If your life is about happiness, then the truth is a relative concept.

An analysis of the effects Facebook has on happiness

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The paper investigates the effects Facebook has on happiness. 165 individuals (mostly young adults and college educated students) answered to the survey. The author tries to show how personality factors mediate the relationship between Facebook use and subjective well-being. In the specific, the main findings of the research are the following. First, Facebook use does not have a positive or negative impact by itself. Second, individuals with high self-esteem are not significantly differently affected by Facebook use compared to individuals with low self-esteem. Third, having an active behaviour on Facebook positively affects life satisfaction compared to a passive approach. Fourth and lastly, an idealistic online self-image should be fostered in contrast to an actual self-representation. The last non supported hypothesis of the paper is that individuals with high self-esteem will be more positively affected by an idealistic self-image compare to individuals with a low self-esteem. The paper digs inside human personality and online social behaviour. It sheds lights over certain behavioural and cognitive patterns. Nonetheless future research should investigate this topic more in detailed with a more extended dataset in order to obtain more useful Insights. Therefore, this study should be seen as a pilot research on which more scholars should build on.

Introduction

When you ask to a person what he is pursuing in life, he will probably reply to leave long and happily ever after. Increasing the level of financial wealth, having a family, a boyfriend or a girlfriend, decreasing the disparities in society are all valid determinants of behaviour but to the extent they maximise own happiness level (Haidt, 2006). It is believed that social capital, the quality and quantity of social interactions, is an important mean through which individuals maximize their happiness. Most of the scholars agree on the idea that fostering social relationships will have a positive impact on people's happiness (Brantley & Millstine, 2011; Portela et al., 2013). Brantley and Millstine believe that humans are social animals and their existence is based on social interactions and networks. It is only through the building of this complex grid that a person experiences positive moods and emotions, increases the happiness level and lastly subjective well-being. Therefore, Brantley and Millstine (2011) believe that individual happiness is a function of social cohesion. According to them, building strong and weak ties and building a strong well-connected network with people will make them happier in the long term even though that task requires a lot of time and money spent. Gruzd, Doiron & Mai (2011) believe that this happens through two main motives: Higher emotional intensity and wide intimacy.

In the recent years two developments took place. First, the level of communication has changed. In the western worldreal social interaction has been accompanied by virtual exchanges. This dvelopment was unexpected since social connections contribute substantially to a happy life (Raacke & Bonds-Raacke, 2008). What was even more unexpected was the aposteriori discovery that happiness did not plummeted after the decrease in interactions among people. In fact, Helliwell & Putnam (2004) believe that subjective well-being is based on social capital. In the specific, the authors refer to social well-being as the capabilities of making ties in marriage, with friends, with the family. Further, Putnam developed in "Making Democracy Work: Civic Traditions in Modern Italy" the idea that happiness and productivity is not merely based on a network of people you established relations with but on " the norms of civic engagement," which enable people to trust each other. However, according to some researchers, people are happier today than before (Veenhoven, 2005). The author analysed trend over the last 30 years in 10 modern nations to realise that happiness and longevity are increasing over time. Of course, other scholars found different findings. Despite the branch of research assessing the positive impact of time on happiness, another branch assesses the contrary. Easterlin et al. (2010) analysed some happiness trends in the United States between the 1940 and 1970 and realized that even though the economy has grown substantially over the years, happiness has not. In the specific, happiness staid stable over this

period with declines in the 60s and in the 70s. This concept became known as the Easterlin Paradox. Bartolini et al. (2011) came out with an explanation. The authors believe that over this time, US citizens experienced a decline in social connections and reference income which are believed to be important variables for individual happiness. The decline in those two aspects more than offset the increase in household income, reason why happiness has been stable or reduced over the last half a century.

In the recent years, we have assisted to an upsurge of social media participation. Companies like Facebook, Twitter, 500px, Google+, Myspace, Soundcloud and Instagram are quickly expanding their customer base. Facebook increased its users from 100 million in Q3 2008 to 1654 million in Q1 2016. On the other side, Instagram increased its users from 90 million in January 2013 to 400 million in September 2015 (Marketingland.com, 2015). This trend is not affecting only our private life but it is starting to expand to our professional life as well. Facebook, Instagram and Twitter are becoming strong platforms through which online marketing happens. Furthermore, Facebook itself has started a prototype application called Facebook At Work oriented at serving the specific needs of organizations. With the invention and spread of smartphones this trend has become even stronger. It has become relatively inexpensive to purchase a device that supports social media applications and, together with cheaper mobile data contracts and widespread of Wi-Fi, accessing these platforms has become easy and handy. So easy and handy that people are starting spending a lot of time on them. According to Statista.com (2016), the average time spent on social media accounts for more than 108 minutes per day and, 80% of its activity happens on mobile devices (Marketingland.com, 2015). These statistics do not even report the actual amount of time we are "distracted" by them, meaning that they underestimate the time we actually spend on online social networks. As an example, if we are reading an article, and a new Facebook message arrives, we get the notification on our phone and our previous activity gets disrupted. This "distraction" is not reported in the statistics, where only the actual time we navigate on the platform is displayed. This is to say that our involvement in social media is strong and consistent and it is becoming an increasingly important aspect of our daily life. The reason for this is that social media allow performing a broad range of activities. Let us think about Facebook. Users can communicate privately and publicly, they can inform themselves on upcoming events, they can organize events, they can follow people, they can fill and send surveys. However, it is reckoned that the depth of the activities Facebook offers has a stronger impact on people participation compared to its breadth. It is through its advance communication channel that users get locked in the system and keep using it. They start to connect with each other, and when they get acquainted with this new type of communication they feel they cannot get rid of it because it is pivotal to maintain relationships.

There are many other drivers that push people to be involved in social media activities but the need for relationship was in the beginning one of the key ones (Raacke & Bonds-Raacke, 2008). The authors believe that the fear of being left-behind acts as an enhancer to participating in a first place. In even simpler terms, this fear has been regarded as FoMo (Fear of missing out), meaning that they do not want to be left out of their virtual network of friends as this could simply being left out of their real network of friends.

Therefore, over the last years we have seen a substitute to real communication taking over the market. In the specific, many scholars believe that through this new channel the level of social capital has increased (Valenzuela et al., 2009; Johnson et al. 2009), meaning that the consequence on social interaction the new technologies had was stronger than a simple replacement effect. Kim & Lee (2011), believe that it is through Facebook has an impact on happiness through the social connections it builds.

Furthermore, this different type of communication had a new impact on the people's mind reshaping their private and social behaviour. It also had an effect on how people process information (Mazer et al., 2007). The authors believe that learning capabilities of students change after they got acquainted to social media. They also state that not only how we process and evaluate information has changed but also how we listen to people has varied a lot in the recent years. It seems pretty clear that social networks such as Facebook disrupted the way of social communication (Ellison, Stein field & Lampe, 2007). Furthermore, the new way of behaving and communicating is believed to have an impact on self-image. How we create social, actual and ideal self-images has all been influenced by social networking sites (Cheung, Chiu & Lee, 2011).

Facebook and "anonymous" online social network are reckoned to have an impact on self-image formation (Zhao, Grasmuck & Martin, 2008). According to the authors, people tend to create personal self-representations in public online environments that differ from the identity they represent in private online environments such as chat rooms or in face-to-face interactions. In the specific, the authors believe that the "true selves" pursued in chat rooms or the "real selves" trailed in face-to-face interactions are no longer inspired self-model on Facebook interactive activities. On Facebook people tend to create a desirable self-image that they were not able to embody in offline interactions. This aspects leads to the paradox of visibility. People perceive that online networks are more representative of the "true person" when the networks are visible but it appears to happen exactly the opposite (Ellison, Heino & Gibbs, 2006). Therefore, Zhao, Grasmuck & Martin believe identity is not an innate characteristic intrinsic to human personality , but it is a social construct that changes with respect to the environment where it is created. On the other side, Hollenbeck &

Kaikati (2012) believe that people will tend to enhance some of their actual features together with some idealistic-desired ones in their activity of extending their self-concept in the web. Considerable amount of research also focuses on the effect self-presentation has on Subjective Well-Being. Goldman & Kernis (2002) believe that representing yourself in an authentic and not distorted way will increase your happiness level. This is valid especially in online social media where the impact other people's judgement is very strong. People who do not alter their self-concept tend to be less dependent on others, which, in turn, will limit the dependencies and increase self-confidence. However, there is a lot of contradicting opinions on the topic. Other scholars believe that having a positively-distorted self-image will increase subjective well-being through the ability motive (Taylor & Brown, 1988) . People with ideal self-concept tend to be more confident in their own abilities, be more creative, and in the end experience more satisfaction and happiness. In this paper I believe that both type of online public self-representation could lead to happiness in an equal way depending on differences in needs and personal characteristics. Being honest about yourself leads to higher level of happiness especially for people with a limited amount of Facebook friends and with possibly low-esteem levels. This is rooted in social support, people show their real selves and if other likes it that will increase their esteem level and happiness. On the contrary, people with a lot of friends and a high self-esteem, enhancing the self-concept will lead to higher level of subjective-well-being but not through social support (Kim & Lee, 2011) . The academic research, though, does not go all in the same direction. Ellison et al. (2007) believe that Facebook cannot be considered as a substitute of real life relations and that social capital and life satisfaction does not increase by using. Therefore, online social networks are reckoned to influence subjective well-being through the mediating effect of social capital (Valkenburg, 2007). Turkle (2011) believes that online communication is less satisfying than offline interaction and it negatively impacts happiness. It is believed that Facebook can trigger emotions like jealousy, envy that consequently lowers subjective well-being. Furthermore, it is believed that these emotions have a stronger effect on people with particular idiosyncratic characteristics, such as low esteem (Valkenburg et al., 2006). Furthermore, some authors believe that the impact social networks such as Facebook goes beyond the friendship level but it impacts love relationship themselves stronger with (Utz & Beukeboom, 2011).

Valkenburg et al. (2006) argued that individuals who are more dissatisfied, lonely and socially isolated tend to be negatively affected by social online activity. Furthermore, not only happiness depends on the people who are on the social network, but on the activities performed. Wenninger et al. (2014) emphasize two different types of activities that can be performed: passive following and active participation. Active participation is about posting, commenting, and interacting with the

other people in the network by using the tools available. Passive following is just about scrolling down the newsfeed and comparing own profile to the others'. These two types of activities are reckoned to have a different effect on subjective well-being. Wang (2013) reckons that active participation has a positive impact on happiness because it involves active communication whereas passive activity involves different types of goals besides communication such as social comparison that tends to negatively impact happiness. However, it is still not clear the effect the two types of activity have on subjective well-being. Other scholars believe that active participation polarizes the feelings. If the responses to the posts are positive, subjective well-being will increase, if negative subjective well-being will decrease (Locatelli et al, 2012)

Overall, previous research was inconsistent in finding absolute effect of Facebook on happiness. They believe that the impact these online networks have is different from people to people (high and low self-esteem), from the activity performed on the network and from the combined effect of the two.

In this paper, I investigate over the different personal characteristics and I see how this impact happiness with respect to the different activities performed on the social network. Compare to previous research, I will investigate the personal characteristics of the person such as the esteem level, and I will move towards the idea of self-representation. In the specific, I will see how self-image, i.e., actual, social and ideal affect the type of Facebook activity and how this in turn affect subjective well-being. Further, I believe that is not always the case that active sharing will negatively impact subjective well-being with low-esteem persons. I believe that this relationship is moderated by the type of image (actual, social and ideal) you are willing to provide. Therefore, I will see how these different types of personal characteristics interact. In summary, I argue that low esteem people will benefit from an authentic self-representation more than high esteem people, especially when the social response is positive. On the contrary, high esteem people will be more satisfied with augmented self-concept. Furthermore, I believe that the esteem level impacts also happiness through the type of activity users do on Facebook. In the specific, low-esteem people are more elastic to public opinion. Therefore, I argue that active participation on Facebook exposes them to polarized feelings. In case public opinion gives positive feedbacks, they will experience consolidation and enhancement of their self-esteem, which will lead to experience positive emotions and higher levels in subjective well-being. In case the response is negative, their self-concept will be questioned again and will decrease further their self-esteem.

The research will be qualitative, I will create a Facebook survey that will be sent over the Internet to mainly young adults (20-34 years old). Normal, ordinal, and interval-type questions will be asked.

In order to see whether the sample is representative of the population and in order to see if the variation is high, I will randomly break the sample group into a few equal-sized groups, I will analyse the results and then compare the results across the groups. If the differences between the groups are large I will increase the sample size until the between group difference is smaller. I will make that analysis through Excel and through it I will create some descriptive statistics that will be interpreted using contingency tables, graphs and charts.

In summary, besides all the cognitive and behavioural changes, in this paper we will focus on the direct impact Facebook has on social capital and on subjective well-being. In particular, we will focus on the different personality characteristic and how they affect the probability that a certain type of online social activity will happen. Further we will see how the type of activity is linked with different levels of subjective well-being. The research has several practical implications. Firstly, by showing that certain type of activities performed by different type of people will lead to different type of subjective well-being. Therefore, it will show that certain people behave in a way that not maximizes their happiness. Secondly it provides some practical advices for online social behaviour that will tend to lead to positive moods and emotions. In the specific, I argue that low esteem people should represent themselves in an authentic way , because that will foster and enhance their self-concept, confidence and in the end subjective well-being, especially when the response is positive. It shows that the appreciation of the others is based on their "true" selves and they no longer need anything to alter their egos. Further, I suggest low esteem people to be more active on Facebook, use it more to communicate (privately and publicly) and less as a mean of comparison. Further, I believe that even though this active position might lead to less satisfaction when there is no or negative response, they have to cope with it by training. They might not change their esteem level but they can get away all these social constructs that, if taken to the extremes, limit behaviour, creativity, self-expression and happiness. The paper proceeds as follow. A literature review will explain in details the concept of self-representation, self-esteem and the type of participation users on Facebook do. Lately, I will describe how these aspects interact and how they impact subjective well-being. The analysis and the results of the survey will follow. The paper ends with a conclusion and some practical implications Facebook users can leverage in order to increase their happiness.

Literature review

Social capital, happiness and Facebook

Many academics wonder which is the source of competitive advantage of Facebook and the reasons why the platform was so strong and efficient in increasing its customer base in such a short time. By adopting the platform, users get acquainted to this new type of virtual communication and their willingness to connect with the others increases. They finally get locked in the systems because they feel that by stepping outside, they will miss important connections with people (Raacke & Bonds-Raacke, 2008). This negative reinforcement has been identified by the authors as FoMo (*fear of missing out*). This fear of being left behind acts as an encouragement to participate in the platform. Therefore, it seems pretty clear that one of the key reasons why Facebook has been adopted was to increase the level of social capital. Brantley and Millstine (2011) believe that individual happiness is a function of social cohesion. According to them, building strong and weak ties and building a strong well connected network with people will make them happier in the long term even though that task requires a lot of time and money spent. In this section we will analyse the effects of social capital on Facebook and the effect of Facebook on subjective well-being. Given the wideness of the topic, it will account for the larger proportion of the literature review.

In the last fifty years, psychologist, sociologist and economist started to focus their attention on the value of social capital as a source for individual happiness. Before this branch of research arose, it was believed that happiness was a result of income and social welfare (Veenhoven, 1994). The more the individual (and the society overall) was rich and wealthy the more it was believed to be satisfied and happy (Veenhoven, 1994). However, academics started to detect some controversial results. Although within a country reach people tend to be on average happier (Easterlin,1995), the same is not valid across countries or over time. There is no substantial correlation between how rich a country is and its level of happiness and there is no correlation among happiness and time. Even though countries are getting richer, they are not getting happier. In particular, the psychology school in Harvard discovered that it was not true that societies over the years become happier if they are richer: if we plot in a graph GDP versus a composed measure of subjective well-being for the country, the results sounds messy, chaotic and shows no relationship at all between the two measures (Daniel Gilbert). Other measures of income, such as relative income, show , according to some authors, a stronger (and positive) relationship (Dunn et al., 2011) but not

according to others (Helliwell & Putnam, 2004; Bjørnskov, 2008). There is something else except from income (both in absolute or relative terms) that impacts how satisfied people are.

Robert Putnam, a professor in Public policy at Harvard University, states in *Health and happiness* that life satisfaction is highly tied to social connections among people. It is through the grid of this complex network, that people increase their health and happiness level (Helliwell & Putnam (2004). By building and maintaining ties people experience higher level of happiness. It is not only through strong ties such as family, husband or wife and close friends that happiness is fostered but also through weak ties such as all the tons of connections we establish every day. Putnam et al. developed in *Making Democracy Work: Civic Traditions in Modern Italy* (1994) the idea that happiness and productivity is a real social construct where all agents in society have an impact. He calls it " *the norms of civic engagement*," that enable people to rely on each other. Bartolini et al (2004) take as a point of reference the thesis of Putnam and they extend it to analyse happiness and income trends over the last years in the United States. The authors believe that our society is experiencing a decline in social connections that offset the increase in household income leading to a decrease in happiness. Differently from Gilbert they believe that if social capital remains constant but absolute income increases, society would have been positively affected by the change. As a matter of fact the level of social capital , according to him, has decreased over the years bringing individual and societies to experience lower or constant level of happiness.

Therefore, it seems that contemporary academics pay a lot of attention to the value of social capital as an important determinant for happiness. Some give more importance to the amount of social connections we establish, others suggest that are the types of connection we establish that determine our happiness and others are more inclined towards a social perspective, where the society overall plays an active role where trust in the society is seen as the main source of social cohesion. Nonetheless, it seems undisputable that increasing the network of friends will beneficiate individuals. Lastly, the question arrives. Do online social networks and in particular Facebook supplement or complement the real life social relations we establish? Do they attenuate this social capital downward trend or do they foster it?

Wellman et al. (2001) believe that online social networks are used for both social and asocial behaviour. People can use it for solitary activities that prevent them from communicating directly with the other peers in the network. These activities include information retrieval, such as scrolling down the newsfeed and look at what the other members in the network do, or just reading information on the channel followed in the network. Alternatively, they can use the network to communicate. This is believed to be the main activity. The authors find that "people's interaction

online supplements their face-to-face…communication" detecting a positive association between the two aspects. However, to fully understand the value of social networking sites and in particular of Facebook, it is necessary to get back to the definition of social capital expressed by Putnam (2004). It is defined by the author as the resources and tools owned by people in order to enable them to communicate and interact. According to Resnick (2002) only social resources that he identifies in trust and shared identity enable people to work and play together. In the past, people developed social capital as a side effect of the participation to social activities and civic organizations. Today, this is happening less and less (Resnick, 2002). However, the needs to have a strong and diverse network of contacts compared to a weak and more disconnected one stays. In general, people accumulate social capital unintentionally during their daily life with co-workers, friends and family and from a conscious intentional process. Resnick believes that it was this unintentional process that started to break down over the years. Therefore, people felt the need of restablishing it, through technologies. And that is how online social networking sites and Facebook arose.

Several authors believe that it is through the increase in social capital that Facebook has a positive impact on people's happiness (Kim & Lee ,2011; Valkenburg et al.,2006). Ellison et al. (2007) take into consideration a reciprocal relationship instead. They believe that people with low level of happiness engaged themselves in online social activities in order to increase their satisfaction. Helliwell & Putnam (2004) also point out the problem of causality as a main inhibitor to the idea of online social networks increasing the level of happiness. They believe that life satisfaction is prerequisite of social trust and they don't entirely agree with the idea that if a stranger is trusted, the person experiences higher level of subjective well-being (Inglehart,1990). Nonetheless, trust is considered by many one of the motive through which individuals get used to Facebook. In the platform, users have free access to the information of the friends. Assuming that they do not have privacy restrictions, users in the friend list have full access to profile and user's pictures, post, articles, videos, and comments shared. It is through the reduction of the uncertainty in the information of the users and their predictability that people start to trust each other and experience higher level of satisfaction (Berger & Calabrese, 1975). On the contrary, if restrictions on the available information are set, then knowledge on the others is reduced, the volatility on the expectations increases, and predictability capabilities are reduced and lastly less mutual trust is found leading to lower satisfaction levels. However, Berger (1986) has slightly a different vision on the effect of information for a trustworthy relationship and lastly for happiness. The author believes that the more we know about a person, the more the chances we have of seeing attributes that we actually do not admire or appreciate. Being disappointed by friends' images leads to

mistrust behaviour (Newton, 2006). Therefore, Facebook it is reckoned by the author to polarize the perception of friends in both a good and a bad way leading to possibly different satisfaction level depending on the equilibrium between these two forces. However, Newton also believes that in our online network of friends users will tend to erase connections with individual by whom they are disappointed by. In the long term, the online network will be composed by similar individuals where mutual trust is at the basis of the connections[1]. Räsänen & Kouvo (2007) believe that the new technology-enabled form of communication strengthens two practices of sociability: interpersonal involvement and civic engagement. Through these, individuals tend to cluster together and experience higher level of subjective well-being. Furthermore, Williams (2006) believes that trust is also a direct outcome of strong homogeneity among users' friends. They all share similar characteristics meaning that by admiring the friends and trusting them they actually tend to like and trust each other following a positive-reinforcement type of logic. Valenzuela et al. (2009) Johnson et al. (2009) are also strong supporters of homogeneity as a source of social capital and for Facebook participation. They believe that even though real communication has decreased, a fact which is disputed others[2], Facebook acts as a good substitute and the impact it had on people was even stronger than a replacement effect.

In combination with those who believe in the positive effects of on line social networking sites for social capital and subjective well-being, also cyber pessimists appeared on the stage. Donath and Boyd (2004) believe that Facebook is an extremely important tool to strengthen weak ties, meaning that the platform provides a quick and easy chance to maintain relationship with people we are so close bye and we are not going establish strong relationship with. The authors refer to geographically dispersed, "one-shot"[3] or people encountered every day with whom no strong relationship is established. Example of circumstances where this could happen are dinners or outside clubs or bar where conversation possibilities are facilitated. Further, there are people that we meet every day at the supermarket, shops or daily places we tend to patronize with whom we limit the talk to a "Good morning/evening, thanks, have a nice day". Donath and Boyd believe that these are the ones to be positively affected by online connections. Facebook facilitate the aforementioned relations (weak ties) without really affecting the strength of our connections with our close friends. Ellison et al. (2007 do not acknowledge an equal effect of Facebook on social capital and happiness for different people. In particular, they believe that Facebook is merely useful to bridge weak ties and it doesn't help to consolidate real friendship or other strong relationships. Therefore, the authors

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[1] Differently from Newton, many scholars detect some positive relations between social trust and online communication (Best & Dautrich, 2003; Räsänen & Kouvo, 2007).
[2] Johnson et al. (2009), Kim & Lee (2011)
[3] Defined as someone met once with whom a "real" conversation has been conducted

believe that from Facebook only certain people with well-defined characteristics could beneficiate. In the specific, the authors refer to users who are more in need of establishing relationship with weak ties, such as low-esteem or people with low life-satisfaction levels. Sagioglou & Greitemeyer (2014), having detected negative correlation between moods and Facebook usage, argue that this is due to the bad feelings experienced after the use of the platform. Users enjoy the time spent there but afterwards the feel is that they wasted times doing nothing productive and they experience negative feelings. Therefore, the authors asked themselves why it is the case that so many users commit themselves to Facebook usage. In their third study they come out with an explanation. People tend to build expectations on Facebook as a platform to establish and maintain social relations. However, contrary to their expectations, Facebook does not increase social capital and does not lead to increased level of positive moods ("affective forecasting error", Sagioglou & Greitemeyer), results confirmed by Lu (2016).

These two researches have one main limitation. They focus on the immediate response of users while using and right after having used Facebook, neglecting the long term effects of using the platform. On the contrary, Kross et al. (2013) take into consideration both a short term and long term perspective. Both variable show negative correlation with respect to time spent on the platform. On the surface, the online social network is seen as medium through which social connections can be increased. In depth, the results are quite different though. Facebook does not increase level of social capital, and users which are very active on the platform tend to show lower level of real-life connection compared to less active users. On the contrary, interacting with people "directly" does not have a negative impact on subjective well-being. Other authors, instead have a neutral perspective on the effect Facebook has on social capital and subjective well-being. Beaudoin (2008) state that social media operates over several scopes. For example, Facebook can be used for informational, recreational, communicative and entertainment activities. Given the type of activity that the user prefers over the others, different levels of social capital are achieved. As expected, if Facebook is used to communicate directly with the others through private or group messages or through active posting, then social capital increases and so does happiness. On the contrary, if an online social networking site is merely used for informational, recreational and entertainment activities users do not increase their level of social capital and their happiness decreases.

From a logical perspective such an outcome is not obvious. We could assume that if a user adopts Facebook for different scopes that will not affect the already existing social capital. This is true. In this situation, happiness does not decrease as a direct function of social capital but because users perceive that their use of the platform is not the "correct one". They see other users adopting

Facebook to communicate and establish or keep relationship with other people and so they feel left behind and their perception of the number of social connections compared to the others decrease. In the end what lowers their level of subjective well-being is not social capital but the "perceived social capital" that often differs from the real one. Therefore, we can conclude by saying that Facebook does not either increase or decrease social capital by itself, but it depends on other aspects. It first, depends on the personal characteristics of people, the self-esteem level, on the type of activity, active or passive and on the type of activities that immediately follow some personal characteristics, such as self-image determination.

H1: Facebook use does not influence the happiness level of individuals in one direction by itself

Self-esteem and Facebook

In the second half of the 20th century Sullivan (1953) was one of the first academics to investigate the characteristics of people with different self-esteem levels. He believed that friendship represents one of the main determinants of self-esteem. However, in his research, it was not clear whether people with few friends had lower level of self-esteem or these people had low level of self-esteem because they had few friends. Some years later, Keefe & Berndt investigated the effect friendship has on self-esteem. Keefe & Berndt (1996) believe that is through friendship that self-esteem is formed. In their studies, we see that adolescents who have unstable friendly relationship show experience low level of self-esteem. The same appears for people having negative interactions with friends. On the other side, Bishop & Inderbitzen (1995) tried to solve the problem of reverse causality. The authors still arrived at similar conclusions: friendship matters. In the specific, Bishop & Inderbitzen (1995) believe that friendship represents the basis for high self-esteem levels. Having no or few friends has a negative impact on self-esteem and on happiness levels.

Contrary to Sullivan, Bishop & Inderbitzen (1995) point out the problem that "friendship" is not just about close and intimate friends, but it includes a broader network of people as well. This represents an extremely important distinction for the scope of the paper, because the idea here will be that is the strength of the weak and strong ties together that determine our self-esteem level. Sullivan (1953) defines "friendship" as a "close, intimate, mutual relationship… that it was only through a close relationship that consensual validation could take place". Their focus stays at an individual level, where friendship is seen as a close and intimate relationship. For the time it made sense. Internet was arising, phones were still on the hedge, and smart IT was still a mystery. People we were used to tie up with were merely close friends. However, over the years internet developed

and so did online social platforms. Our attitude changed and what we defined as "friendship" got a different new meaning. It is not anymore, just about our close, "geographically near" friends but the concept of "people of the WEB" writes a different definition of "friendship" where the weak ties in our network start to matter as well. It is this new broad-in meaning definition of "friendship" that it is believe to matter in the virtualized world we are living today.

Facebook provides the infrastructure that allows users to interact with each other. The platform facilitates contacts among users, in particular in initial communication by reducing the fears of rejection (Steinfield et al.,2008). This aspect explains why lower self-esteem people are helped by online social networks and in particular by Facebook. Low self-esteem people are reckoned to have more difficulties in establishing casual relationship. The authors take into consideration a group of student. They see that low self-esteem students have more difficulties in establishing relationship in dormitories or in their classes compared to high self-esteem people. Facebook makes it easier for low self-esteem people to cluster together with individuals who do not belong to their close personal network. Therefore, Steinfield et al. (2008) believe that Facebook is more beneficial in bridging social capital for low self-esteem people compared to high self-esteem individuals. High self-esteem people are reckoned to use Facebook more for consolidating aspects whereas low self-esteem people for amplifying their networks in a first instance. In the specific, high self-esteem individual have less difficulties in establishing relationships in real life because they are less constrained by their behaviour. According to the authors high self-esteem people tend to show more self-confidence and less mental constraints in their behaviour. They do not have the same difficulties of low self-esteem individuals in establishing social relations. Therefore, their use of Facebook is limited to strengthen their already existing and "well-functioning" connections. On the contrary, low self-esteem people tend to adopt Facebook as a network expansion method that enables them to communicate with individuals with which they were not able to communicate in a first real-life instance.

Leary & MacDonald (2003) dig inside the personality of individuals with different type of self-esteem levels. They believe that "the highest self-esteem was reported by individuals who not only viewed themselves positively in the domain but who also believed that the domain had important ramifications for winning others' approval or avoiding others' disapproval" meaning that it is not true that low self-esteem people score low only in these five characteristics, i.e., competence, physical attractiveness, material possessions, sociability and morality but who also believe that these attributes have a big impact as social connectors. All the aforementioned authors leave out of their analysis the individual cognitive psychological aspect. They believe that self-

esteem level depends on some predefined characteristics which cannot be really changed over time, innate in the minds of people. On the contrary, Leary & MacDonald (2003) state that what really matters are not the characteristics by themselves, but the perception of them. As an extreme, someone who scores high in those, i.e., competence, physical attractiveness, material possessions, sociability and morality but has a low perception of these five attributes will still be considered a low self-esteem person and will still be affected negatively at a social level compared to someone who, instead, scores low in these five attributes, but his perception diverges in a way that he thinks he scores fairly high. The findings of Leary & MacDonald (2003) are of extreme importance for the scope of the research because it explains how the entire concept of self-esteem is not based merely on cognitive and unchangeable characteristics but on the perception of these characteristics. In this research, I do not only take the perspective that social capital increases self-esteem directly but also indirectly through the idea of "social reinforcement". An individual may have a different perception of his characteristics and in the end a different esteem level.

It may seem that the concept is very much related to the topic of weak and strong ties. Even though these concepts may sound similar, they are actually not. The first difference lies on the idea that self-perception is a mental construction which has got as a basement network theory. Second, the ideas others have on us do not merely depend on their degree of centrality (how they are close to us, i.e., strong versus weak ties). On the contrary, they depend on both strong and weak ties. Furthermore, Leary & MacDonald (2003) point out several other mental problems faced by low self-esteem people except from shyness. These are believed to be anxiety, introversion. Both anxiety and introversion are reckoned to impact negatively our happiness. Fawcett (1999) reported that "respondents who claimed that they had higher than usual stress in their lives stated significantly fewer pleasurable experiences and less enjoyment of the past week as a group than did those who considered their level of stress to be average or below average. Other authors stress the role of the group people belong to (Anthony et al ,2007), introversion (Argyle & Lu,1990), predictability (Hogle & McClellan, 2009, Anthony et al ,2007) and intimacy (Reis & Shaver, 1998).

Collins & Miller (1994) believe that self-disclosure is a central aspect for the development and maintenance of the relationship. In particular, from their analysis it results that "(1) People who engage in intimate disclosures tend to be liked more than people who disclose at lower levels, (2) people disclose more to those whom they initially like, and (3) people like others as a result of having disclosed to them". Two main findings are important from this research. The more intimate the disclosure gets the more it fosters relationship and the more positive it becomes the better it is.. Even though self-disclosure seems to have a positive impact, it is actually more risky than it looks

at a first instance, especially for low self-esteem people. However low self-esteem individuals are less willing to self-disclose and are more self-protective (Tice & Hutton, 1989). The authors believe that high self-esteem people focus more in showing to the others their positive sides, i.e., capabilities, qualities, achievements and abilities; whereas, low self-esteem individuals are more focused in hiding themselves from the outer world in order to avoid possible negative reactions such as rejections, avoidance, bad treatment or being ignored. Therefore, it is undisputable that low self-esteem individuals disclose less than high self-esteem ones. (Gaucher et al.). Therefore, we get back to the argument of before. Facebook provides a tool to reduce the riskiness of self-disclosure, or to better say, the perceived riskiness. Low self-esteem people cannot see the facial reactions of their "friends". The only reactions can be either positive (receiving a like) or both positive and negative through the comments. However comments can still be deleted, implying that any possible negative response will be out of the timewall. I also believe that having a number of likes which is inferior to the average like of your friends will impact you as negatively as receiving a not existing dislike when your friend have a "0-sum likes" on their post. Anyway, no research seem to have analysed this topic, meaning that this research will stuck on the idea of Tice & Hutton (1989) and Forest & Wood (2011) that state that disclosing feelings on social networks such as Facebook represent a mean through which low self-esteem individuals connect with the others avoiding much of the riskiness perceived in real interactions.

H2a: Individuals with a high self-esteem will be more positively affected by the use of Facebook compared to people with low self-esteem

Facebook activities

In this section the type of possible Facebook activity will be discussed. In particular the section comprises of two subsections. The first mainly describes the types of activity over which users operate, i.e., active participation and passive behaviour. The second focuses on the type of self-presentation users desire to show in their active participation. As it will be shown later, users tend to have two main types of self-image, actual and idealistic self-image. Given the idea they have of themselves, they will tend to present to their Facebook friends in a way that their desired self-image is fulfilled and achieved

Active and passive Facebook behaviour

Facebook reshaped the way we communicate with people. Through Facebook, users start to communicate publicly, by publishing information on their walls but on the other side, the audience is composed by their list of friends, who can communicate back to the friend by commenting his post. Therefore, a one-to-one style of communication can be established within the one-to-many overall style which brings to the distinction between passive and active behaviour.

According to Marlow & Lento (2010), Facebook comprises of two main activities, active and passive participation. Active participation is composed mainly by both public and private communication. Public active interaction is represented by status updating where the user shares articles, photos, written posts on his wall. His activity is driven mainly by a desire of communicating to his audience (Facebook friends if he has a private profile or to all the possible users on Facebook if he has a public profile) information that represents himself. The information he is displaying does not necessarily portraits inner and outer characteristics that he actually possess but all the characteristics he has the desire to share. This distinction is pivotal and it will be taken back again in the next section of the paper. Private active participation comprises all the information shared and received to/from one single user on the platform. Facebook Messenger represents the main tool through which this activity is achieved. There is no real distinction in the content shared. In both cases photos, articles, and written messages. The only difference lies in the number of receiver/senders the information comes from/to. Passive behaviour consists in all the activities where no real interactions appears to happen. Examples are represented by scrolling down newsfeed of friends, viewing photos and reading friend's conversation.

Does it positively affect us by sharing and communicating with our friends the ups and downs of our life? And does updating our status by maintaining up-to-date our friends foster connectivity with them? As a reminder, public active participation will be discussed at a first place. In status updates, two major actors play a role. The user who is posting and the receivers who can respond by giving feedbacks. Posting can be seen as a tool to initiate an interaction with the other Facebook friends. Therefore, if there is no response, it can be seen as there is no desire in initiating the conversation, leading to a negative emotional response with regard to the person who updated his status. According to Williams et al. (2000), unanswered status update can be seen as a social rejection, similar to a rejection from a girl or a guy when you try to approach him/her. Therefore, Mellor et al. (2008) state that the effect of having no feedbacks fosters the discrepancy between desired and actual communication, which is at the basis of the feeling of loneliness. On the contrary, we could also assume that status update response rate will not affect us directly, because users will still think that their posts will reach the targeted audience.

Nonetheless, Deters and Mehl (2012) believe that in order to promote social inclusion and feelings of closeness, the perception of bonding with friends is needed, meaning that the person needs to feel she has shared something with the friends. The authors detect a strong negative correlation between the feeling of loneliness and frequency of status updates. Even though not explicitly mentioned in their paper, this is due to the number of times someone appears on our newsfeed. In simple terms, the more it posts (independently of the quality of the posts), the more that person will appear on our newsfeed and the more the perception of our knowledge of that person increases, the more they will feel connected. Deters and Mehl (2012) arrive to the conclusion that sharing daily experiences will allow friends to take part to yours's life and that is why they will get closer to the individual who is updating his status. Interestingly, the authors show that direct social response (comments and likes) does not appear to be an important factor for the positive effect of status updates.

As we already said public active behaviour serves to foster initial communication, but it stops there. Social capital depends on real interactions, and what resembles the most to real interaction on the web is represented by private active behaviour. With respect to private active interaction and overall direct active communication, Burke and Lento (2010) have similar results. The authors believe that direct communication will help individuals in bonding social capital, decrease the level of loneliness and increase the overall level of social well-being. The reasons behind these findings are mainly three: first, individuals who feel more socially connected rely more often on online social platforms that reify their connections. Second, by using Facebook, it is easier to maintain and strengthen connections which are geographically far. Third, feedbacks and responses increase the social self-perception. All these three aspects tend to increase social capital and happiness. In simple terms, direct communication is both a by-product of the friendship and way to foster friendship. Therefore according to the authors, playing an active role on social media and on Facebook will eventually increase subjective well-being because it will ensure longer lasting relationships and an enlargement of friendships.

Passive behaviour comprises all the activities devoted to reading newsfeed of Facebook friends and to looking at the profiles of others. Detrs and Mehl (2012) define passive behaviour as "social snacking". They believe it can reduce the feelings of loneliness and promote connectedness because it serves as a reminder of social relations. Like a snack, social snacking serves an alleviation of the feeling of hunger between two meals. Therefore, social snacking helps to stand a lack of social interaction for a certain period of time. By scrolling down the newsfeed and by looking at other's people Facebook profile, the individual recalls that he has friends, meaning that

his feeling of loneliness decreases. However, Sheldon et al.(2011) believe that this feeling only lasts for a short time. In general, Facebook polarizes the feelings, so individuals can be either positively or negatively affected. Passive behaviour is seen as a tool to postpone this feelings in both a good or bad ways. In the end if there is no response from the Facebook friends, passive behaviour could even foster long term dissatisfaction because it is seen as a social comparison tool, where friends but not you receive many feedbacks. Others also believe in the positive aspects of passive following. Valenzuela et al. (2009) state that it is a pleasurable experience because it builds social trust and a feeling of connectedness with the others. On the contrary, Hafekamp and Kraemer (2011) believe that high exposure to others' people profiles foster feelings of jealousy, inferiority and envy enabling negative social comparison and lower levels of subjective well-being. The feeling of jealousy becomes a particularly important factor in romantic relationship settings where monitoring could eventually become a compulsive and obsessive behaviour (Muise et al., 2009). Burke and Lento (2010) believe that consumption (how they define passive behaviour) reduces social capital and increases loneliness having an overall negative effect on subjective well-being. By scrolling down users' profile, individuals tend to report lower level of social capital. Therefore, two hypothesis follow

H3: Higher level of active behaviour is associated with a higher level of subjective well-being.

Ideal and actual self-image

Rousseau once said that people are social animals. They like to identify themselves in the group of individuals they are surrounded by. If his argument is taken to the extreme, it can be said that a person is nothing by himself. If we assume he is leaving his entire life in a place without any other human being to communicate with, then his perceptions, needs, desires do not exist. It is only through this that we create the self-image, a mental representation of the self-concept. Having a self-concept allows us to understand where we are standing in the society and where to belong. As we said in the first section of the literature review, it is only through social belonging and connectedness that people can increase their level of happiness. Therefore, two main questions arise. First, how can individuals build their self-concept and second, how can individuals identify which is the type of self-image that maximise their happiness at the best. Further, in this section two not identical concept will be analysed as being the same. Self-image and self-representation. The first defines as someone sees himself and the second one defines as someone uses the self-image to represent himself to the others. Even though they might seem very different, as self-representation

could look as an evolution of the self-image, they are actually more entangled together than this distinct evolutionary process shows. The reason behind is that we only have a distinct self-image because it arises from the perspectives the others have of us (Baumeister, 2010). Consequently, self-representation and self-image exist only because they are coupled with each other. Without one, the other does not exist. Therefore, many authors use both indistinctively (Yee & Bailenson, 2007; Sandler & Rosemblandt, 1962).

Mikulincer & Peer-Goldin (1991) believe that if an individual has an actual self-image that resembles closely to his ideal self-image, his happiness level will increase. The self-congruency theory is one of the most studied by academics, and they all agree on the idea that fostering with connection between actual and ideal self-image will improve subjective well-being. On the contrary, when this congruence is not obtained, cognitive dissonance is experienced and individuals feel less happy (Mikulincer & Peer-Goldin, 1991). Chang (2002) state that advertisers[4] try to foster cues that push people to identify with the content of the advertisement. This happens mostly when the individual who is looking at the commercial does not have enough information or the motivation to process the information displayed.

Nonetheless, even if there is wide research on the effect different types of self-images have on happiness with respect to brand or advertising behaviour, it cannot be said the same with regard to internet and social network behaviour. The new technology has been investigated from many other sides, but it has been difficult to identify specific trends with respect to identity self-representation. Nonetheless, even though not much research is available, some it is.

As mentioned earlier Facebook and "nonymous" online social network are reckoned to have an impact on self-image formation (Zhao, Grasmuck & Martin, 2008). According to the authors, people tend to create personal self-representations in public online environments that differ from the identity they represent in private online environments such as chat rooms or in face-to-face interactions. In the specific, the authors believe that the "true selves" pursued in chat rooms or the "real selves" trailed in face-to-face interactions are no longer inspired self-model on Facebook interactive activities. On Facebook, people tend to create a desirable self-image that they were not able to embody in offline interactions. This aspects leads to the paradox of visibility. People perceive that online networks are more representative of the "true person" when the networks are visible but it appears to happen exactly the opposite (Ellison, Heino & Gibbs, 2006). Therefore,

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[4] In our daily life, it is common to identify ourselves in the products we buy (Malär et al., 2011) . According to the authors, individuals like to purchase products that either represent themselves or they represent how they would like to be seen.

Zhao, Grasmuck & Martin (2006) believe identity is not an innate characteristics intrinsic to human personality , but it is a social construct that changes with respect to the environment where it is created[5].

Considerable amount of research also focuses on the effect self-presentation has on Subjective Well-Being. Goldman & Kernis (2002) believe that representing yourself in an authentic and not distorted way will increase your happiness level. This is valid especially in online social media where the impact other people's judgement is very strong. People who do not alter their self-concept tend to be less dependent on others, which, in turn, will limit the dependencies and increase self-confidence. However, there is a lot of contradicting opinions on the topic. Other scholars believe that having a positively-distorted self-image will increase subjective well-being through the ability motif (Taylor & Brown, 1988) . People with ideal self-concept tend to be more confident in their own abilities, be more creative, and in the end experience more satisfaction and happiness. In this paper, I believe that an idealistic perspective will increase subjective well-being the most especially through the motif of higher self-confidence. Nonetheless, I do not discard the idea that an actual self-representation could also lead to higher level of subjective well-being in certain circumstances depending on differences in needs and personal characteristics of individuals. It might be that being honest about yourself leads to higher level of happiness especially for people with a limited amount of Facebook friends and with possibly low self-esteem levels . This is rooted in social support, people show their real selves and if other likes it that will increase their esteem level and happiness. On the contrary, people with a lot of friends and a high self-esteem, enhancing the self-concept will lead to higher level of subjective-well-being but not through social support (Kim & Lee, 2011).

Therefore, I argue that generally speaking an idealistic self-image benefits the individuals the most. However, low self-esteem people will benefit from an authentic self-representation more than high self-esteem people, especially when the social response is positive. On the contrary, high self-esteem people will be more satisfied with augmented self-concept. Furthermore, I believe that the esteem level impacts also happiness through the type of activity users do on Facebook. In the specific, low-esteem people are more elastic to public opinion. Therefore, I argue that active participation on Facebook exposes them to polarized feelings. In case public opinion gives positive feedbacks, they will experience consolidation and enhancement of their self-esteem, which will lead to experience positive emotions and higher levels in subjective well-being. In case the response is

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[5] On the other side, Hollenbeck & Kaikati (2012) believe that people will tend to enhance some of their actual features together with some idealistic-desired ones in their activity of extending their self-concept in the web.

negative, their self-concept will be questioned again and will decrease further their self-esteem. Therefore two hypothesis follow:

H4a: idealistic self-representation has a positive impact on subjective well-being

H4B: high self-esteem individuals will benefit more from an augmented self-representation compared to low self-esteem individuals

DATA & METHODOLOGY

Data collection

The dataset of the present study has been retrieved from an   online survey, which was distributed and filled out by 165 people. Furthermore, the questionnaire was shared on the profile of five friends. For this reason it is difficult to assess the response rate. Knowing how many people responded out of the people that viewed it is impossible since Facebook does not release the average click rate on private posts which are not in the format of videos. This way of retrieving information is defined as convenience sampling. Since the survey was sent via Facebook, most of the answers come from Facebook friends, meaning that their age range is limited to young adults (18-27) with an equal amount of females and males. Furthermore, it was assured that the questionnaire matched some privacy standards, implying that names of people who filled out the survey were not revealed. The reasons is that by maintaining the anonymity, individuals are more willing to answer in a non-distorted way that represents their real feelings. On the contrary, identifying the people would not add much information but it would just bias people's answers towards distorted directions.

With regard to the questionnaire structure, closed questions were preferred over open ones. The purpose of using these over the others was to simplify the analytical part afterwards. Open questions makes it difficult to generalize behavioural patterns. On the contrary, it is easier to build variables to use in a regression with multiple choice, ranges or grid questions. These three are mostly present in the survey. However, closed questions do not really investigate over the reasons why certain choices have been done. For example in the research, only one open (non-mandatory) question has been asked. The question is the following: *Many users report feeling frustrated and exhausted after using Facebook. What do you think causes these feelings?* It first makes a statement

which is that users are sometimes not happy about Facebook usage and later it asks why this is the case, giving freedom of expression in the explanation.

The survey has been conducted using the platform offered by Google, Google Forms. It has been preferred over the others, such as the one provided by Facebook, for its simplicity and clear design. Furthermore, it is one of the few available that enables to analyse images together with word format information. Before analysing the content of the survey, it is important to restate the purpose of the research so that it will be easier to understand the meaning of the questions asked. Therefore, the three main concepts of the analysis will be revisited. Furthermore, a short description of the scales used to measure the main variables of interest will be provided. The whole idea of the research is to understand how self-esteem, type of activity, self-image interact with each other and how these three affect the relationship between Facebook activity and subjective well-being.

Descriptive Variables

Happiness

In our analysis the dependent variable is represented by the happiness level. As we have already mentioned earlier in the text, there are many acceptable scales to assess it. The one which has been preferred in the literature is the Five-Item Satisfaction with Life Scale created by Diener (Diener et al., 1985. In order to build the scale, the following questions have been asked: "*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", "If I could live my life over, I would change almost nothing"*. Using the 1-7 agreement scale, individuals can place their consensus to the statement. In the specific, a 7 corresponds to a "*strongly agree*", a 6 to "*agree*", a 5 to "*slightly agree*", 4 to "*neither agree nor disagree*" a 3 to "*slightly disagree*" a 2 to "*disagree*" and a 1 to "*strongly disagree*". Therefore, we had two choices to build the variable. First, we could have pool together the scores in different categories. In the specific, a score that ranges from 5 - 9 means that the individual is extremely dissatisfied, a score that ranges from 10-14 means that the individual is dissatisfied, a score that ranges from 15-19 means that the individual is slightly dissatisfied, a score of 20 means that the individual is neutral, a score that ranges from 21-25 means that the individual is slightly satisfied, a score that ranges from 26-30 means that the individual is satisfied and finally a score that ranges from 31-35 means that the individual is extremely satisfied. Second, the score could be left as a continuous variable and not limiting it to 7 categories. Therefore, it has been opted

for the second option. It shows more in details how someone is feeling without bounding himself or herself to a certain predefined category. Or to better say, it enlarges the categories from 7 to 35.

Facebook use

To explain Facebook use, the composite variable *FBuse* has been created. *FBuse* is a dummy variable that takes value 1 for high Facebook use and value 0 for low Facebook use. As I said it is a composite of two questions, namely, *How many Facebook friends do you have?* and *In a typical day, how many minutes do you spend on Facebook?*. Therefore, value 1 is taken when individuals have both a lot of friends (above 600) and spend a lot of time on Facebook (above 60 minutes per day) and takes value 0 when less. Those cut-off points have been based on previous literature that sees an above average use of Facebook starting from 60 minutes per day and an above number of Friends >600 (Statista.com).

Even though it is above average, the individuals in my survey who have more than 600 friends on Facebook are 88 out of the 165 responses, implying an average of 53%. When asked how much time they spend on Facebook, individuals in the sample seem to respect more closely the general pattern. 36 individuals seem to spend more than 60 minutes on Facebook out of the 165 responses, implying an average of 22%. Only 5 individuals seem to have an extreme value of above 120 minutes per day. Both distribution look pretty normal and do not present much skewness nor have many outliers. The first distribution though is slightly skewed on the right, meaning that there are quite a few people with extremely high numbers of Facebook friends, while the second is more normally distributed, implying that it shows less skewness

Self-esteem

To describe the self-esteem level, the Rosemberg self-esteem scale has been adopted. According to Robins et al. (2001), this is the most valid scale since it shows the largest positive correlation with the other scale currently available. In the specific, the 10 items in the Rosemberg scale identify clearly all the different facets of self-esteem, such as the psychological and physical aspects

The composite variable *score* has been created as a dummy variable to define the self-esteem level. It takes value of 1 when the individual has a high self-esteem and 0 when he has a low level of self-esteem. Below a list of the 10 statements written in the survey used to describe self-esteem levels are shown. 1) "*On the whole, I am satisfied with myself*", 2) "*At times I think I am no good at all*", 3) "*I feel that I have a number of good qualities*", 4)"*I am able to do things as well as most other people*", 5) "*I feel I do not have much to be proud of*", 6) "*I certainly feel useless at times*", 7) "*I feel that I'm a person of worth, at least on an equal plane with others*", 8) "*I wish I could have more respect for myself*", 9) "*All in all, I am inclined to feel that I am a failure*", 10) "*I take a positive attitude toward myself*". Individuals, compared to the happiness score, could have chosen among four possibilities: "*strongly agree*" "*agree*", "*disagree*", "*strongly disagree*". Higher agreement implies a higher scorer, i.e. "*strongly agree*" has a score of 4 counting down till a score of 1 that corresponds to "*strongly disagree*". Items 2, 5, 6, 8, 9 have a reversed score. The variable could have either be left as a continuous variable or divided in ranges for individuals with high and low self-esteem levels. For simplicity and easiness of the model, it has been decided to create a dummy for individuals with high self-esteem. According to the theory behind the model, it has been chosen a cut-off point equal to 25 to describe people with high self-esteem.

Active and passive behaviour

In order to define active or passive behaviour, the variable *activity2* has been created. It is a composite variable of a set of questions, namely, *In the Facebook activity, [I use it to post picture , articles, videos]; In the Facebook activity, [I use it to interact with other people]* defined in the paper as *V; In the Facebook activity, [I have been hit by a news. I usually share my feelings on my wall]; In the Facebook activity, [I often comment the pictures and status updates]; In the Facebook activity, [Me and some friends have to go to a restaurant. I take the initiative and ask the guys out]; In the Facebook activity, [I usually give a feedback after a Facebook call]*. The individuals had the chance of strongly agreeing or disagreeing with the statement. A higher score means they have a more active behaviour whereas a lower score signifies for a more passive behaviour. Therefore, the dummy variable *activity2* has been created that takes value 1 when values are above the mean and value 0 when values are below the mean. In conclusion when *activity2* has value 1, individuals have

predominantly an active behaviour and when it gets value 0 they have predominantly a passive behaviour.

Actual and idealistic self-representation

Several questions have been asked in the questionnaire related to actual and idealistic self-representation. [6]Further, to answer to the last hypothesis of our paper an interaction term between self-esteem and idealistic perspective has been created.

The questions asked are the following. *Assume you are the gentleman below. You are very much attracted by a girl you have on Facebook. You know she will look at your profile soon. Which photo would you post?* The individuals had to choose between an edited and natural picture of a person. The decision to choose this photograph instead of the others was based on the idea that first the subject of the person is a person, so it is easier to self-identify in the image compared to picture representing landscapes. Secondly, the two images compared are identical besides the fact that one has been altered and the other not. Therefore, it is definitely more representative than other images which offered completely different scenarios. With regard to the second bulk, namely the written part of the questions, *I use beauty products. (Ex. Makeup or wax)* has been chosen. This question clearly defines whether an individual alters his or her own image by using beauty products in order to make him or herself look better. The second aspect that makes this question complementary to the previous ones, is that it clearly ask for a conscious admission of self-representation which was not asked in the previous question. If someone uses beauty product, he does it on purpose to increase the positive impact his image will have on other people. These two variables are seen as dummies. Therefore, the two interaction terms used in the regression to assess the effect people

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[6] Two questions out of the 15 asked have been used to describe an idealistic self-perspective. These two have been selected because they show the strongest correlation with the other questions. It can be seen as a factor analysis that creates some "invented" variables that show some common patterns that can be detected in the pre-existing variables. However, a factor analysis makes it more difficult to interpret the Stat-created variables. It can be difficult to see what they really represent. Therefore, these two questions can be seen as the result of a factor analysis with the difference that we can clearly see what they actually represent.

with high self-esteem and idealistic perspective have on happiness are *score_beauty* and *score_gentleman*.

Control variables:

Current mood

To control for moods and emotions, the Gallup World Survey questionnaire has been initially adopted. In the specific, it has been used a part of the poll called Experienced well-Being which has the aim of tracking the emotions experienced by an individual in the last 24 hours. The inclusion of this set of questions is based on the idea that individuals answering the survey might say they are happy or unhappy, but their opinion is based on the latest events that happened in their life. Therefore, it is pivotal control for them. The scale includes five questions which aim at understanding current emotions. In the specific they try to identify the feelings of individuals they had the day before answering to the questions. Examples of statements people answering the survey had to support or reject are *I feel well rested from yesterday* or *I have been treated with respect all day yesterday.* The problem with these is that they actually don't necessarily identify your current mood but they rather portrait how you were feeling yesterday meaning that the survey expects that your current mood has been determined for a big proportion by the *yesterda*y's feelings. However this is not necessarily the case. For instance, we could have had a wonderful day yesterday but today we drink a coffee which is really awfully prepared and by having it our current moods goes down drastically. Therefore, to the Gallup survey questions a new one has been included aimed at identifying your current mood in details. Specifically, the question is simply *How do you feel now.* We will also do a correlation analysis to investigate whether there are discrepancies between the Gallup index and this question. If there are, I will opt for the single question because I believe it is more representative of individuals' instant feelings. Therefore, I run two regression using the different mood variables and as I said earlier I will only pick *Howdoyoufeelnow* if correlation or significance level of the Gallup Index is low. To the question *How do you feel now* individuals had the chance of replying *very well , well, neither well or bad, bad* and *very bad* with respectively a score that ranges from 5 to 1. Therefore, a dummy has been created that takes value 1 when individuals are feeling well and value 0 when they are not. It takes value 1 for a score >4. 63% of the people surveyed reported a score larger or equal to 4.

Other control variables

Some data needed some adjustments. Firstly the question regarding nationality was an opened questions, meaning that people wrote the same nationality in different ways. For example Italian was spelled by individuals Italiani, italiani, Italian, Italy and Italiano. Therefore, in order to correct for this imprecision, the variable Italian has been created. The same procedure has been applied for all the nationalities. For the easiness of the research other variables have been coupled. The number of Facebook friends has been divided in >600 or <600 in order to understand whether someone has many or few Facebook friends. The answers to the question *Inatypicaldayhowlikelyare* and *Inatypicaldayhowmanyminut* have been respectively grouped as "often", "very often" and "rarely" and "60-120", ">120" and "0-60". A similar procedure has been applied for all the other variables defining the frequency of Facebook usage. Similarly, many dummies have been created to define individuals' nationality and country they are living in.

As control variable in the regression, the variable *emigrant* has been created and used. To generate it, it has been used the nationality and country where individuals are currently living. Therefore, every individuals that does not have the nationality of the country he or she is living in, has been regarded as an emigrant. The reason for this choice is due to the structure of the people surveyed. The individuals in the sample are mostly students since the survey has been advertised on my Facebook profile and on the profile of my friends who shared it, i.e., mostly students. Therefore, people who live abroad are mostly people who had the financial chance and the willingness to leave their countries to look after a future that will give them greater opportunities compared to the individuals that remained in their own original places.. Therefore I believe that *emigrant* acts as a very valuable control variable. It is a dummy variable that takes value 1 when the individual lives in a country which does not corresponds to his or her nationality. Lastly, I also include a dummy variable to control for gender differences, *male*, that takes value 1 when the individual surveyed is male and takes value 0 otherwise.

Methodology

Before describing the model chosen, it is pivotal to analyse our dependent variable, subjective well-being. Many academics have been divided in consider it as cardinal or ordinal value. In the specific, this division was particularly evident among two groups, psychologists and economists. The formers regards life satisfaction as cardinal, i.e. that the difference in happiness between 2 and 3 it is the same as between 6 and 7. On the contrary, economists believe that this distinction is hard to assume and that these differences have a mere ordinal value, meaning that an happiness score of 7 is higher than 6 as 3 is higher than 2 but nothing can be said on the differences among the two (Ferrer-i-Carbonell & Frijters, 2004). As a matter of fact, an individual can value more an increase of happiness from 2 to 3 than an increase from 6 to 7 implying that the increase in welfare in the former transition is higher compared to the latter. This distinction could eventually have huge implication in the chosen statistical model, especially in panel data estimators. As an example, if the perspective of the economist is taken, it will be more difficult to use first difference or fixed effect estimator, because it will be difficult to estimate the distance between each score (Ferreri-Carbonell & Frijters, 2004).However, this is a problem which is not present in the current research since all data was retrieved in one point in time and there is basically no within-variation. Nonetheless, this paper takes the perspective of the economists, i.e. it is believed that it is very difficult to assess the change in welfare given a change in happiness, therefore an ordinal perspective over subjective well-being is taken.

According to Pohlman & Leitner (2003) the model to use when the dependent variable is ordinal and not cardinal is a probit or logit model. In the specific, with respect to life satisfaction, the authors suggest using an ordered logit or ordered probit over to an OLS in the case the distance between each point of the score are not equal. However, the discussion is more complicated than a simple distinction between cardinal and ordinal values. Peel et al. (1998) recognize the importance of using probability models for ordinal values and takes the argument to the extreme by saying that no matter what a ordered logit or ordered probit are always better model to describe and model satisfaction data. On the other side, there is another stream of thought which contrasts the thesis of Peel et al. (1998). In the specific, in Mostly Harmless Econometrics (2008) written by two professors of the MIT and LSE, Angrist & Pischke respectively, the idea of using OLS estimators for ordinal dependant variable was taken into consideration again. Angrist & Pischke believe that OLS estimator has been undervalued in the past and that should be reconsidered again. The practical effect of violating some of the assumption of the BLUE estimator is minor compared to the advantage of using an OLS regression. The latter has several advantage such as its simplicity and the easiness of interpretation of its coefficients. Further, the OLS model will give similar results compared to ordered probit/logit when there are more than 4-5 categories and the distribution looks

pretty much normal. Results will display similar significance levels and similar predicted outcomes. Therefore, in current research I believe that the OLS estimator will be a better one compared to probability models since I have five categories (from "strongly agree to the statement" to "strongly disagree to the statement") and the distribution is quasi-normal. In the general case, there are less than five categories and the distribution of the outcomes is skewed, the OLS model is biased and the probability models perform much better. Nonetheless I will run both models together and, if results are similar and consistent, I will choose the OLS model. If results are different and inconsistent, I will opt for the logit model, which is less biased in this case.

Therefore, to model the hypotheses outlined in the theoretical background, an OLS estimator will be used. As I said earlier, the objective is to understand the effect Facebook use has on happiness by using as moderators several aspects of human personality, such as self-esteem, type of activity and type of self-representation. Further, other variables will be used to control for personal characteristics such as emigrant, gender and current mood. Therefore, given the structure of the analysis an OLS regression has been preferred over ordered probit/logit. However, for the purpose of checking the consistency of results, an ordered logit regression will be run as well. Lastly, for each model, two equations have been used, one with all the three control variables (gender, emigrant and current moods) and one with only the variable/variables of interest

Hence, the following models have been estimated in order to answers each hypothesis:

H1: Facebook use does not influence the happiness level of individuals in one direction by itself

$$happy_i = b_0 + b_1\,emigrant_i + b_3 Howdoyoufeelnow_i + b_4 male_i + b_5 fb\_hi_i + \varepsilon_i$$

$$happy_i = b_0 + b_1\,fb\_hi_i + \varepsilon_i$$

H2: Individuals with a high self-esteem will be more positively affected by the use of Facebook compared to people with low self-esteem

$$happy_i = b_0 + b_1\,emigrant_i + b_3 Howdoyoufeelnow_i + b_4 male_i + b_4\,score_i + b_5 fb\_hi + b_6 score\_fb\_hi + \varepsilon_i$$

$$happy_i = b_0 + b_1\,score_i + b_2 fb_{hi} + b_3 score\_fb\_hi + \varepsilon_i$$

H3: Higher level of active behaviour is associated with a higher level of subjective well-being.

$$happy_i = b_0 + b_1 emigrant_i + b_3 Howdoyoufeelnow_i + b_4 male_i + b_5 activity2_i + \varepsilon_i$$

$$happy_i = b_0 + b_1 activity2_i + \varepsilon_i$$

H4a: ideal self-representation has a positive impact on subjective well-being

$$happy_i = b_0 + b_1 emigrant_i + b_2 Howdoyoufeelnow_i + b_3 male_i + b_4 beauty_i + b_5 gentleman_i + \varepsilon_i$$

$$happy_i = b_0 + b_1 beauty_i + b_2 gentleman_i + \varepsilon_i$$

H4b: high self-esteem individuals will benefit more from an augmented self-representation compared to low self-esteem individuals

$$happy_i = b_0 + b_1 emigrant_i + b_3 Howdoyoufeelnow_i + b_4 male_i + b_5 score_i + b_6 score\_beauty_i + b_7 score\_gentleman_i + b_8 beauty_i + b_9 gentleman_i + \varepsilon_i$$

$$happy_i = b_0 + b_1 score_i + b_2 score\_beauty_i + b_3 score\_gentleman_i + b_4 beauty_i + b_5 gentleman_i + \varepsilon_i$$

RESULTS

In the table below (column2) we test the hypothesis that Facebook use does not affect subjective well-being by itself. The Adjusted R-squared of the model is moderate, 0.329. As explained earlier there are three control variables. *Emigrant* and *Howdoyoufeelnow*? The two variables are statistically significant at the 5% level and 1% level respectively. Being an emigrant compared to not being an emigrant increases your happiness by 2.167 units, ceteris paribus. Feeling well

increases happiness by 3.447 units compare to not feeling well, ceteris paribus. Being male does not have any significant effect on subjective well-being. In support of our hypothesis, high-frequency of Facebook use does not have any significant effect on the happiness level of individuals. This result offers support for H1.

Table 1 VARIABLES	(1) happy	(2) happy
emigrant		2.167**
		(0.899)
Male		0.0102
		(0.773)
How do you feel now?		3.447***
		(0.364)
fb_hi	-1.810	-1.950
	(2.149)	(1.626)
Constant	25.11***	11.75***
	(0.474)	(1.538)
Observations	165	165
R-squared	0.005	0.346
Adjusted R-squared	-0.000789	0.329

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

In the table below (column 2) we test the hypothesis that individuals with high self-esteem will be more positively impacted by the use of Facebook compared to people with low self-esteem. As in the previous regression, emigrant and current moods have a positive impact on subjective well-being while gender does not have any significant effect. Self-esteem has a highly significant (1%) and positive effect on life satisfaction. In the specific individuals with high self-esteem have a happiness level which is 0.523 units higher compared to people with low self-esteem, ceteris paribus. Facebook use does not have any significant effect. The interaction term between Facebook use and self-esteem does not have a significant effect either. The Adjusted R-squared is 0.498. It has been run an *ologit* model as well and results are consistent implying that the model which will be uses is an OLS estimator. This result does not confirm H2.

Table 2	(1)	(2)

VARIABLES	happy	happy
score_fb_hi	0.329	0.179
	(0.213)	(0.188)
score	0.696***	0.523***
	(0.0743)	(0.0878)
fb_hi	-6.469	-4.285
	(4.515)	(4.124)
emigrant		1.451*
		(0.801)
Male		-0.671
		(0.647)
How do you feel now?		2.154***
		(0.406)
Constant	11.07***	6.495***
	(1.651)	(1.599)
Observations	165	165
R-squared	0.404	0.517
Adjusted R-squared	0.393	0.498

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

In the table below (column 2) we test the hypothesis that active/passive behaviour has a positive/negative impact on subjective well-being, ceteris paribus. Again, a similar results for the control variables. Both emigrant and current moods are significant at 5% an 1%. Furthermore, individuals with an active behaviour are 0.363 happier compared to individuals with a passive behaviour, ceteris paribus. The result is highly significant (1%). The Adjusted R-squared is 0.374, fairly high for happiness economics studies. All these results shows support for H3.

Table 3	(1)	(2)
VARIABLES	happy	happy
emigrant		1.603**
		(0.771)
Male		0.484
		(0.772)
How do you feel now?		3.277***
		(0.368)
activity2	0.497***	0.363***
	(0.118)	(0.0992)
Constant	18.99***	7.779***
	(1.494)	(1.844)
Observations	165	165
R-squared	0.098	0.389
Adjusted R-squared	0.0926	0.374

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

In the table below (column 2), we test the hypothesis that an altered self-representation on Facebook has a positive impact on subjective well-being. As in the previous regressions, emigrant and current moods have a positive impact on subjective well-being while gender does not have any significant effect. Interestingly, though, the coefficient of *emigrant* and *Howdoyoufeelnow?* are higher in absolute terms compared to previous models. It is probably due to the fact that the other explanatory variables in this regression are less correlated with the controls implying that the variation they explain is different from the variation explained by the controls. Nonetheless, in this regression, (*gentleman* and *beauty_dummy)* have been used to describe an idealistic self-image. As explained earlier these two variables are expected to explain two different sides of self-representation. Both results give a positive impact of an idealistic self-representation compared to an actual one. In the specific, gentleman increases life satisfaction by 1.817 units, ceteris paribus and beauty_dummy increases subjective well-being by 1.500 units ceteris paribus. Gentleman is significant at 5% while beauty_dummy is not significant at 10% (it has a p-value of 11%), Nonetheless given the strong coefficient, the significance of gentleman and the slight insignificance of beauty_dummy, it is not possible to reject H4a.

Table 4 VARIABLES	(1) happy	(2) happy
emigrant		2.085**
		(0.859)
Male		0.554
		(0.977)
How do you feel now?		3.562***
		(0.362)
gentleman	1.161	1.817**
	(1.001)	(0.787)
beauty_dummy	1.022	1.500
	(0.932)	(0.958)
Constant	24.16***	9.714***
	(0.730)	(1.739)
Observations	165	165
R-squared	0.014	0.370
Adjusted R-squared	0.00178	0.350

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

In the table below (column 2), the last two hypothesis are tested. In the specific, it is believed that individuals with high self-esteem will benefit more from an idealistic self-representation while individuals with a low self-esteem are believed to benefit the most from an actual self-representation. As before, the three main control variables have been included in the model. *Male* is always insignificant while *emigrant* and *Howdoyoufeelnow?* are both significant. The three individual terms of the interaction terms have been included, i.e., *gentleman, beauty_dummy* and *score.* Despite *score*, any of these is significant. Therefore, the interaction terms *score_beauty* and *score_gentleman* have been created. Unfortunately, these are also insignificant. It leads to the conclusion that H4b is not confirmed.

Table 5 VARIABLES	(1) happy	(2) happy
emigrant		1.557**
		(0.776)
Male		-0.439
		(0.872)

	(1)	(2)
How do you feel now?		2.229***
		(0.378)
gentleman	-1.442	0.0709
	(3.136)	(2.692)
score	0.653***	0.494***
	(0.0993)	(0.122)
beauty_dummy	-0.162	0.341
	(2.910)	(2.791)
score_beauty	0.0792	0.0431
	(0.142)	(0.123)
score_gentleman	0.149	0.0939
	(0.153)	(0.122)
Constant	10.76***	5.445**
	(2.044)	(2.534)
Observations	165	165
R-squared	0.426	0.543
Adjusted R-squared	0.408	0.519

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Further, all these tables present column 1 as well which has not been discussed previously. Column 1 presents the models estimated in column 2 by excluding the three control variables (emigrant, Male, Howdoyoufeelnow?). the purpose was to understand how the coefficient of the relevant variables changed when controls were added. I was afraid that the significance level or the coefficient were either becoming less significant or loosing explanatory power when controls were added since there could be some sort of correlation among explanatory variables. However, this appears not to be the case. P-value do not increase and the magnitude of the coefficient does not change much. In conclusion, adding the control variables does not influence significantly the coefficient (and the sign) of the variables of interest

All these models have been lastly run with Robust Standard Errors. A BP-test for heteroscedasticity has been run for every regression and they all reject the null of constant variance (homoscedasticity). Therefore, white standard errors have been preferred over the normal ones. The command used was estat hettest, rhs iid.

Further, a Ramsey RESET test has been run in order to see whether the model has omitted variables. In all the regression we were not able to reject the null hypothesis that the model has omitted variables, implying that the model is correctly specified. The command used was *estat ovtest*.

Even though we believed that the model was correctly estimated with an OLS estimator, the same regression has been run with an ordered logit model (ologit) and since it shows similar results

compared to the OLS estimator, the latter has been chosen. Its simplicity and consistency have been preferred over the perfect unbiasedness of a probability model.

H1: Facebook use does not influence the happiness level of individuals in one direction by itself

SUPPORTED

H2: Individuals with a high self-esteem will be more positively affected by the use of Facebook compared to people with low self-esteem

NON SUPPORTED

H3: Higher level of active behaviour is associated with a higher level of subjective well-being.

SUPPORTED

H4a: ideal self-representation has a positive impact on subjective well-being

SUPPORTED

H4b: high self-esteem individuals will benefit more from an augmented self-representation compared to low self-esteem individuals

NON SUPPORTED

Discussion and Conclusion

As we said in the introduction more and more people are adopting online social application to interact with peers. Therefore, many scholars believe that real-life communication is being substituted by virtual communication (Sheldon, 2008). Others believe it is mainly acting as a complement (Chang et Low, 2001). Nonetheless, it is undisputable that online social communities play an extremely important role today. Companies like Facebook, Instagram, LinkedIn, 500px are growing their customer base exponentially. Some academics focused their studies on understanding the main driver of social network participation(Dholakia et al., 2004), others studied how these are affecting job performance and study behaviour (Sparrowe et al., 2001) and others studied how these are affecting social behaviour (Garton et al., 1997). In current research, the focused has been on something different. A more general approach has been taken. In the specific, I believe that all these behavioural and cognitive patterns are taking place, but in the end, do they make us happier than

before or not? And under which circumstances? In this paper, I tried to answer to these very general questions. In the end, in order to understand whether a certain behaviour is right or wrong, the easier way to answer is to see whether this behaviour will make individuals happier or more sad. Many of our actions are often driven by factors which do not always maximise subjective well-being. Therefore, this paper tries to give the "right" advice, which eventually will maximise life satisfaction. In the specific, this paper has examined how individuals, mostly college educated young adults, have been affected by the use of Facebook. This research does not claim to be a perfect solution to the questions earlier mentioned, but it definitely shed lights over certain effects Facebook has on individuals.

First, use of Facebook does not have any effect by itself. Individuals that use Facebook a lot are not significantly more/less satisfied compared to individuals who do not use it often. This is an interesting result, because it contrasts the popular stream of thought which assess that Facebook use lowers subjective well-being. On the contrary, it also rejects the idea of who is opposing to this perspective and say that Facebook use has a positive effect on life satisfaction. Second, this paper analyses the effect self-esteem and Facebook use have on life satisfaction. Results show that individuals with a high self-esteem will be happier compared to individuals with low self-esteem but this relation does not seem to be emphasized by Facebook use. In the specific, the effect has Facebook use for individuals with a high self-esteem is not significantly different compare to individuals with low self-esteem. Third, the paper shows that an active use of Facebook will positively impact subjective well-being compared to a passive use. Being active works as a more realistic substitute to real communication and it is reckoned to increase social capital (Sheldon et al., 2011). On the contrary, passive behaviour, is believed to produce the opposite effect. People do not use Facebook to actively interact and communicate with peers, but rather to scroll down the newsfeed and see what other people are doing. This behaviour fosters self-comparison mechanisms, lowers the self-esteem and self-confidence of individuals and lastly lowers their life satisfaction (Inglehart ,1990). Fourth, this paper investigates over a subset of active behaviour, i.e., actual and ideal self-image. Individuals are believed to represent themselves in several ways when interacting with the others. These many modus operandi can be labelled in two different approaches. One in which, Individuals represent themselves in a realistic way where the image perceived by the others corresponds to their actual identity. The other in which, individuals do not represent themselves in a way that corresponds to their actual identity but instead, in a way that their identity is altered and shows a side of themselves that corresponds to their desire being. As an example, an individual can either posts on Facebook a photo of himself shopping at Zara when he actually goes at Zara shopping trying to depict a moment that really happened in his life. Under these circumstances the

individual is trying to show his lifestyle as it really looks like. On the contrary, an individual can post on his profile a photo of himself holding a bag of Louis Vuitton while he actually doesn't own it. He is trying to depict his lifestyle in an altered and desired way. The results show that portraying yourself on Facebook in an altered way will beneficiate your happiness level more than portraying yourself in actual way. Even though these results might sound a bit unethical, if a pure happiness perspective is taken under consideration, the optimal solution is to avoid pictures and posts that show what you really do and are in life but rather choose to reveal a depiction of yourself that might be biased but at least represents what you would like to be. Having an idealistic self-perspective will boost the vision you have of yourself, your self-confidence and self-esteem level. Therefore, the advice of the paper is to sacrifice part of your honesty to favour a more distorted version of yourself. On the other side this paper does not advice to fake completely your image but rather to alter it in a way that the desires you have of yourself can be accomplished. As an example, editing pictures on Instagram before posting them on Facebook is viewed as an altered self-representation as well. A complication in this hypothesis is that it can also be the case that an altered version will imply more positive social responses and through that it increases subjective well-being. Therefore, it is difficult to assess how much of this effect is independent from social judgement. With regard to the last hypothesis of the paper that assess that people with a high self-esteem will beneficiate more from an idealistic self-representation compared to individuals with a low level of self-esteem and that people with a low-level of self-esteem will beneficiate more from and actual self-representation is rejected. It seems that having an altered self-image always make individuals happier in any circumstance. It could be that low self-esteem individuals tend to be happier with an actual self-representation only in the case that social response is positive. If it's not, i.e., if peers do not react or react negatively to public disclosure of realistic self-information, negative emotions can arise, lowering self-confidence and self-esteem.

The paper has some limitations. First, the dataset is limited to 165 individuals, mostly friends or friends of friends. This implies that there is some selection bias, most of the individuals are young adults college-educated students. Therefore, in order to have a broader idea of the effects Facebook has on subjective well-being, it would be interesting to have a larger sample size spanning individuals with different level of education and different age groups. In the specific, it would be interesting to investigate teenage behaviour. This could shed light over certain patterns of behaviour of the upcoming IT-driven generation. Further, It would be fascinating to include time-variant variables in order to investigate time trends as well. However, the retrieval of panel data was more complicated. Therefore, current research put weight on its data and analytical simplicity. Upcoming research could try to investigate how the effect of these variables change over time. With respect to

the variables investigated, I believe that this research has investigated and pull together several factors of human personality which have not been seen in previous research. However, with such a limited sample it was difficult to get into the specific aspects of human personality. Therefore, I suggest that future scholars by "enhancing" their sample size will also get the chance to deeply investigating specific aspects of human personality. As an example, this paper was not able to find effects of having an actual or an idealistic self-image under different self-esteem level. I believe that the results were not significant also because of the limited sample. Increasing it, will enable to clearly detect whether this relation exists or not. Further, this research was of mere psychological nature. On the contrary, would be interesting to see how the brain responds to different type of Facebook activity using advanced brain imaging such as fMRI, fNIRS, DWI, EEG and brain stimulation techniques such as TMS, tDCS. Nonetheless, given its limitation, this research gives an innovative perspective on how Facebook and online social networks affect subjective well-being. In the specific, this paper contributes to prior studies with regard to its scope. It is the first time, that different an actual and idealistic Facebook-based self-representation has been studied. Prior research has mainly viewed this aspects with respect to offline behaviour, specifically shopping behaviour. Nonetheless there is enough evidence to assess that similar type of activity is present on online social networks. Nonetheless, there was no evidence that the effects were similar. Therefore, this paper tries to bridge this gap. Furthermore, most papers on life-satisfaction determined by online social networks focus merely on a few factors such as Facebook use or self-esteem but they rarely put together all these in one single and cohesive paper. Lastly, as Facebook grow, analysing the effect of online social networks in general is less meaningful compared to analysing the effect Facebook or Instagram have. As an example, these two platforms work very differently and they probably play and leverage on different desires and needs. Therefore, labelling the two platforms as online social networks would be stupid and meaningless. Therefore, this research just studies the effect Facebook has on happiness by using Facebook itself as a main platform to send out the survey. Maybe that could be considered a second limitation of the paper. It can be said that people answering the survey might be individuals who are already more active and maybe more satisfied with the platforms and that lead to biased estimates, but I honestly believe there is not much evidence to consider this another limitation of the paper.

In conclusion, this paper shed light over certain cognitive and behavioural patterns on Facebook and it sees how these affect individual happiness. Despite some limitations that I truly hope to be overcome in future research, the model built has the privilege of being simple and understandable and at the same time it does not seem to be biased or distorted. Therefore, I hope that future research will take this as an opportunity to investigate the topic in more details

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$$happy_i = b_0 + b_1\,emigrant_i + b_3 Howdoyoufeelnow_i + b_4 male_i + b_7 beauty_i + b_8 gentleman_i + \varepsilon_i$$

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but it suffers of serial correlation

Check

1) Variabile continua e lo score?
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