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Does Psychological Capital have an Impact on Effects of Exposure to User Generated Instagram Content on Well-being?

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Abstract

Introduction: Instagram is a social media platform which has grown in popularity in recent years, especially among young adults. However, literature shows that the use of Instagram must be seen as critical in some respects, as it can have a negative impact on well-being. Increased usage as well as the content viewed on Instagram are indicators of influences on well-being and causes symptoms such as insomnia, depression, and social media addiction. User generated content is the most common form of uploading information on Instagram. This type of content is characterised by users uploading images voluntarily and unpaid. However, these images often do not represent reality, which leads to a projected unrealistic worldview among users, suggesting that they cannot compete with ideal of others. Literature lacks in identifying concepts which can promote a healthy use of Instagram. Promising results from the approach of positive psychology are showing that the concept of Psychological Capital (PsyCap) works as a buffer against stress in many other areas. Subsequently, it was hypothesised that PsyCap works as moderator variable between the independent variable of exposure to user generated content and the dependent variable of well-being

Methods: An online survey was conducted among 123 young adults aged 18-30 (*Mean* = 21). 68.3% of the sample were female and 32.7% were men. A multiple regression analysis was conducted to test the moderation, using PROCESS macro for SPSS.

Results: The results showed that well-being is indeed negatively influenced by increased exposure to user generated content on Instagram. Furthermore, a high level of PsyCap is associated with a high level of well-being. Surprisingly, the study was not able to indicate PsyCap as a moderator. Additionally, the results show that women use Instagram significantly more than men.

Discussion: Yet PsyCap was identified by previous research as a buffer against stress, no moderating effect could be proven with regards to Instagram usage. Nevertheless, as the concept of PsyCap is clearly linked to positive well-being in general, it is suggested to do further research to understand how this concept can be used to diminish the threats on social media. Moreover, in this context a difference between gender concerning the use of Instagram should be acknowledged. This study draws attention to the fact that concepts in general must be sought that can help to foster a healthy use with social media.

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Introduction

The growth of social media seems unstoppable and can have a significant impact on the well-being of users (Lup, Trub & Rosenthal, 2015). Moreover, social networks have grown faster than any other internet activity (Lup, Trub & Rosenthal, 2015). Statistics show that about one third of all people around the world have used social media in 2017 (Statista, 2017). In the Netherlands alone, a country with a total population of approximately seventeen million people, Instagram usage increased from one million users in 2016 to approximately eight million users in January 2021 (Statista, 2021). Furthermore, the Coronavirus, which was declared by the United Nations on March 11/2020 as a pandemic, has led to an even higher use of social media (Kaya, 2020).

According to Kuss & Griffiths (2011), "Social networking sites (SNSs) are virtual communities where users can create individual public profiles, interact with real-life friends, and meet other people based on shared interests" (p.1.). As more and more people are exposed to social media, it becomes increasingly important to take a closer look at the impact of social media on well-being (Lup, Trub & Rosenthal, 2015). Despite the increasing usage of social media, literature lacks in providing users with concepts and strategies which foster a healthy use of social media. The current study addresses the issue that especially young adults are influenced by social media threats and emphasize the importance of finding concepts which can work as a buffer against those threats. The main aim of this study is therefore to identify variables which influence user's well-being and to provide a starting point for finding concepts that can be expected to foster a healthy use of social media. The target group of young adults was chosen as social media use is most prevalent in the age group from 19-34 (Statista, 2021).

Well-being (and how it gets affected by social media)

Social media can have a positive as well as a negative influence on well-being. To examine this relation in more detail well-being is defined first. For a long time, psychology had described mental health as the absence of psychopathology. However, this has changed, and the World Health Organization (WHO) defines mental health as a „state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" (WHO, 2004, p.111 as cited in Westerhof & Keyes 2010). Well-being is categorised in the dimensions of emotional, psychological, and social well-being. According to Keyes (1998) emotional well-being can be seen as a dimension of social well-being and includes positive and negative affect. Social well-being consists of the concept's social integration, social contribution, social coherence, social actualization, and social acceptance (Keyes, 1998). Lastly psychological well-being consists of the different dimensions self-acceptance,

positive relations with others, autonomy, environmental mastery, purpose in life and personal growth (Ryff, 1989).

Having explained the different facets of well-being, the relation between well-being and social media remains unclear. Social media platforms as Facebook, Instagram and Twitter enable people to interact online and thus offer many advantages for people. The most frequently cited benefits of social media are, according to a study by Drahošová & Balco (2017), information exchange and communication, data sharing, teamwork, and work from home. Traditional social interactions are shifted to the online world, enabling people to exchange information anytime and anywhere (Fuciu, 2019). Social well-being in particular can be increased through the possibility to exchange information and to communicate virtually (Burke, Marlow & Lento, 2010). Moreover, a study by Kim & Kim (2017) has shown that social media leads to an increased level of network heterogeneity which has a positive impact on subjective well-being.

However, there are not only positive influences on well-being. A study by Burke, Marlow & Lento (2010) shows that the level of social well-being can decrease when consumption of social media rises. This finding indicates that increased usage can even lead to the opposite of a high social well-being namely loneliness (Burke, Marlow & Lento, 2010). Negative effects of high levels of social media use have also been confirmed in other studies, for example by Kuss & Griffiths (2011) who studied the effects of a social media addiction in which it becomes apparent that young people are at risk to develop an addiction to social media which shows similar symptoms to conventional substance abuse addiction. Examples of those symptoms are mood modification (the use of social network sites changes the emotional state), tolerance (increasing use of social network sites over time) or withdrawal symptoms (the experience of unpleasant physical as well as emotional symptoms when the use is stopped) (Kuss & Griffiths, 2011). Another study shows that high use of social media and network sites is associated with increased feelings of anxiety (Vannucci, Flannery & Ohannessian, 2017, Primack et al. 2017). Moreover, a longitudinal study by Coyne et al. (2020) which was conducted over a period of eight years suggest that the content people see on social media is responsible for feelings of anxiety and depression. Therefore, both content and increased usage often have a negative impact on the well-being of young people (Coyne, Rogers, Zurcher, Stockdale & Booth, 2020, (Przybylski & Weinstein, 2017).

Social network sites and social comparison

To explain the relation between social media sites like Instagram with regards to well-being, Festinger's theory of social comparison can be used which was proposed before the time of social media (Festinger, 1954). The social comparison theory stated that people evaluate their opinions as well as their abilities in comparison to other people. Without having a reference to someone's abilities people would not know whether they are good or bad at something. Only by comparing

ourselves with others is it possible to evaluate ourselves (Festinger, 1954). Moreover, people in real life setting tend to compare themselves with others who have abilities, opinions etc. near their own and tend to search for groups in which they can satisfy their drive for self-evaluation (Festinger, 1954). However, if the attractiveness of a group (the will to belong to a specific group) is high, people are forced to stay in such a group which leads to upward social comparison. This will then lead, according to Festinger, to the person deviating far from the performance of others, which then triggers feelings of failure and inadequacy in relation to one's own abilities (Festinger, 1954). Social comparison is thus a psychological phenomenon that we as humans pursue in general.

Instagram

Social comparison can be particularly problematic when dealing with social media. The Internet and especially Instagram as a social media platform offers new opportunities to present oneself. The user can easily decide what he or she wants to present on the internet. Studies show that it is much easier for people to present their "ideal self". According to Sánchez (2019) there are several arguments why Instagram has an enormous influence on social upward comparison and therefore also impact the well-being of users.

Instagram in contrast to other social media platforms is mostly based on sharing of pictures and videos and not on content which is written (Manikonda, Hu & Kambhampati, 2014). Studies show that pictures and videos have a higher impact on the memory of humans as written information (Noldy, Stelckmack & Campbell, 1990) and therefore it can be assumed that visual effects have a higher effect on social upward comparison (Sherlock & Wagstaff, 2019). Additionally, people who are exposed to pictures of people who are attractive tend to have significant lower emotional state and lower body satisfaction after looking at those pictures (Haferkamp & Krämer, 2011). Moreover, the content on Instagram seems to be extraordinarily “idealized” (Sherlock & Wagstaff, 2019). A perfect life, good grades, perfect relationships, and flawless appearance are often visualised (Hellmann, 2016). These idealised images were also noticed on Facebook, but body dissatisfaction and appearance thoughts are higher on Instagram than on Facebook, especially at young women (Cohen, Newton-John & Slater, 2017). Lastly, studies show that Instagram users are more confronted with strangers in comparison to other platforms (Kuss & Griffiths, 2011). According to a study of Lup, Trub & Rosenthal (2015) people are more likely to compare themselves if they encounter strangers on social media. Depressive symptoms also increase with the exposure to pictures of strangers.

User generated content

In particular, the content people see on Instagram is an important influencer of young adults' well-being (Coyne, Rogers, Zurcher, Stockdale & Booth, 2020). User generated content seems to be especially relevant in the context of social media as it is the most common form of disseminating information on Instagram and is therefore also a huge part of the idealised content described in the previous paragraph. Moreover, user generated content is characterized by the fact that images and videos are uploaded by users and not created by external websites or professional companies. The content is therefore very different from the media formats one is confronted with on radio or television in which people are often only consumers of media (Wyrwoll, 2014). The internet, and not only Instagram in this case, but also YouTube, Facebook, and other platforms, offer the possibility that users can actively participate in the process of the media world without requiring any special professional training (Van Dijck, 2009). This means that through active co-creation, a whole new form of media landscape is emerging that suggests a shift from consumers to producer. Before the emergence of social media took place, the advantage or privilege of creating content was often reserved for capitalist industries. Now a virtual space has emerged that has greatly facilitated the dissemination of information and content (Van Dijck, 2009).

Moreover, user generated content poses various challenges for the users of social media. As everyone can share and disseminate information, consumers are often overwhelmed with the individual self-collection of information. Furthermore, it is much more difficult to control media or the content of media, as millions of images and videos are uploaded every second (Wyrwoll, 2014). An example of this are also comments which can be aggressive, offensive, sexist, or racist. Because of the mass of comments posted it is almost impossible to keep track, control and delete them in appropriate time if they violate the guidelines of social media (Kumar, Oiha, Malmasi & Zampieri, 2018).

In summary, user generated content is an important part of social media and provides different challenges for the user. Therefore, it is expected that user generated content has an active influence on the users well-being. As described, it can be assumed that user generated content on Instagram can be a stressor for many of its users.

Emotion focused coping and problem focused coping

People are using different coping mechanism and are therefore differently influenced by stressors. This is illustrated, for example, by the difference that some people use a form of emotional coping and some people use problem focused coping strategies. According to Baker & Berenbaum (2011) “problem focused coping consists of direct action on the problem to alter circumstances appraised as threatening” (p.550). On the other hand emotion focused coping is characterised by

managing the negative emotions in stressful situations and is often maladaptive (Baker & Berenbaum, 2011). Here, it is noticeable that there are major differences depending on which coping strategy is chosen.

However, the literature on how people deal with user generated content on social media is limited. Literature often only shows that people are differently influenced by the content of Instagram but did not add additional variables. Promising findings from the approach of positive psychology are showing that the concept Psychological Capital (PsyCap) works as a buffer against stress in the field of occupation. The field of occupation and social media is not close, yet it seems important to consider the concept of PsyCap when examining the differences between people's well-being in relation to social media.

Psychological Capital

The current scope of the PsyCap concept is still often limited to stressors in the work environment. However, researchers are increasingly starting to test the effect of PsyCap outside of the occupational environment (Riolli, Savicki & Richards, 2012). It is expected that PsyCap also works as a buffer of pathological mental health problems like anxiety and depression, which are side effects of increased usage of social media. This assumption can be made due to several reasons.

First, PsyCap is a concept that originated in the field of positive psychology. The focus of positive psychology is not only on pathology and illnesses but also on people's strengths. According to Seligman and Csikszentmihalyi (2014), positive psychology is "a science of positive subjective experience, positive individual traits, and positive institutions promises to improve quality of life and prevent the pathologies that arise when life is barren and meaningless" (p. 279). Therefore, the focus of positive psychology is clearly linked to prevent and treat mental health symptoms within a positive framework.

Moreover, the concept of PsyCap consists of four dimensions which can be defined as:

"(1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resiliency) to attain success." (Luthans, Youssef, & Avolio, 2007, p. 3).

These four factors are playing important roles to buffer stress and other pathological mental health symptoms. For example, research documents that self-efficacy helps people to deal with stressors and prevents symptoms of depression after encountering cancer (Mystakidou, et al. 2010). Bandura, Pastorelli, Barbaranelli & Caprara (1999) also indicated that if children perceive their social

self-efficacy as low, the impact on depression especially for girls is high. Moreover, a high level of hope helps in dealing with various stress factors, as a coping strategy. Hope is positively related to well-being and negatively related to various mental illnesses such as depression and anxiety (Alarcon, Bowling & Khazon, 2013). Furthermore Luthans, Youssef & Avolio (2007) are giving an example from workplace in which it is described that both being fired and being promoted increase stress due to more responsibility requires resilience. Moreover, resilience was often described in situations where people had to deal with illnesses, but also smaller inconspicuous factors can require resilience to deal with stressors (Luthans, Youssef & Avolio, 2007). Lastly, high level of optimism can be related to higher mental health in general and to reduced symptoms of depression (Achat, Kawachi, Spiro, DeMolles & Sparrow, 2000).

Literature shows that the four factors of PsyCap can be linked to a broader perspective of mental health. Self-efficacy, optimism, hope as well as resilience are proved to be important to deal not only with stress but also with depression and anxiety in different settings. To extent the scope for PsyCap and to test the usability also in the context of social media is reasonable. All factors are related to a higher psychological as well as physiological well-being (Luthans, Youssef & Avolio, 2007).

The Present Study

Existing literature shows that the well-being of social media users (young adults) is often influenced by the screen time on Instagram. However, literature suggests that other variables such as the content viewed should also be considered when explaining mental health problems that arise due to social media. In line with this suggestion, user generated content is expected to be an important determinant of user's well-being. There are no existing studies that have specifically examined the relationship between user generated content combined with exposure on Instagram and well-being.

Furthermore, the main aim of the current study is to test if PsyCap can be a buffer variable of dealing with social media threats. Whether PsyCap can be linked and possibly also explain differences in how people deal with information on social media has not been investigated yet as the focus of research was mainly driven to the field of occupation. However, broadening the perspective and testing whether PsyCap could be an important factor and buffer for social media threats could be valuable. If PsyCap serves as a protection against the idealised world of social media, it is possible to act accordingly and to use the insights of this study to build interventions. Moreover, PsyCap is a state-like concept which means that it can be easily improved as well as changed through training programmes or interventions (Luthans, Youssef, & Avolio, 2007).

Based on the findings described above, two research questions were formed: „To what extent is young adult's well-being influenced by exposure to user generated on Instagram" and "To

what extent can psychological capital work as moderator between the variable exposure to user generated content and well-being". Thus, exposure to user generated content acts as the independent variable, well-being as the dependent variable and PsyCap is expected as a moderator.

Corresponding to the research question hypothesis were formulated:

H1: The higher the level of exposure to user generated content on Instagram, the lower the level of well-being

H2: The higher the level of Psychological capital, the higher the level of well-being

H3: The level of Psychological capital influences the effect of exposure to user generated content on well-being

The relations between the different concepts are visualised in Figure 2.

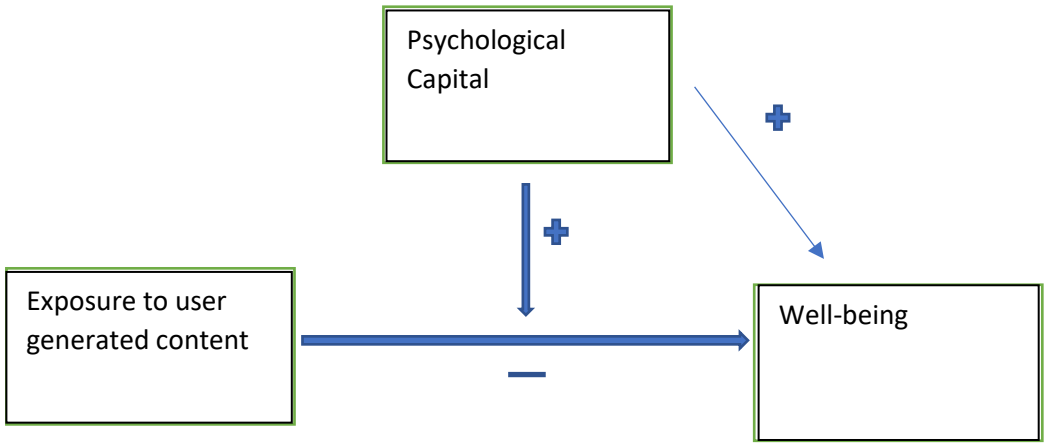

Figure 2. Moderation effect of Psychological Capital on the influence of exposure to user generated content on well-being (the minus sign indicates a negative relation the plus sign for a positive relation).

Methods

Design

A quantitative online survey based on a questionnaire was used to test the hypotheses. For this study, a cross-sectional study design was adopted. The independent variable was exposure to user generated content on Instagram. Well-being was used as the dependent variable and psychological capital as the moderator variable.

Participants

The study was approved by the ethics committee of the Faculty of Behavioural, Management and Social Sciences of the University of Twente (Approval code: BCE210373 expired on March 7,

2021). This study was conducted using a non-probability sampling method, namely convenience sampling. Furthermore, the study was placed on SONA which is a portal where psychology students are rewarded in the form of credit points by participating in studies.

A total of 148 participants took part, however, exclusion criteria were that participants had to be at least 18 years old, not older than 30 years and had a sufficient level of English to participate in the survey. All responses that were not complete were removed from the study.

123 participants are part of the final sample. Of these, 84 are female (68.3%) and 39 are male (32.7%). 6 of the participants are of Dutch origin (4.9%) and 115 come from Germany (93.5%). 2 participants indicate that they are neither German nor Dutch (1.6%). Furthermore, 30.9% of the participants were 21 years old and the age range is from 18 to 30 years. The mean of the age is 21.5 (SD 1.93).

Materials

A questionnaire was developed using the online survey tool Qualtrics. To test the hypothesis several standardised test instruments were used to ensure high reliability and validity.

Demographics: Demographic questions were asked concerning age, gender, and nationality as stated in the participant section.

Instagram Usage and User generated content: To measure how much time users spent on Instagram they were asked to rate their usage in the categories "*0-10 min per day.", "10-30 minutes per day", "31-59 minutes per day", "1-2 hours", "more than 2 hours up to 3 hours per day", "more than 3 hours up to 4 hours per day"* and *"more than 4 hours per day".* Measuring like this has the lowest error of self-assessed possibilities (Ernala, Burke, Leavitt & Ellison, 2020). Moreover, people were asked to rate how much of the content they see is approximately user generated (from 0-100). For that, the term user generated was explained beforehand with *"This study focuses specifically on content that is user generated. That is, it is not content uploaded by professional companies for advertising purposes or by news agencies. User generated content, however, includes all content that is posted as unpaid, unprofessional and voluntary content".*

PsyCap: The Compound-Psychological-Capital questionnaire (CPC-12) was used as a standardised questionnaire to measure psychological capital (Lorenz, Beer, Pütz, & Heinitz, 2016). The CPC-12 shows high external validity and was developed as a standardised measurement instrument for PsyCap which is applicable for a lot of different areas of interest (Lorenz, Beer, Pütz, & Heinitz, 2016). In total, the CPC-12 consists of 12 items which were combined to a mean score. Therefore, the higher the mean score in total, the higher the level of PsyCap.

An example item of the subscale hope is: *"If I should find myself in a jam, I could think of*

many ways to get out of it". An example of the subscale self-efficacy is *"I can solve most problems if I invest the necessary effort"*. Moreover, *"It's okay if there are people who don't like me"* is an example-item of measuring resilience. Lastly, one item of optimism is *"I am looking forward to the life ahead of me".* Participants were asked to rate those statements on a six-point Likert scale from 1 = *"strongly disagree"* to 6 = *"strongly agree".* The Cronbach's alpha of the CPC-12 in this study was .80 which can be indicated as good.

Well-being: To measure the dimension of emotional, social, and psychological well-being, the Mental Health Continuum Short (MHC-SF) was used. The MHC-SF shows good internal reliability as well as good convergent and discriminant validity scores (Lamers, Westerhof, Bohlmeijer, ten Klooster & Keyes, 2011). The higher the mean score in total, the higher the level of well-being.

The MHC-SF contains 14 items in total. All items should be answered to the statement *"During the past month, how often did you feel…"*. Response options or categories to each statement are *"never", "Once or twice", "About once a week", "2 or 3 times a week", "Almost every day", "Every day"*. To illustrate this, an example for emotional well-being is to complete the statement with the term being *"happy"*. An example of social well-being is *"that the way our society works made sense to you"* and lastly an example of psychological well-being is *"that your life has a sense of direction or meaning to it"*. The Cronbach's alpha in this study for the MHC-SF scale is .89 which is good.

Procedure

After opening the link to the survey, participants were informed about the purpose and length of the study, as well as the confidentiality of their answers and their possibility to pose questions. Participants had to actively declare their consent and guarantee that they were at least 18 years old, had knowledge of the English language, and were active Instagram users (Appendix A).

In the following, participants were questioned about the duration of their Instagram use and had to rate the extent to which the content they see on Instagram is user generated. After that the questionnaire CPC-12 was used to assess the concept of PsyCap, followed from the MHC-SF to measure well-being. At the end, the participants were thanked and once again given the study contact to get in touch with the person responsible for the study if questions arise. Subsequently, the online survey was finished.

Data analysis

The data was analysed with the statistic programme SPSS Statistics by IBM (Version 26). First, the data set was prepared in SPSS for further analysis. For this, all incomplete responses were removed.

As exposure is ordinally scaled and the times were not uniform, the minimum time for each individual category was selected instead of working only with numbers from 1-6. For this, exposure

was categorised into 0, 10, 30, 60, 120 and 240 minutes. Since user generated content is used as the independent variable in this analysis, the individual factors exposure and determination of user generated content had to be combined. This can be done on SPSS directly. To get one variable namely “Exposure to user generated content”, the variable of exposure in minutes was multiplied by the share of user generated content. Furthermore, a confirmatory factor analysis was conducted to measure whether the individual items of PsyCap and well-being have a common underlying factor. Information concerning the factor analysis can be found in Appendix B. Moreover, a one-way ANOVA was applied to test if gender is different concerning the different concepts of exposure, wellbeing and PsyCap.

Next, the hypotheses were tested. To answer the first research question „To what extent is young adult’s well-being influenced by exposure to user generated content and time spent on Instagram”, a multiple regression analysis was conducted on SPSS. It was tested whether the independent variable increased exposure to user generated content decreases the level of well-being. To incorporate also the second research question and the corresponding hypothesises, a moderation analyses in form of multiple regression was applied. To test the second hypothesis, it was tested whether the level of psychological capital influences the level of well-being positively.

To perform the moderation analysis, the tool PROCESS SPPS Macro version 3.5.3 by Andrew Hayes was used (Hayes, 2018). Moreover, to perform the moderation analysis the data set was standardised to compare the values. Model number 1 had to be selected, as this is responsible for the moderation. Furthermore, "prope interaction always" had to be selected under options so that the conditional effects of focal predictor at values could be obtained later. With the standard deviation -1, 0 and 1, one can see whether a low, medium or high level of PsyCap has different effects on well-being. To check whether there are differences between exposure in combination with user generated content and exposure as an independent variable alone, a linear regression was carried out with SPSS.

Results

Demographics:

The mean of time spend on Instagram is 51 minutes (SD = 35.7). The mean for the concept well-being is 3.9 (SD = 0.8) and the mean for PsyCap is 4.5 with a standard deviation of 0.5.

Moreover, participants were also asked how much of the content they see on Instagram is user generated. It is shown that 77.26% of the participants estimated that at least 50% or more of the content on Instagram is user generated. The most common estimate with 24 participants is that 80% of the content is user generated (Appendix C3).

A one-way ANOVA was conducted to check if there are any significant differences concerning gender in relation to the three constructs PsyCap, well-being, and exposure. The results of the one-way ANOVA indicated that there are no significant differences between gender and the concepts of PsyCap and well-being (Table 1). However, gender has an impact on the exposure of Instagram use (F(1,122)=15.33. Sig = .00, η^2 = 17457.168). Women have a significant higher use (58.9 minutes, SD = 21.8) in comparison to men (33.2 minutes, SD = 37.8)

Table 1.

Mean score, standard deviation and one-way ANOVA of respondents concerning Gender

Gender	Mean	SD
PsyCap		
Male	4.56	.48
Female	4.46	.54
Well-being		
Male	3.93	.79
Female	3.95	.83
Exposure		
Male	33.15 min	21.82 min
Female	58.94 min	37.82 min

Hypothesis testing:

To test the first hypothesis "the higher the level of exposure to user generated content on Instagram the lower the level of well-being", a regression analysis was conducted. The effect turned out to be significant (β = -.230, t = (1, -2.569), p = .011 with an R-Square of .053) (Appendix C4). For the second hypothesis "The higher the level of PsyCap the higher the level of well-being", the effect turned out to be significant as well (β = .518, t = (1, 6.655), p = .000 with an R-Square of .269)

(Appendix C5).

A moderation analysis was run on SPSS with the tool PROCESS to test the third hypothesis "the level of PsyCap influences how well-being is related to user generated content on Instagram". The effect of the moderation analyses was not significant (β = .00, t = (1,.02), p = .98 with an R-Square of .29) (Appendix C6). When the score value in PsyCap is low, there is a non-significant relation between X and Y (β = -.14, t = (1,.-1.62), p = .11, CI (-.31, .03)). At the mean score of PsyCap, there is a non-significant relation between X and Y (β = -.14, t = (1,.-1.57), p = .12, CI (-.31, .04)). Additionally, when the score value of PsyCap is high, there is no significant relation between X and Y (β = -.14, t = (1,.-.98), p = .33, CI (-.42, .14)).

Lastly a post-hoc analysis should indicate whether exposure alone leads to a decrease in well-being. The results turn out be significant 05 (β = -.207, t = (1, -2.293), p = .024).

Discussion

The key objective of this bachelor thesis was to investigate the relation between exposure to user generated content on Instagram and well-being. In addition, PsyCap was included as an assumed buffer for dealing with threats on Instagram, thus acting as a potential moderator variable. The findings of the study indicate that there is a negative effect of exposure to user generated content on well-being. Moreover, PsyCap is positively associated with the level of well-being. However, PsyCap does not act as a moderator or expected buffer variable and it was also not possible to prove differences for a low, medium, or high level of PsyCap.

The first hypothesis "The higher the level of exposure to user generated content on Instagram the lower the level of wellbeing" was accepted. The findings indicate that increased exposure to user generated content leads to a decrease of well-being which is in line with existing literature (Kuss & Griffiths, 2011; Vogel, Rose, Roberts & Eckles, 2014). However, there is contradictory literature on whether time or content has an important influence on well-being (Coyne, Rogers, Zurcher, Stockdale & Booth, 2020). The result of the post hoc analysis shows that increased screen time as a single factor also leads to a lower level of well-being. However, the negative effect turns out to be stronger when the factor of user generated content is included. This suggests that the basic assumption which was made that user generated in the sense of social comparison theory has rather negative effects is confirmed. This finding is of particular relevance as it becomes clear that more variables need to be acknowledged when explaining well-being or mental health problems in terms of social media. According to Coyne, Rogers, Zurcher, Stockdale & Booth (2020), much of the literature is overly focused on screen time alone, without considering other factors that might influence well-being. They demonstrated that the content as well as the context in which people are living is from importance when explaining mental health and social media.

The second hypothesis “The higher the level of Psychological capital the higher the level of well-being” was accepted. The findings are again in line with existing literature in which it was stated that a high PsyCap can be associated with a high level of well-being (Lorenz, Beer, Pütz & Heinitz, 2016, Luthans, Youssef & Avolio, 2007). A person who has a higher PsyCap also has a higher level of well-being.

Lastly, the third hypothesis “The level of Psychological capital influences the effect exposure to user generated content has on well-being” needs to be rejected. There are different possible explanations for the reason why PsyCap did not moderate the effect of exposure/user generated content on well-being.

In this context, it should also be noted that one of the few other studies on the topic of PsyCap in connection with social media did not find any effect as well. This study conducted by Navasartian Hevani (2020) also attempted to indicate a buffering effect of PsyCap. The relation between the independent variable exposure and interest in crime news and the dependent variable fear of crime was examined. The higher the interest and thus the exposure of crime news was, the higher the fear for crime news tended to be. Again, this is especially true when people view the news on social media platforms. A moderating effect of PsyCap was expected but here, too, no significant moderation could be proven (Navasartian Hevani, 2020).

How is it possible that PsyCap can act as a buffer in many areas, such as with regards to students stress, but not in relation to social media (Riolli, Savicki & Richards, 2012)? One reason for this could be that social media is complex and cannot be easily reduced to only exposure and user generated content. For example, this study did not capture the intention why people use Instagram. Entertainment, communication or to make one's own opinion public are all different reasons to use social media and the level of PsyCap differs here as well (Simsek & Sali, 2014). A study by Simsek & Sali (2014), for example, shows that people who use the internet for blogging have a significantly higher level of PsyCap compared to people who are using social media only for entertainment reason. It can be concluded that PsyCap is not easy to grasp in the context of social media and that more variables need to be found to explain the correlations conclusively.

Furthermore, female and male participants differ significantly in terms of Instagram use, which is in line with existing literature. Young women tend to have the highest usage on social media and also have a higher tendency of comparing themselves upwardly (Sherlock & Wagstaff, 2019). Another study showed that women who quitted Instagram for a week showed higher life satisfaction and positive affect. In comparison, no effects were found for men (Fioravanti, Prostamo & Casale, 2020).

Furthermore, women tend to deal with college stress by using social media. That means that social media becomes a coping mechanism in itself (Lewis, Salzberg & Steinberg, 2015). It could be

assumed that this is counterproductive as it was stated that social media influences the well-being negatively. However, research indicates that it depends whether an emotion or problem-focused coping strategy was applied. According to Demirtepe-Saygili (2020), “While problematic use of social media can be part of dysfunctional coping and a worse well-being, healthy use can help individuals deal with stresses and lead to a better well-being” (p. 1). The search for problem-oriented mechanisms that are also helpful in the long term needs to be identified by research and is acknowledged in the section "Future Research”. As there a differences between male and female participants in this sample, it might be important to conduct further analyses with female or male participants separately. If especially women are negatively influenced by social media, PsyCap can only function here as a potential buffer variable.

Strengths and limitations of the study

One benefit of this study was the combination of the variable exposure and user generated content. Thus, unlike in many other studies, screen time was not used as the only indicator that affects well-being. However, it needs to be addressed that this study was not able to capture all the facets of social media which are influencing well-being. As reported before, other studies also encountered difficulties to explain the concept of PsyCap with social media threats.

Another strength was that Instagram was chosen for the study, as no other social media platform has grown as much as Instagram in the recent years. Focusing on Instagram and the influence on well-being is especially in times of the ongoing Coronavirus an actual topic to deal with as the exposure is extraordinarily high. Results of the study can be used for further analysis and contribute to a better understanding of people's behaviour in relation to Instagram.

A limitation of the study which needs to be addressed is that users indicated by themselves how much content on Instagram is approximately user generated. This is a self-estimation and is not based on accurate measuring. In order to find out how much of the content is user generated other measurement tools need to be chosen which are explained in the paragraph of “Future Research”. Measuring exposure by dividing it into 0, 10, 30, 60, 120 and 240 minutes is also inaccurate. Here, too, it is a self-assessment in which it is not possible to record the user's exact screen time.

Finally, it should also be noted that the survey was conducted during times of the ongoing Coronavirus, which leads to higher social media usage due to the lockdown (Kaya, 2020). Therefore, the results of the study should be treated with caution, as they may not reflect the exposure of using social media that can be expected after the lockdown.

Future Research

As PsyCap was successfully identified as a construct which is related to well-being and also works in a lot of other areas as a buffer against threats, it is still important to investigate the relation with regards to social media. It became clear that more and more people are using social media and especially young adults seem to be influenced negatively due to screen-time and user generated content (Statista, 2017; Statista, 2021). However, this study was not able to show a buffering effect of PsyCap with regards to Instagram. Therefore, it is recommended for future research to incorporate more variables. It could help to include variables like intention to use Instagram and to measure more specifically the content which is consumed (Simsek & Sali, 2014). Even the context or the living situation of someone could contribute to how social media influences the well-being (Meier, Gilbert, Börner & Possier, 2020). Literature states that women are more influenced by Instagram threats compared to men. Women tend to use social media as a coping mechanism of stress from university which emphasises the importance to search for factors which contribute to a healthy use (Lewis, Salzberg & Steinberg, 2015). It is recommended that the role of PsyCap needs to be re-analysed taking into account gender differences. Moreover, it is stated in literature that problem-focused coping contributes to a healthier use of social media in general (Demirtepe-Saygili, 2020). Analysing the role of problem-focused strategy more in depth is therefore also recommended. Lastly, to prevent biased and inaccurate responses concerning the content it is suggested to measure the content people consume on a daily basis.

Implications

This study shows that the well-being of young people can be influenced by social media. It becomes clear that science lacks in identifying functional coping mechanisms that have proven to be helpful in the face of these social media symptoms like sleep disturbances, depression or feelings of being a failure. Therefore, it was suggested to further explore the concept of PsyCap as a possible coping mechanism. Micro-interventions on PsyCap have been effective and have shown that it is possible to increase PsyCap, at least in short term (Luthans, Avey, Avolio, Norman, & Combs, 2006). Interventions could be targeted especially on young people to increase resilience towards those threats. However, this study raises the attention that more research in general needs to be conducted concerning this topic. Especially the clinical sector can profit from new scientific insights of possible buffering effects and concepts. A scientific article shows that paediatricians are having an important role in informing parents about the risks and benefits of social media (O'Keeffe & Clarke-Pearson, 2011). Here, concrete steps are described for paediatricians on how they can best explain this information to parents. Paediatricians are thus mediators between scientific findings and society (O'Keeffe & Clarke-Pearson, 2011). They can benefit from new findings from research, and it would

also be helpful for them to learn more about concepts which could help in dealing with risks of social media. Additionally, one can say that also other mediators like teachers can benefit from new insights of research. Media-education is an increasingly important part of school and combines scientific knowledge with practice (Tulodziecki, 2008). What media-education can already take from this study is the finding that exposure to user generated content decreases the well-being. It can be explained that upward comparison of social media is often not healthy as Instagram portrays an unrealistic worldview. Becoming more conscientious of this is a first step in understanding relations of social media and well-being.

Conclusion

In sum, this study was not able to identify PsyCap as a buffer between social media exposure and user generated content on well-being. Results however show that more exposure to Instagram is related with a decrease of well-being. The factor of user generated content is also important to recognize as the effect becomes even stronger when user generated content is taken into account. These findings are providing useful information for future research as they demonstrate the importance of multiple factors which influence well-being. Though the moderation effect cannot be proven it is still important for research to investigate the relation between possible buffer or problem focused coping mechanisms to provide especially young people with interventions in how to deal with social media threats. As said before, there is not extensive literature about dealing effectively with threats on social media yet.

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Appendices

Appendix A: Informed consent

You are invited to participate in a research study that is being conducted as part of a Bachelor's thesis focusing on Positive Psychology by Janis Hesselink. The study is about the use of Instagram and its impact on well-being and will take about 15 minutes.

Voluntary participation
Your participation in this study is entirely voluntary and you can withdraw at any time.

Risks and discomforts
There are no known risks associated with this research study.

Protection of confidentiality
Your answers will be treated confidentially and your data will be anonymised. No identifying information about you will be collected and the survey data will only be stored on a password-protected computer. The data will be not used for any other purpose than for this study.

Study contact for further information
If you have any additional questions or concerns about the survey, please contact me:
j.o.hesselink@student.utwente.nl

Appendix B: Factor analysis

A confirmatory factor analysis was conducted to measure whether the individual items of the Psychological Capital and well-being have a common underlying factor. The Kaiser-Meyer-Olkin (KMO) and Bartlett's sphericity test (BST) were used to see if the data were suitable for factor analysis. The KMO value can be between 0 and 1. The higher the KMO value, the more suitable is the data for factor analysis. The significance level of the Bartlett's test should be below 0.05.

Reliability and Validity:

To see if the two concepts of well-being and PsyCap correctly measure the individual items, a factor analysis was used. The dimensions used for the construct well-being were emotional, social and psychological well-being. For PsyCap, the subcategories were hope, self-efficacy, optimism, and resilience. A factor analysis was not conducted for the concept of exposure because it does not consist of further sub-dimensions. The Kaiser-Meyer Olkin (KMO) and Bartlett sphericity test were applied to check whether the constructs were suitable for factor analysis.

Factor-analysis well-being:

The KMO value was .87 and the Bartlett sphericity test was significant (($\chi 2$ (91) = 713,64 , $p <$ .00). Both tests show that the concepts are suitable for factor analysis. A screeplot was used to show

how many factors should be included (Figure 3). It was indicated that 3 factors are above an Eigenvalue of 1 with an explained variance of 58.62%.

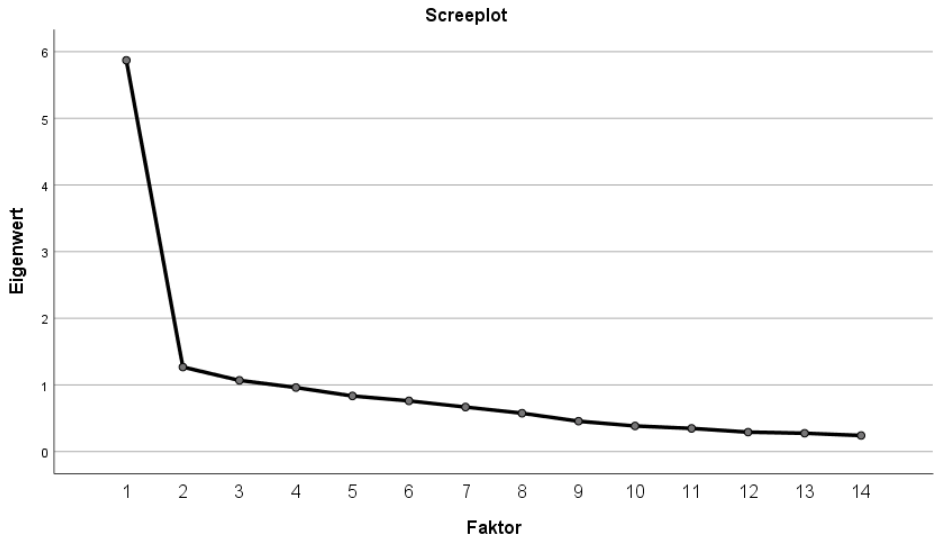

Figure 3. Screeplot showing the factors of well-being considering the eigenvalues

Factor-analysis PsyCap:

The KMO value was .796 and the Bartlett sphericity test was significant ($\chi 2$ (66) = 405.58, p < .00). Both tests show that the concepts are suitable for factor analysis. A screeplot was used to show how many factors should be included (Figure 4). It was indicated that 3 factors are above an Eigenvalue of 1 with an explained variance of 55.50%.

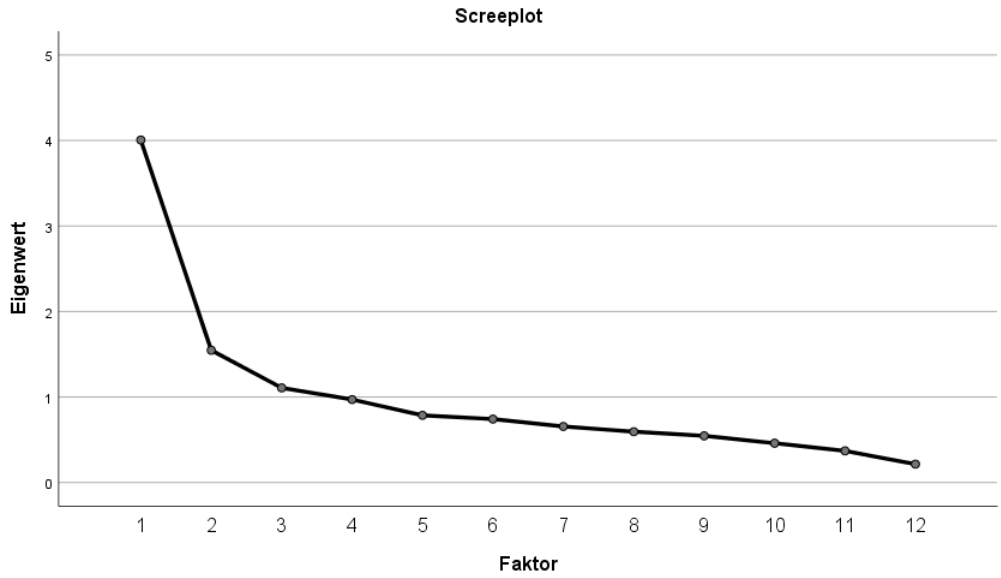

Figure 4. Screeplot showing the factors of PsyCap considering their eigenvalues

Appendix C: Result section

Table C1

Rotated Correlation Matrix with Factor Loadings for Well-being

	1	2	3
Emotional well-being	**.709**	.253	.155
Emotional well-being	**.785**	.318	.082
Emotional well-being	**.812**	.172	.230
Social well-being	**.594**	.243	.198
Social well-being	.054	**.614**	**.190**
Social well-being	.207	.160	**.827**
Social well-being	**.462**	-.027	**.670**
Social well-being	.057	.360	**.730**
Psychological well-being	**.653**	.297	.216
Psychological well-being	.195	**.672**	.220
Psychological well-being	.278	**.575**	.238
Psychological well-being	.315	**.628**	.005
Psychological well-being	.399	**.629**	.012
Psychological well-being	**.497**	**.580**	.080

Note. Factor loadings higher than .40 in boldface

Table C2

Rotated Correlation Matrix with Factor Loadings for PsyCap

	1	2	3
Hope	.171	**.471**	.297
Hope	**.533**	.042	.088
Hope	**.563**	.398	-.167
Optimism	**.803**	.059	-.008
Optimism	**.865**	.137	.112
Optimism	**.679**	.230	.141
Resilience	-.031	.092	**.846**
Resilience	.178	**.689**	.220
Resilience	-.121	**.746**	-.320
Self-efficacy	**.145**	**.704**	.243
Self-efficacy	**.287**	.377	**.460**
Self-efficacy	**.382**	.663	.119

Note. Factor loadings higher than .40 in boldface

Table C3

Approximately how much of the content you see on Instagram is user generated content? (0-100)

	Probability	Percent
0	2	1.6
3	1	.8
5	1	.8
10	2	1.6
15	1	.8
30	6	4.9
35	1	.8
40	8	6.5
45	2	1.6
50	23	18.7
52	1	.8
60	11	8.9
65	2	1.6
70	13	10.6
75	1	.8
78	1	.8
80	24	19.5
85	8	6.5
88	1	.8
90	10	8.1

92	1	.8
95	1	.8
99	1	.8
100	1	.8

Table C4

Regression effect from exposure/user generated content on well-being

	Estimate	Std. error	t-value	P
Intercept	-.017	.089	-1.95	.85
Zscore exposure/user generated content	-.23	.089	-2.569	.011

Table C5

regression effect from PsyCap on well-being

	Estimate	Std. error	t-value	P
Intercept	.01	.89	.00	1.00
Zscore psycap	.52	.07	6.65	.00

Table C6

Interaction effect of PsyCap (all standardized)

	Estimate	Std. error	t-value	P
Intercept	-.02	.07	-.22	.82
Exposure/user generated content	-.13	.08	-1.58	.11
PsyCap	.49	.07	6.28	.00
Exposure*PsyCap	.00	.08	.02	.98

Table C7

Conditional effects of the focal predictor at values of the moderator

PsyCap	Effect	Std. error	t-value	P
-.99	-.14	.08	-1.62	.11
.00	-.14	.09	-1.58	.12
.99	-.14	.14	-.98	.33