (Haferkamp & Krämer, 2011). Indeed, feelings of envy (Chou & Edge, 2012; Krasnova et al., 2013) have been linked to OSN exposure.

In fact, most people compare themselves to others every day, whether they mean to do so or not. Because Facebook tends to serve as an onslaught of idealized existences—babies, engagement rings, graduations, new jobs—it invites upward social comparison at a rate that can make real life feel like a modesty festival (Haferkamp & Krämer, 2011). In fact, it seems that social comparison is a natural and expected part of the human experience. Leon Festinger proposed that individuals are naturally driven to evaluate their own opinions and abilities, and that these evaluations affect how we behave (Festinger, 1954). Festinger also postulated that individuals have an innate, perpetual desire to improve their own abilities and may become motivated to do so through comparisons with more superior individuals, which he termed upward comparisons (Festinger, 1954). Regarding another person as superior to oneself on a certain dimension (upward social comparison) is crucial to envy (Smith & Kim, 2007). Also a personally relevant comparison dimension is a precondition for envy (e.g., Schaubroeck & Lam, 2004).

FACEBOOK USE AND WELL-BEING

A recent Danish study (The Guardian, 2015) done on 1095 Facebook users showed that 86% browse the newsfeed; whereas 69% prefer to post pictures of the great things they experience. They revealed that Facebook distorts our perception of reality and of what other's lives look like. We tend to compare our lives to their, and since people post only positive things about their lives, we gain a distorted perception of reality and thus we might experience envy. Moreover, the study found that 1 out of 3 envy how happy other people seem on Facebook and people on Facebook are 39% more likely to feel less happy than their friends. Taking the above discussed rationale, regarding the significance of envy, into consideration, as well as Qiu et al.'s (2010) study in which they revealed that life comparison mediates the relationship between passive use of Facebook, life satisfaction and loneliness, the current study predicted the 12th hypothesis and that is, envy mediates the relationship between passive use of Facebook and loneliness (hypothesis 12).

Based on all the above discussed review of literature, the following hypotheses were predicted in this study:

Hypothesis 1: There is a negative correlation between passive use of Facebook and life satisfaction among Lebanese University Students.

Hypothesis 2: There is a negative correlation between passive use of Facebook and subjective vitality among Lebanese University Students.

Hypothesis 3: There is a negative correlation between passive use of Facebook and subjective happiness among Lebanese University Students.

Hypothesis 4: There is a negative correlation between passive use of Facebook and flourishing among Lebanese University Students.

FACEBOOK USE AND WELL-BEING

Hypothesis 5: There is a positive correlation between active use of Facebook and life satisfaction among Lebanese University Students.

Hypothesis 6: There is a positive correlation between active use of Facebook and subjective vitality among Lebanese University Students.

Hypothesis 7: There is a positive correlation between active use of Facebook and subjective happiness among Lebanese University Students.

Hypothesis 8: There is a positive correlation between active use of Facebook and flourishing among Lebanese University Students.

Hypothesis 9: The more Facebook is used passively the higher the score of envy which mediates the decrease in the Satisfaction with Life Scale scores (one of the predictors of well-being) among Lebanese University Students.

Hypothesis 10: There is a positive correlation between passive use of Facebook and loneliness among Lebanese University Students.

Hypothesis 11: There is a negative correlation between active use of Facebook and loneliness among Lebanese University Students.

Hypothesis 12: The more Facebook is used passively the higher the score of envy which mediates the increase in the Loneliness scores among Lebanese University Students

CHAPTER 3

Method

Participants

Convenience sampling was used to select the participants. Participants were selected because of their convenient accessibility and proximity to the researcher (Bryman, 2004). The researcher selected participants based on their availability to the investigators rather than selecting them at random from the entire population. The sample for this study consisted of 200 participants. They were all Lebanese. The age of the participants ranged as the following, 57% were from 18-25; 22% from 26-30; and 22% >30. There were 60% females and 40% males. 52% were single while 46% were married, 1% divorced and 1% said other. Regarding employment, 44% were employed, 43% were not employed, and 13% were self-employed. 88% of the participants were university students. Five participants said they don't have Facebook account and thus their questionnaires were removed from the analysis.

Materials

Seven scales were used. These were the Facebook Intensity Quiz (Appendix C), Facebook Use Survey (Appendix D), Satisfaction with Life Scale (Appendix E), Flourishing Scale (Appendix F), Subjective Happiness Scale (Appendix G), Subjective Vitality Scale (Appendix H), UCLA Loneliness Scale (Appendix I), and Facebook Envy Scale (Appendix J). They were arranged in the above mentioned order following the demographic information sheet (Appendix B) and the consent form (Appendix A). In the demographic form, the researcher

collected information regarding age, gender, year in university (e.g., BA, MA), socioeconomic status, and marital status.

Facebook Intensity Quiz. The Facebook Intensity scale (Ellison, Steinfield, & Lampe, 2007) is used to measure Facebook usage beyond simple measures of frequency and duration, incorporating emotional connectedness to the site and its integration into individuals' daily activities. The Scale consists of 14 questions (e.g., "Facebook is part of my everyday activity"). Response categories range from 1 = strongly disagree to 5 = strongly agree, unless otherwise noted. Internal reliability of the Facebook Intensity scale is excellent with a Cronbach's alpha of 0.89. **(Appendix C)**

Facebook Use Survey. To check for active versus passive use, questions asked in a new study by Tandoc, Ferrucci, & Duffy (2015) were used. They asked participants to report the average number of hours per day that they devote to using Facebook. But since Facebook is also a toolkit of different uses (Smock et al., 2011) and in order to answer the question related to patterns of using Facebook, they asked participants to rate in a 5-point scale, from very frequently (5) to never (1), how often they: "write a status update; post your photos; comment on a friend's post; read the 'newsfeed;' read a friend's status update; view a friend's photo; and browse a friend's timeline." They ran an exploratory factor analysis (EFA) using oblique rotation (Promax) ($KMO = .812$, Bartlett's Test of Sphericity, $X^2(21) = 2444.07$, $p < .001$) and found that the last four items clustered into one factor. They called this factor as "surveillance use" of Facebook. A subsequent analysis found the scale to be reliable, Cronbach's alpha = .88. **(Appendix D)**

Satisfaction with Life Scale (Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. 1985). This is a 5-item scale designed to measure global cognitive judgments of one's life satisfaction (not a measure of either positive or negative affect). Participants indicate how much they agree or disagree with each of the 5 items using a 7-point scale that ranges from 7 strongly agree to 1 strongly disagree (Pavot, Diener, Colvin, & Sandvik, 1991). Examples include: (1) *In most ways my life is close to my ideal*; or (2) *I am satisfied with my life*. SD=0.7). Cronbach's alpha reached .86, which is above the required threshold of 0.7 recommended by Nunnally (1978). Mean across construct items reached 3.5 (median=3.5; SD=0.9). **(Appendix E)**

Flourishing Scale (Diener et al., 2010) The scale consists of 8 items (e.g., I actively contribute to the happiness and well-being of others) and each item is scored on a 1–7 scale that ranges from strong disagreement to strong agreement. A sum of all score yields a total score ranges from 8 to 56 and higher score indicated that respondents view themselves in positive terms in important areas of functioning According to confirmatory factor analysis indicated that the scale was well fit ($\chi^2 = 92.90$, $df = 20$, $RMSEA = .08$, $NFI = .94$, $CFI = .95$, $IFI = .95$, $RFI = .92$, $GFI = .96$, and $SRMR = .04$). The internal consistency reliability coefficient of the scale was .80 (Telef, 2013). **(Appendix F)**

Subjective Happiness Scale (SHS, Lyubomirsky & Lepper, 1999) The SHS consists of four items (e.g., Compared to most of my peers, I consider myself) and each item was presented a 7-point Likert (1: very unhappy to 7: very happy). A total score that ranges from 4 to 28; a higher score indicates a higher subjective happiness. Turkish adaptation of this scale had been done by Akin and Satici (2011). According to confirmatory factor analysis indicated that the scale was well fit ($RMSEA = .000$, $NFI = .99$, $CFI = 1.00$,

IFI = 1.00, RFI = .98, GFI = 1.00, AGFI = .99 and SRMR = .015). The internal consistency reliability coefficient of the Turkish SHS was found as .86 (Akin & Satici, 2011). (**Appendix G**)

Subjective Vitality Scale (SVS, Ryan & Frederick, 1997). The scale consists of 7 items (e.g., I nearly always feel awake and alert) and each items ranging from 1 (not at all true) to 7 (very true). Yield total scores from 7 to 49 where higher scores indicate more subjective vitality. Turkish adaptation of this scale had been done by Akin, Satici, Arslan, Akin, and Kayis (2012). According to confirmatory factor analysis indicated that the scale was well fit (RMSEA = .047, NFI = .99, CFI = 1.00, IFI = 1.00, RFI = 1.00, GFI = .99, and AGFI = .96). The internal consistency reliability coefficient of the Turkish SVS was found as .84 (Akin et al., 2012).

(**Appendix H**)

Facebook Envy Scale The author of this study benefitted from the questions that Edson, Tandoc, Ferrucci, & Duffy, (2015) used in their study to assess envy using a self developed questionnaire; Cronbach's alpha = .78, (**Appendix I**) by asking people to rate on a similar five-point scale how much they agreed with several statements (e.g.: "I generally feel inferior to others.")

UCLA Loneliness Scale (Russell, D , Peplau, L. A.. & Ferguson, M. L. (1978).: A 20-item scale designed to measure one's subjective feelings of loneliness as well as feelings of social isolation. Participants rate each item as either O ("I often feel this way"), S ("I sometimes feel this way"), R ("I rarely feel this way"), N ("I never feel this way"). Results indicated that the measure was highly reliable, both in terms of internal consistency (coefficient *a* ranging from .89 to .94) and test retest reliability over a 1-year period ($r = .73$). UCLA Loneliness Scale was

developed by Russell, Peplau and Cutrona (1980); the validity and reliability of its adapted version is tested by Demir (1989). The scale measures the overall feelings of loneliness in individuals through a self-report. 10 of these items are positive statements and the rest are negative statements. The scale reports range from 20 to 80 where higher scores mean a higher degree of feelings of loneliness. Reliability of the scale is reported as .96 (**Appendix J**)

Procedure

First, a pilot study to determine whether the scales were reliable or not, was conducted on 93 individuals within the Lebanese population. The scales were all found to have high reliabilities. The alpha coefficients for the Facebook Intensity Scale $\alpha = .843$, Facebook Use Survey $\alpha = .813$, Satisfaction with Life Scale $\alpha = .846$, the flourishing scale $\alpha = .910$, Subjective Happiness Scale $\alpha = .74$, Subjective Vitality Scale $\alpha = .78$, Loneliness Scale $\alpha = .932$, Facebook Envy Scale $\alpha = .746$

Convenient sampling was used to collect data. The researcher sent messages via whatsapp broadcasts and Facebook pages to spread the survey. Also, she distributed 70 surveys by hand to university students. She explained the purpose of the study and asked if participants would like to participate. If they consented, they were provided through their email, Facebook, and whatsapp with an online link to the survey to fill in and send anonymously. The survey included a consent form which the participants read before starting with the survey.

Data collection began in October 2015 and was completed in January 2016. Following this, data were entered into SPSS and statistical analyses were run. Correlational analysis was used to study the different relationships. All received surveys were used; accordingly, results reported below are based on 185 participants. Mediation analysis was done to check the mediating role of envy.

CHAPTER 4

Results

This chapter shows the findings of the tested hypotheses. First testing for reliability was done to check whether the scales used are reliable or not. Next, descriptive analysis was done to check frequencies, means, etc... Then correlational analysis was done to find which relationships were significant, and examine the direction of the relations. Finally, mediation analysis was done to test whether envy mediates the relationship between passive use of Facebook, life satisfaction, and loneliness.

Reliability Testing

Cronbach's alpha was calculated to determine the internal consistency of the different scales used. The current and previous reliability coefficients are reported in the table below (see table 1).

Table 1

Cronbach's alpha for the Facebook Intensity Quiz, Facebook Use Survey, Satisfaction with Life Scale, Flourishing Scale, Subjective Happiness Scale, Subjective Vitality Scale, UCLA Loneliness Scale, and Facebook Envy Scale

	Previous Cronbach's alpha	Current Cronbach's alpha
FBI	.89	.85
Facebook Use Survey	.88	.82
SWLS	.86	.85
Flourishing Scale	.80	.91
Subjective Happiness Scale	.86	.85
Subjective Vitality	.84	.82
Facebook Envy	.78	.75
UCLA	.96	.94

Descriptive Analysis

Descriptive analysis showed that the participants were mostly between 18-25 years old (58%). Also most of the participants were single (52.5%). Basic descriptive statistics for all study variables of interest are presented in Table 2. Mean scores indicate that the participants tended to exhibit a moderate level of active use of Facebook ($M = 2.73$, $SD = .84$) and life satisfaction ($M = 21.73$, $SD = 5.50$). Besides, it can be said that means scores of participants display relatively high level of passive use of Facebook ($M=3.45$, $SD= .75$), flourishing ($M = 41.88$, $SD = 8.81$), subjective happiness ($M = 4.63$, $SD = .93$), and subjective vitality ($M = 34.27$, $SD = 8.47$).

Table 2*Descriptive Statistics for study variables*

Variable	Range	Mean	SD
Active Use of Facebook	1-5	2.73	.84
Passive Use of Facebook	1-5	3.45	.75
SWLS	5-35	21.73	5.50
Flourishing Scale	10-56	41.88	8.81
Subjective Vitality	7-49	34.27	8.47
Subjective Happiness	1-7	4.63	.93
Loneliness	0-60	20.92	13.36
Envy	7-35	16.63	5.16

Hypothesis Testing

Hypothesis 1 suggested that there is a negative correlation between passive use of Facebook and life satisfaction among Lebanese University Students. A correlational analysis was done to check for that. No significant relationship was revealed. $R = -.008$, $p > .01$. Thus hypothesis 1 was not confirmed. (refer to table 3).

Hypothesis 2 stated that there is a negative correlation between passive use of Facebook and subjective vitality among Lebanese University Students. A correlational analysis was done to check for that. No significant relationship was revealed. $r = -.004$, $p > .01$. Thus hypothesis 2 was not confirmed. (refer to table 3).

Hypothesis 3 suggested that there is a negative correlation between passive use of Facebook and subjective happiness among Lebanese University Students. A correlational analysis was done to check for that. No significant relationship was revealed. $r = -.035$, $p > .01$. Thus hypothesis 3 was not confirmed. (refer to table 3).

Hypothesis 4 stated that there is a negative correlation between passive use of Facebook and flourishing among Lebanese University Students. A correlational analysis was done to check for that. No significant relationship was revealed. $r = -.072$, $p > .01$. Thus hypothesis 4 was not confirmed. (refer to table 3).

On the other hand, active use of Facebook had more significant relationships.

Hypothesis 5 stated that there is a positive correlation between active use of Facebook and life satisfaction among Lebanese University Students. After correlational analysis was done, it was revealed that there is a positive relationship between active participation on Facebook and SWLS, $r = .185$, $p < .01$. Thus H5 was confirmed. (refer to table 3)

Hypothesis 6 declared that there is a positive correlation between active use of Facebook and subjective vitality among Lebanese University Students. The analysis revealed that there is also a positive relationship between active use of Facebook and subjective vitality $r = .186$, $p < .01$. Thus H6 was confirmed. (refer to table 3)

Hypothesis 7 suggested that there is a positive correlation between active use of Facebook and subjective happiness among Lebanese University Students. Results showed that there is a positive relationship between active use of Facebook and subjective happiness $r = .267$, $p < .01$. Thus H7 was confirmed. (refer to table 3)

FACEBOOK USE AND WELL-BEING

Moreover, hypothesis 8 stated that there is a positive correlation between active use of Facebook and flourishing among Lebanese University Students. Correlational analysis revealed non-significant result $r = .112$ $p > .01$. Thus H8 was not confirmed (refer to table 3).

In addition, hypothesis 9 stated that passive use of Facebook is positively correlated with envy which mediates the decrease in the Satisfaction with Life Scale scores (one of the predictors of well-being) among Lebanese University Students. Correlational analysis revealed a significant relationship between passive use of Facebook and envy. There is a positive correlation between passive use of Facebook and envy; $r = .196$, $p < .01$. (refer to table 3). Moreover, correlation analysis revealed that there is a significant negative correlation between envy and life satisfaction $r = -.337$ $p < .01$ (refer to table 4). Mediation analysis is discussed in the following analysis separately.

Hypothesis 10 suggested that there is a positive correlation between passive use of Facebook and loneliness among Lebanese University Students. It was revealed regarding passive use of Facebook that there is a significant relationship between passive use of Facebook and loneliness. There is a positive correlation between passive use of Facebook and loneliness $r = .177$ $p < .01$ thus H10 is confirmed (refer to table 3);

Hypothesis 11 stated that there is a negative correlation between active use of Facebook and loneliness among Lebanese University Students. Results showed that there is a negative correlation between active use and loneliness $r = -.176$, $p < .01$ (refer to table 3) thus H11 was confirmed.

Hypothesis 12 declared that there is a positive correlation between passive use of Facebook and envy which mediates the increase in the Loneliness scores among Lebanese

FACEBOOK USE AND WELL-BEING

University Students. Correlational analysis revealed a significant relationship between passive use of Facebook and envy. There is a positive correlation between passive use of Facebook and envy; $r = .196, p < .01$. (refer to table 3) Also correlation analysis revealed that there is a significant positive correlation between envy and loneliness $r = .507, p < .01$ (refer to table 4). Mediation analysis is discussed in the following analysis separately.

Table 3

Correlation Coefficients for active versus passive use of Facebook with SWLS, Flourishing, Subjective Vitality, Subjective Happiness, Loneliness, and Envy

		SWLS	FLOURISHING	SH	SV	ENVY	LONELINESS
ACTIVE	Pearson Correlation	.185**	.112	.267**	.186**	-.053	-.176**
	Sig. (1-tailed)	.005	.059	.000	.005	.230	.007
	N	195	195	195	195	195	195
PASSIVE	Pearson Correlation	-.008	-.072	-.035	-.004	.196**	.177**
	Sig. (1-tailed)	.455	.157	.312	.478	.003	.007
	N	195	195	195	195	195	195

Table 4

Correlation Coefficients for envy, active versus passive use of Facebook, loneliness, and life satisfaction

		ACTIVE	PASSIVE	LONELY	SWLS
ENVY	Pearson Correlation	-.053	.196**	.507**	-.337**
	Sig. (2-tailed)	.459	.006	.000	.000
	N	195	195	195	195

Mediation Analysis

Finally, H9 and H12 tested if Facebook envy mediated the relationship between Facebook use, life satisfaction and loneliness respectively among Lebanese university students.

Hypothesis 9: Passive use of Facebook is positively correlated with envy which mediates the decrease in the Satisfaction with Life Scale scores (one of the predictors of well-being) among Lebanese University Students.

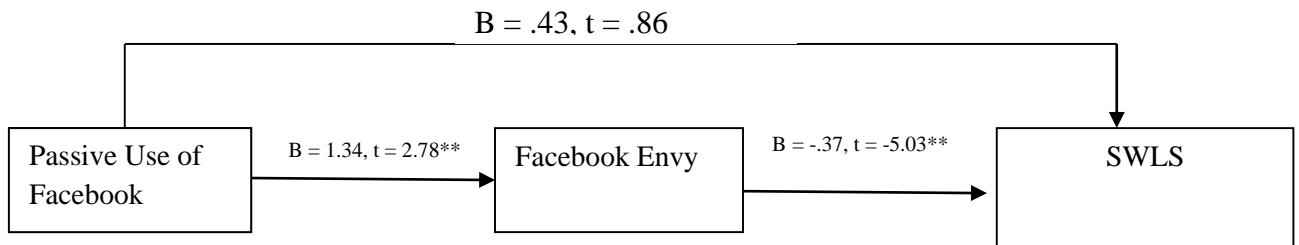
Hypothesis 12: There is a positive correlation between passive use of Facebook and envy which mediates the increase in the Loneliness scores among Lebanese University Students.

We ran bootstrapping analysis to test for mediation, and used the SPSS process macro that Hayes (2013) developed. A few alternatives have been proposed, but simulation research found bootstrapping to be among the most powerful methods to detect mediation (Hayes, 2009, 2013; Preacher & Hayes, 2008). The process of bootstrapping creates a large sample from the original data (1000 for this study) through a sampling with replacement strategy. It constructs a confidence interval (95% in this study) around the indirect effect, and the interval must not contain a zero to assume a significant indirect effect (Dubreuil, Laughrea, Morin, Courcy, & Loiselle, 2009; Knoll, Schramm, & Schallhorn, 2013). It has been used to study mediation and moderation effects involving media messages (Hautz, Füller, Hutter, & Thürndl, 2013; Knoll et al., 2013; Yang, Salmon, Pang, & Cheng, 2013). In the following presentation of the results, the coefficients we report are unstandardized, consistent with Hayes' (2013) argument that unstandardized coefficients are the preferred metric when reporting results of causal modeling.

The bootstrapping analysis, controlling for age and gender, found that the direct relationship between passive use of Facebook and life satisfaction SWLS was not significant, (B

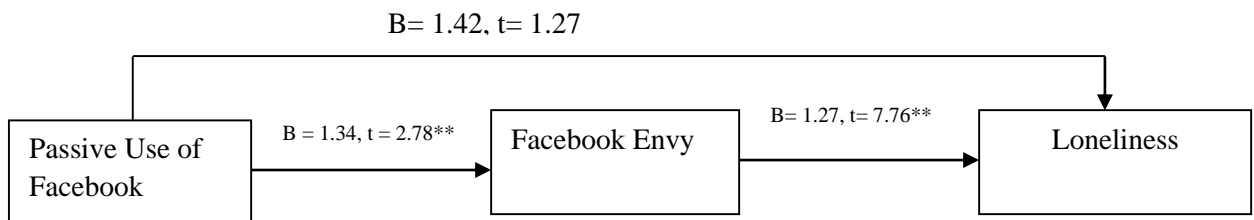
= .43, $t = .86$, $p > .05$) (refer to Fig.1). However, passive use of Facebook exerts an indirect effect on SWLS through Facebook envy. Passive use of Facebook predicts Facebook envy ($B = 1.34$, $t = 2.78$, $p < .01$), which then predicts decrease in life satisfaction ($B = -.37$, $t = -5.03^{**}$, $p < .01$). Facebook envy is a significant mediator, 95% confidence interval (CI) = $-.9482$ and $-.1386$. The model is significant, $F(2,192) = 12.68$, $p < .01$.(see **Fig. 1**)

Fig. 1 Mediation model. Note. $/p < .001$; $/p < .05$; The model is significant, $F(2,192) = 12.68$, $p < .01$



Moreover, a mediation analysis was done to check whether envy acts as a mediator variable also between passive use of Facebook and loneliness or not. It was revealed as before that passive use of Facebook predicts Facebook envy ($B = 1.34$, $t = 2.78^{**}$, $p < .01$). Also there is a significant relationship between envy and loneliness ($B = 1.27$, $t = 7.76^{**}$, $p < .01$). However, there is not a significant direct relationship between passive use and loneliness ($B = 1.42$, $t = 1.27$, $p > .01$). (see **Fig.2**)

Fig. 2 Mediation model. Note. $/p < .001$; $/p < .05$; The model is significant, $F(2,192) = 34.23$, $p < .01$



CHAPTER 5

Discussion

The present study aimed at examining the relationships between active versus passive use of Facebook and five determinants of well-being. The study examined the association between passive use of Facebook and life satisfaction, flourishing, subjective vitality, happiness, and loneliness respectively. In addition, the study checked whether there is a mediating role for envy between passive use of Facebook, life satisfaction, and loneliness respectively. Moreover, this paper examined the relationship between active use of Facebook and these determinants.

This research revealed that hypotheses 1, 2, 3, and 4 were not confirmed. In other words, there was no significant relationship between passive use of Facebook and SWLS, SV, SH, and flourishing respectively. One explanation could be that we measured well-being at the moment rather than for a certain time span like previous research (Kross et al., 2013). For example, Kross and colleagues (Kross et al., 2013) examined in their study the longitudinal implications of Facebook use on subjective wellbeing; however, this study used self reports of the participants at the present moment. Moreover, we found that when envy is triggered by passive use of Facebook then life satisfaction decreases; therefore, it might be that if passive use of Facebook didn't trigger envy, then there won't be a significant direct relationship with life satisfaction. In their study, Tandoc et al. (2015) found that the effect of surveillance use of Facebook (passive use of Facebook) on depression is mediated by Facebook envy. However, when Facebook envy is controlled for, Facebook use actually lessens depression. Thus one possibility is that the same thing happened in this study too. Moreover, previous research has demonstrated that

individual's life satisfaction and other determinants of well-being are influenced also by people's personality, life experiences, socialization and a host of other variables (Krasnova et. al, 2013).

This study also revealed that active use of Facebook is positively correlated with life satisfaction, subjective happiness and subjective vitality. Based on our analysis, we showed that the type of FB activity does matter. Specifically, we confirmed that such active uses of FB as *posting* and *chatting* are positively associated with subjective well-being in college students. Thus, following the logic of our hypotheses we were able to show that just talking about oneself to a large audience of FB friends can help users advance their life satisfaction (Tamir and Mitchell, 2012). Simultaneously, easy access to instant communication via a *chatting* function promotes students' well-being as it may help them release stress and obtain emotional support (Quan-Haase and Young, 2010; Valkenburg and Peter, 2009). Indeed, this research study supports the previous findings in western countries (e.g., Ellison et al., 2007; Valkenburg & Peter, 2007), and expresses that communicative use of Facebook provide positive psychological well-being outcomes because it facilitates communication for those who are not in face to face connection (Grieve, Indian, Witteveen, Anne Tolan, & Marrington, 2013).

On the other hand, we did not observe a significant relationship between active Facebook usage and flourishing in the current study. These are not, however, incompatible results. Instead, they likely reflect independent effects, i.e., actively interacting with one's colleagues online may build social ties, but still leave a person feeling badly when they learn about their peers' accomplishments. Also there might be many factors that contribute to flourishing other than active use of Facebook.

Previous studies showed that Facebook use on its own does not directly predict low well-being; however, when envy is triggered then well-being is influenced negatively and life

satisfaction declines. Our results echo the findings by Krasnova et. al (2013), even if the type of study that we used is correlational rather than experimental. Also by using the framework of the social rank theory of depression, Tandoc et. al (2015) treated Facebook envy as a possible mechanism that could link particular uses of Facebook such as passive use of Facebook with depression among college students. Moreover, other studies revealed that envy might be the factor that mediates the relationship between passive use of Facebook and life satisfaction (Kross et. al, (2013), Krasnova et. al, (2013), Verydun et. al (2014), Qui et. al, (2010)). These studies give support to our findings, ie. the effect of passive use of Facebook on life satisfaction is mediated by Facebook envy. Moreover, Haferkamp and Kraemer (2011) found that exposure to attractive profile pictures and successful profile vitae of others produce negative reactions, as unfavourable social comparison may cause feelings of inferiority and envy, which have been shown to have a strong negative effect on users' life satisfaction on FB (Krasnova et al., 2013).

In this study, it was also found that using Facebook actively can even actually lessen loneliness. A more complete picture, however, considers that Facebook is a platform of multiple uses that might be associated with different outcomes. Prior research (Deters & Mehl, 2013) indicated that directing people to post more status updates (i.e., one type of active Facebook usage) leads to reduced feelings of loneliness. Burke et. al (2010) revealed in their study that directed communication (which represents active use of Facebook) is associated with greater feelings of bonding and social capital and lower loneliness. This can be interpreted in many ways: (1) people who feel more socially connected gravitate toward technical systems that reify those connections, (2) using sites like Facebook allows people to reinforce distant relationships, or (3) there is a positive feedback loop (Burke et. al, 2010). Moreover, grobe Deter & Mehl (2012) revealed that the experimentally induced increase in status updating activity (active use)

reduced loneliness, and that decrease in loneliness was due to participants feeling more connected to their friends on a daily basis. Moreover, the effect of posting on Facebook on the variable of loneliness was independent of direct social feedback (i.e., responses) by friends. According to Nadkarni and Hofmann (2012), one of the primary needs that motivate people to use Facebook more is the need to belong. Individuals who have problems in obtaining the social support of others and experience ostracism from the social group use Facebook more frequently to enhance their self-esteem and self-worth. Besides, Griffiths (2000) propounded that individuals who feel socially insecure and have problems regarding social activities have a greater tendency to use the Internet frequently.

Last but not least, we found a significant association between passive use of Facebook, envy, and loneliness. Passive use seems to be positively correlated with envy and positively correlated with loneliness. Burke et. al (2010) found that users who consume greater levels of content (passive use) report reduced bridging and bonding social capital and increased loneliness. One question raised by these findings concerns why people continue to passively use Facebook if engaging in this process undermines well-being. Although the current data do not address this question, we can think of at least three explanations for this phenomenon. First, a growing literature suggests that Facebook (and social network sites more generally) have addictive properties (Ryan, Chester, Reece, & Xenos, 2014). It is well established that people engage in addictive behaviors despite their negative implications. Second, interacting with Facebook helps people connect with others (Ellison et al., 2007). It is possible that people's motivation to "stay in touch" outweigh concerns they have over how interacting with this technology influences their feelings. Finally, it is possible that people are not aware of how

interacting with Facebook influences their emotions. However, confirming whether any of these explanations are valid or not, remains open for future research.

Finally, based on mediation analysis there was no direct association between Facebook use, life satisfaction, and loneliness but when Facebook envy is accounted for in the equation, using Facebook passively actually predicts loneliness and lowers life satisfaction. This makes sense in the context of what previous studies have found. Many users use Facebook and other SNS to post photos, communicate with their friends, and extend their social circles. Some of these uses have been found to increase happiness and self-esteem (Gonzales & Hancock, 2011; Kim & Lee, 2011). Facebook can be entertaining and can help ease boredom or even loneliness, however, Chou and Edge (2012) found that the more people consume others' personal information on Facebook, the more likely they are to become envious and this might have implications on life satisfaction and the sense of loneliness. Studies have found that the more users consume others' personal information, the more likely they are to experience feelings of envy (Jordan et al., 2011; Krasnova et al., 2013). College students using Facebook passively are purposely utilizing SNS to consume others' personal information. They are far more likely to come across details that will trigger feelings of envy. We found that Facebook envy predicts loneliness and lowers life satisfaction. College students who use Facebook passively are exposed to successes, material goods, positive relationships, and other information that other users share on Facebook. Exposure to these pieces of positive information about others is correlated with feelings of envy, as information consumers can feel subordinated to others who seem to publish positive experiences all the time. The irony, of course, is that users rarely post negative experiences, which might contradict the aim of positive self-presentation. Thus, when users feel

envious constantly, they might develop feelings of loneliness and dissatisfaction with life over time.

In sum, the majority of users who have active accounts are millennials (15-34 year olds). Social media have not only transformed the way people communicate, but they have also changed the kind and amount of information that is accessible. However, not all of this information is necessarily desired: Facebook users are often exposed to details about their peers' lives that were not actively sought out. This exposure to other people's social activities can lead to users' comparing their own social lives with that of their peers, and subsequently, may have harmful effects. For example, a college student might scroll through her Instagram feed and see pictures her friends have posted of the delicious foods they ate, fun trips they went on, and new shoes they bought – without her. These pictures may lead her to socially compare herself to others and ask questions such as: “Is my life as exciting as my friends' lives? Am I happy with the way my life is? Why didn't they invite me?”

Clinical Implications

Several factors contributed to the strength of this study. It is one of the first studies in the Arab world to examine the field of social media and its implications on well-being among university students. The presented literature and findings could give a strong base for future studies in the Arab world. Most previous studies explored the relationship between time spent on Facebook and well-being while this study focused on certain patterns of using Facebook.

In the clinical field, findings provided in the current study would definitely be a resource for clinicians and mental health professionals. Social networking sites especially Facebook are being a daily routine for many Lebanese people. It is important to note when people resort to

clinicians suffering from low well-being and increased loneliness, the passive use of Facebook might be a factor influencing these variables. It would be helpful to know that by spending time on Facebook, whether as browsing and/or seeking information, such passive activities could be associated with envy which is also a variable that is associated with low well-being. By confirming the mediating role of envy in the relationship between passive following on FB and individual life satisfaction and loneliness, our findings significantly enrich existing literature on the role of SNSs in defining users' well-being. We showed that passive following is negatively correlated with life satisfaction and positively correlated with loneliness in the long-run, as it triggers upward social comparison and invidious emotions. Clinicians should be aware that the passive use of Facebook could be adding to the state of envy among certain clients, which consequently, could also be correlated with their state of well-being and state of loneliness. Finally, prevention strategies through orientation programs could be considered to help Lebanese University students know how to use Facebook more effectively.

Limitations and Future studies

As with all research, there were some limitations to the current study that must be noted. First, the questionnaires were not translated to Arabic, and were sent over Facebook and whatsapp to be filled in; therefore, only English speaking people were able to participate. This also meant that findings could not be generalized to all Lebanese college students. Although this study has shed light on some important findings, there is much more room to explore in the field of Facebook use and addiction. Many factors related to Facebook can be further studied such as self-esteem, narcissism, depression, etc... Future research could be done in the form of longitudinal studies or experiments to further study Facebook and have better understanding of its dynamics. Moreover, this study focused on the mediating role of envy between passive use of

FACEBOOK USE AND WELL-BEING

Facebook and certain determinants of well-being, so future studies are needed to check the role of envy between active use of Facebook and other determinants. Don't active users feel envious? Last but not least, it is important to check specific patterns of active use of Facebook and study their implications such as commenting, liking, posting, tagging, chatting, etc... Finally, it would be interesting to study the role of envy with other social networking sites that are based on photos such as Instagram, snapshot, etc...

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Appendix A

Consent Form

Haigazian University

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Beirut, Lebanon

CONSENT TO SERVE AS A PARTICIPANT IN A RESEARCH PROJECT

Project Title: *The Relationship between Facebook Use, Envy, Wellbeing, and Loneliness among Lebanese College Students*

Project Director: *Dr. Hanine Hout Ed.D. email: hanine.hout@gmail.com*

Research Investigator: *Fatima Farhat, email: Fatfar16891@hotmail.com*

Nature and Purpose of the Project:

The purpose of this study is to determine the relationship between patterns of using Facebook, envy, well-being, and loneliness.

Explanation of Procedures:

FACEBOOK USE AND WELL-BEING

As a research participant you will be administered a questionnaire that you will be asked to fill out. Your names will not appear on the questionnaires and they will remain anonymous. It is expected that your participation in this research will last for 20 minutes at maximum.

Potential Discomfort and Risks:

There are no risks associated with participation in this research.

Potential Benefits:

The potential benefit is that you would have helped the investigator complete this research which is a thesis dissertation, and contributed to answering the research problem.

Costs/Reimbursements:

There are no costs associated with the participation in this research.

Alternative Procedures:

There are no alternative procedures in this study in case you refuse to participate.

Alternatives to Participation:

There are no alternatives to participation in this study in case you refuse to participate.

Termination of Participation:

If you decide to give consent to participate in this research, your participation might be terminated by the principal investigator or research director if the results show that they were contradictory or malingered.

Confidentiality:

The results of your participation will be kept confidential to the fullest extent possible. This means that only the principal investigator and research director will know about your specific results. Only information that cannot be traced to you will be used in reports or manuscripts published or presented by the investigator or director. Raw data on data-recording systems will be kept with the investigator following the termination of the study.

Withdrawal from the Project:

Your participation in this research project is completely voluntary. You can refrain from participating and completing the questionnaires. If you decide to consent to participate, you can withdraw your consent to participate at any point without any explanation and without any penalty. You are free to leave this research at any time.

Participant's Oral or written Consent:

Oral or written consent is needed. By consenting you agree to participate in this research project. The purpose, procedures to be used, as well as, the potential risks and benefits of your participation have been explained to you in detail. You can refuse to participate or withdraw your participation in this study at any time without penalty. You will be given a copy of this consent form.

Appendix B
Demographics Form

1. Age: 18-25 26-30 >30

2. Gender: F M

3. Marital Status: Single Married Divorced Other

4. Are you employed: Yes No Self-employed

If you are working, what is your occupation?

5. Are you a student? Undergraduate Graduate No

What is your most recent level of education: High School Bachelor degree Masters Degree

Phd/ Medical Doctor

6. Do you have a Facebook account? Y N

Appendix C

Facebook Intensity Quiz

Answer the following questions by choosing the option that fits you best.

1 = Strongly Disagree

2 = Disagree

3 = Neutral/ mixed feelings

4 = Agree

5 = Strongly Agree

	1	2	3	4	5
1. Facebook is part of my everyday activity					
2. I am proud to tell people I'm on Facebook					
3. Facebook has become a part of my daily routine.					
4. I feel out of touch when I haven't logged onto Facebook for awhile.					
5. I feel I am part of the Facebook community.					
6. I would be sorry if Facebook shut down.					
7. I have used Facebook to check out someone I met socially.					

FACEBOOK USE AND WELL-BEING

8. I use Facebook to learn more about other people in my classes.					
9. I use Facebook to learn more about other people living near me.	■	■	■	■	■
10. I use Facebook to keep in touch with my old friends.					
11. I use Facebook to meet new people.	■	■	■	■	■
12. I feel Facebook is wasting my time.					

Appendix D

The Facebook Use Survey

Using the given scale, rate how frequently you use the following Facebook features.

1 2 3 4 5

Never Rarely Sometimes Somewhat Very Frequently

Frequently

Write a status update	1	2	3	4	5
Post your photos	1	2	3	4	5
Comment on a friend's post	1	2	3	4	5
Read the newsfeed	1	2	3	4	5
Read a friend's status update	1	2	3	4	5
View a friend's photo	1	2	3	4	5
Browse a friend's timeline	1	2	3	4	5

Appendix E

Satisfaction with Life Scale

Below are five statements that you may agree or disagree with. Using the 1 – 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

- 7 – Strongly agree
- 6 – Agree
- 5 – Slightly agree
- 4 – Neither agree nor disagree
- 3 – Slightly disagree
- 2 – Disagree
- 1 – Strongly disagree

_____ In most ways my life is close to my ideal.

_____ The conditions of my life are excellent.

_____ I am satisfied with my life.

_____ So far I have gotten the important things I want in life.

FACEBOOK USE AND WELL-BEING

_____ If I could live my life over, I would change almost nothing.

- 31 – 35 Extremely satisfied
- 26 – 30 Satisfied
- 21 – 25 Slightly satisfied
- 20 Neutral
- 15 – 19 Slightly dissatisfied
- 10 – 14 Dissatisfied
- 5 - 9 Extremely dissatisfied

Appendix F

Flourishing Scale

Below are 8 statements with which you may agree or disagree. Using the 1–7 scale below, indicate your agreement with each item by indicating that response for each statement.

7= Strongly agree

6 = Agree

5 =Slightly agree

4 =Neither agree nor disagree

3 = Slightly disagree

2 =Disagree

1 =Strongly disagree

1. I lead a purposeful and meaningful life _____
2. My social relationships are supportive and rewarding _____
3. I am engaged and interested in my daily activities _____
4. I actively contribute to the happiness and well-being of others _____
5. I am competent and capable in the activities that are important to me _____
6. I am a good person and live a good life _____
7. I am optimistic about my future _____

8. People respect me _____

Appendix G

Subjective Happiness Scale

Instructions: For each of the following statements and/or questions, please circle the point on the scale that you feel is most appropriate in describing you.

1. In general, I consider myself: not a very happy person 1 2 3 4 5 6 7 a very happy person

2. Compared to most of my peers, I consider myself: less happy 1 2 3 4 5 6 7 more happy

3. Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you? Not at all 1 2 3 4 5 6 7 a great deal

4. Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you? Not at all 1 2 3 4 5 6 7 a great deal

Appendix H

Subjective Vitality Scale

Please respond to each of the following statements by indicating the degree to which the statement is true for you in general in your life. Use the following scale:

1	2	3	4	5	6	7
not at all			Somewhat			very
true			True			true

1. I feel alive and vital.
2. I don't feel very energetic.
3. Sometimes I feel so alive I just want to burst.
4. I have energy and spirit.
5. I look forward to each new day.
6. I nearly always feel alert and awake.
7. I feel energized.

Appendix I

UCLA Loneliness Scale

INSTRUCTIONS: Indicate how often each of the statements below is descriptive of you.

O indicates "I often feel this way"

S indicates "I sometimes feel this way"

R indicates "I rarely feel this way"

N indicates "I never feel this way"

1. I am unhappy doing so many things alone O S R N
2. I have nobody to talk to O S R N
3. I cannot tolerate being so alone O S R N
4. I lack companionship O S R N
5. I feel as if nobody really understands me O S R N
6. I find myself waiting for people to call or write O S R N
7. There is no one I can turn to O S R N
8. I am no longer close to anyone O S R N
9. My interests and ideas are not shared by those around me O S R N
10. I feel left out O S R N

FACEBOOK USE AND WELL-BEING

11. I feel completely alone O S R N
12. I am unable to reach out and communicate with those around me O S R N
13. My social relationships are superficial O S R N
14. I feel starved for company O S R N
15. No one really knows me well O S R N
16. I feel isolated from others O S R N
17. I am unhappy being so withdrawn O S R N
18. It is difficult for me to make friends O S R N
19. I feel shut out and excluded by others O S R N
20. People are around me but not with me O S R N

Appendix J**Facebook Envy Scale**

Please indicate your level of agreement with the following statements (5 points, from Strongly Disagree to Strongly Agree):

		Strongly disagree	Disagree	Neutral/ mixed feelings	Agree	Strongly agree
1	I generally feel inferior to others	1	2	3	4	5
2	It is so frustrating to see some people always having a good time	1	2	3	4	5
3	It somehow doesn't seem fair that some people seem to have all the fun	1	2	3	4	5
4	I wish I could travel as much as some of my friends do	1	2	3	4	5
5	Many of my friends have a better life than me	1	2	3	4	5
6	Many of my friends are happier than me.	1	2	3	4	5
7	My life is more fun than those of my friends	1	2	3	4	5