**Project Title :**

**The effects of stress, sleep, social media, and need of belonging in connection to Body appreciation**

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“This report is submitted in partial fulfillment of the requirements of the

University of Westminster for the award of BSc (Hons) Psychology”

‘This project is entirely my own work’

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***The effects of Stress, Sleep, Social Media and Need of Belonging in connection to Body Appreciation***

**Abstract**

Body appreciation is linked with body image, and self-esteem and represents a serious threat to teenagers or young adults. Statistically, over 91% of women feel unhappy about their bodies and tend to choose unhealthy methods of coping.

Participants of this study have been only women because of their predisposition to low levels of body image.

These unhealthy methods of coping lead to different psychological or psychical issues, like obesity or depression, and in some cases to suicidal thoughts or substance abuse.

The paper examines how social media, stress, quality of sleep, and need for belonging can predict body appreciation. The study aims to find valid predictors which cause low levels of body appreciation, so further research could be able to find improved solutions to it. Social media usage affects body perspective throughout social comparison theory. Depending on how stress is perceived, social media usage could accentuate it and can play an important role in the body’s perspective.

The need of belonging will be examined assuming high levels could represent a strong need to be active in society physically or virtually, these high levels will influence how social exclusion is perceived. Sleep will be examined considering the physical influences on the body and the neurological influences on the brain which affect body appreciation.

There were 60 female participants, all undergraduates from the University of Westminster. Participants took part in an online survey with 5 scales measuring the independent variables and the dependent ones.

1. **Introduction**

In daily people’s lives there are many environmental factors that influence their idea of their body (Ata, Ludden & Lally, 2006).

Body appreciation has serious consequences on people’s health, affecting not only their perceived idea of their psychical body but also leading to mental issues. Statistically, 33% of men experienced anxiety because of the way they looked, and 90% of women are unhappy with their bodies and how they look ("Difference Between Male and Female Body Image Statistics", 2022). Body dissatisfaction is more prone in females than males, but it is more dangerous during adolescence, when self-consciousness, self-awareness, and preoccupation with body image are increased (Harter 1993). The dissatisfaction of the body represents a serious threat to eating disorders, causing at the same time depression, or suicidal thoughts (Stice & Whitenton, 2002). Body appreciation is in correlation with prosocial values of how the body should look like. Social media plays an important factor in setting high level, unreal standards which are hard to acquire by adolescents. They represent a drive for thinness, big muscular masses but most importantly objectification of the body. Social media usage on how it affects body image will be analyzed based on the social comparison model, and the objectification theory.

**1.1 Social Media**

Social media does not only affect people that use, but also creates prosocial values of what body image should be.

Teenagers have a strong tendency in giving tips or valuing friends’ physical characteristics (Jones & Crawford, 2006). Nowadays social media usage is statically arising with over 80% percent of the entire population having at least one social media account, and over 52% checking daily social notifications. The usage of social media is even higher among teenagers between 13-1and 7, with a percentage of 91% having at least one account and 52% using daily social platforms to interact ("Global social media statistics research summary 2022", 2022).

Social media influencers tend to promote a healthy lifestyle, strong gym usage, healthy diets, body thinness, and big muscular mass, which do not always reflect reality. Posting only a picture to show actual body status or lifestyle status, creates an illusion because the pathway of getting there is not always easy and requires motivation and resilience.

Social media influences not only the person that uses it but also creates a model in society of what the body should look like.

Usage of virtual social networks can lead to serious negative consequences when not used correctly. This could affect mood, influence body image, lead to depression, dysfunctional diets, obesity, or in some cases even strong cosmetic procedures (van (den Brink, Smeets, Hessen, Talens & Woertman, 2013).

To hide effects and to be able to socially integrate on virtual networks people post only the best pictures of themselves, and in some cases, they even occur to editing these pictures to become in trend ((Manago, Graham, Greenfield & Salimkhan, 2008)). The context of editing pictures of them in circumstances where it doesn’t reflect their real self could be interpreted in many ways. Identity development is a process of exploring different possible selves, in this case, social media could play an important role (Waterman, 1999). Identity is constructed throughout social interactions people have with the environment or with society. Feedback of pictures or comments regarding edited pictures constructs a false idea of the self. Perceived identity is constructed through what people think others would think of them (Fricke & Frederick, 2022).

In the interaction of virtual networks, presenting a false body or false values leads to the creation of a false self, where the perception of the real self can be lost. Here is where the maladapted behaviour is being formed.

The social media upward model consists of people selecting their models based on upper models or on lower models seen on social networks ((Kim & Chock, 2015). Users select this model on the assumption of their body or their presented values on social media. When not being able to reach their model targets, a strong meaning of not being in the standardized perceived form of a prosocial body image appears. This threatens their perceived idea of their body (Kim & Chock, 2015), and here conditions and negative consequences start to appear.

All these factors from not being able to reach targets of social models, or not being able to be at the same physical standards characteristics with persons in trend, predicts negative unhealthy behaviours such as exercise dependence (White & Halliwell, 2010)

), unhealthy dietary forms or even cosmetically procedures (de Vries, Peter, Nikken & de Graaf, 2014)

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Research showed that higher social media usage predicted body dissatisfaction in females, but body dissatisfaction was not a predictor of social media usage (de Vries, Peter, de Graaf & Nikken, 2015)

This could mean that people with low body image are not in the search of social media, but social media influence their body image. The theory of the social comparison model, along with the theory of the development throughout social interactions could lead to an infinite cycle where the person is continuously unsatisfied in not reaching his goal.

Last situation with covid lockdown, lead to higher use of social media which was found to be correlated with lower self-esteem and body dissatisfaction (Vall-Roqué, Andrés & Saldaña, 2020)

A similar possible scenario of lockdown could rehearse again, and results in low self-esteem and body dissatisfaction which are expected to be strengthened with the usage of social media.

**1.2 Perceived Stress**

Puberty, school, high school, the pressure of looking in a certain way, and friends comparison is just a small list of all the environmental stressing factors that teenagers face. Stress certainly plays an important role in the mental health development of teenagers (de Vries, Peter, de Graaf & Nikken, 2015)

The transition from childhood to teenager and from teenager to young adult come with different hormonal levels and could be positively associated with the body and to behaviour development (de Vries, Peter, de Graaf & Nikken, 2015). Puberty and teenager phases consist of hormonal increases and are linked to emotional, cognitive, behavioural, and affective development (de Vries, Peter, de Graaf & Nikken, 2015). Body appreciation includes a range of physical, emotional, and cognitive evaluations of the body. Body appreciation does not represent just the size or the appearance but also the emotional understanding of it (Dion et al., 2014).

Stress results from the inability to face or unable to cope with mental or emotional events. The adolescent phase comes with a multitude of new and different tasks and responsibilities from academic to emotional that represent higher stress intake (Hampel, Meier & Kümmel, 2007)

These stressors affect the emotional and behavioural life (Hampel, Meier & Kümmel, 2007) more then the academic one, and this represents an increased risk factor for adolescents. Western females tend to follow a body image model values as a thin waist, graceful, and tend to report stressors from friends, life partners, and even parents (Murray, Byrne & Rieger, 2011). Females are the ones more prone to it (Hampel, Meier & Kümmel, 2007)

because of their coping styles with stress. They tend to cope with environmental stressors in unhealthy ways as internalizing problems (Hampel, Meier & Kümmel, 2007)

Research in female adolescents showed that eating disorders and body dissatisfaction are associated with accumulated internalized stress of puberty and dating (Murray, Byrne & Rieger, 2011)

Therefore, it could be possible to assume that what causes stress consequences on the body are not the stressing factors, but the internalization form of coping with it. Internalization coping method leads to maladaptive behaviours which in this case can trigger eating disorders pathology, which is positively correlated to body satisfaction. Considering that life partner, and friends represent a stress intake for females not being able to reach their wanted body image it is possible to assume that the root of the problem is the social-body-image females try to achieve, which is influenced by social media (thin waist, graceful, objectification). Social media accentuates levels of internalization, clinical eating disorders, and body dissatisfaction (Grabe, Ward & Hyde, 2008), by establishing a social body image model to be persuaded by society.

**1.3 Sleep**

An important aspect of teenagers’ mental development is sleep, this helps them in having a clear understanding of their emotions, thoughts, feelings, and how they work from a conscious perspective. Statistics show that over 70% of teenagers have problems sleeping ("How Sleep Works: Understanding the Science of Sleep | Sleep Foundation", 2022)

Several studies confirm the correlation between the quality of sleep and poor mental health (Tzischinsky & Shochat, 2011). Poor sleep is also correlated with various disorders, such as eating disorders obesity, depression, or even suicidal thoughts (Murray, Byrne & Rieger, 2011). Understanding how sleep influences and causes mental issues in teenagers could help them understand why sleep is important for their cognitive and emotional development.

Lack of sleep, has consequences on the physical appearance of a person, especially on the skin and the cutaneous body, but also on the brain’s neurological balance.

Tiredness and lack of sleep cause different face-characteristics changes such as wrinkles, and lines around the eyes, accelerate the process of aging (Hinkley, Holub & Menter, 2020), and show negative effects on hair.

Cutaneous body image refers to how a person perceives their nails, skin, and hair (Hinkley, Holub & Menter, 2020) And studies have found out that the cutaneous body of a person affects the perception of the body and influences body appreciation (Akram, 2017). People with low-quality sleep showed higher dissatisfaction with the cutaneous body appearance than people with more healthy sleep (Akram, 2017). Considering the importance of cutaneous images in social media, it is possible to assume that sleep could affect reaching cutaneous images.

In the case of poor sleep, the neurotransmitter 5HT is lowered, causing a dysfunctional perceived idea of the body image (Monti, 2011, (Yokokura et al., 2019).

**1.4 Need for belonging**

Considering the usage of social media networks, social networks can provoke different feelings of social exclusion.

Teenagers are highly sensitive to social exclusions, especially in the development phases. In the following, it will be explained how social exclusion affects people, what are the causes that make the consequences of the exclusions higher, and how it is related to the need for belonging and to social media. Need for belonging refers to the human emotional need to be socially accepted by the groups which want to be part, as work colleagues, or in emotional relationships ("Need to Belong - IResearchNet", 2022). The need to belong theory sustains that humans have a fundamental need to be accepted by groups, therefore means that humans should establish and maintain a different relationship throughout life.

When talking about social media, multiple cues reflect social acceptance, and these cues help users fulfill their need for belonging. Acceptance cues on social media can be a number of likes, popularity/trending, comments, emojis, or being tagged in pictures (Hayes, van Stolk-Cooke & Muench, 2015). Tagging represents mentioning someone’s name in a picture or a comment, and all users can see the link created.

In real life, acceptance cues of a group can’t be understood easily, a person doesn’t know if has been liked by the other in-group persons, or if they enjoyed the discussion, or jokes, while on social media being tagged by a person could represent signs of acceptance in the relationship. Being tagged solves the uncertainty of social acceptance in a group and can have positive outcomes. Being tagged could make the person understand that is a valuable social interaction partner and at the same time could solve the uncertainty of being accepted or not by the group. This could improve self-esteem and fulfill the need for belongings (Büttner & Rudert, 2022)

. At the same time being tagged makes even other social network users see and this could be understood that the person is an interesting social friend (Büttner & Rudert, 2022)

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On opposite being not tagged on social media has opposed consequences and can influence self-esteem negatively and affect social acceptance and belongingness need (Büttner & Rudert, 2022)

. Analogous being untagged could represent social rejection. On social media, there exist the possibility to untag your profile (for various reasons: as not wanting the picture to be on the profile, or the picture is not attractive enough), from the perspective of the tagger this can break the social bond created leading to feelings of rejection (Büttner & Rudert, 2022)

). The need to belong describes the need to be socially accepted in a relationship or group by the others. Levels of belongingness refer to the importance attributed to being socially accepted, higher levels would mean the person gives higher importance while low levels the opposite. People with a higher need for belonging would attribute high importance to all possible social interactions, this including social media. There are multiple causes of why a person is not tagged or is even untagged from a picture or a commentary. The difference between a person with a high or low need for belonging is the difference in which the event of being socially excluded is being perceived. Persons with high levels of need to belong have a certain sensitivity to experiences correlated to social exclusion (Büttner & Rudert, 2022), and they have different reactions to experiences regarding social exclusions (Büttner & Rudert, 2022).

Considering that a person with higher levels of need for belonging gives more importance to being socially accepted, social exclusion by being untagged could be perceived more importantly and could present a serious self-esteem threat than a person with low levels of need for belonging.

To face being rejected by a group a person can socially conform to the values of the group. Conformation represents a process in which people because of the pressure from groups, will change their behaviour and look to be more admired and confirmed by others ((Bailey, Gammage, van Ingen & Ditor, 2016)).

Social rejection and social acceptance play an important role In shaping body appreciation, and in concordance with high levels of belonging a rejection affects negatively body appreciation. Studies found that conformity is more visible in persons with a high need for belonging ((Bailey, Gammage, van Ingen & Ditor, 2016)).

**1.5 Aims of the study**

Theories study is trying to validate:

\*Social media influences body appreciation throughout social comparison theory, in which high standards of body image are targeted. Methods of reaching them as unhealthy and extreme diets affect negatively body appreciation.

\*Internalisation method of coping with stress leads to clinical eating disorders which affect body appreciation.

\*Sleep and Stress individually lower 5HT levels which affect the idea of body perceived image.

\*Lack of sleep has negative effects on body appreciation because of its psychical consequences.

\*Need of belonging levels relate to how social exclusion is perceived, which in cases of high levels represent a threat to self-esteem and body appreciation.

**2.Methods**

**2.1 Design**

The study is quantitative research based on a survey with 5 measuring scales. To find the equation of prediction and correlation of each predictor a multiple linear regression will be used with SPSS software. The linear regression used will be an enter method where all predictors will be analyzed at the same time. The Independent Variables are Stress, Quality of sleep, social media usage, and need to belong to a group while the predicted variable is body appreciation.

**2.2 Participants**

Participants in the study are all females. Female participants are more prone to internalization, social media comparison which are expected to be predictors of body appreciation. Female participants were selected through mail advertising, and they must be over 18 years old, and part of the Undergraduate course at University of Westminster. Participants being part of the student phase of life allows the key theories of the study to be in concordance with the ages in which the effects are more statistically popular.

The sample of this study is a convenience sample, and the sample size is 85 participants (number of predictors: 4, power: 0.8, a err prob: 0.05, effect size: 0.15).

**2.3 Materials**

For measuring the variables, the study used an online survey on Qualtrics. The survey contains a section on the participant approval, a section of which are conditions of participating (female & 18 years over) and 5 sections each measuring each variable.

**2.3.1 Stress Scale Measure**

Stress was measured with the Perceived Stress Scale (Sheldon Cohen, 1993). The scale has been shown valid in measuring levels of perceived stress. It contains 10 items with five responses ranging from strongly disagree (0) to strongly agree (4). The Cronbach alpha of the scale is .418.

**2.3.2 Sleep Scale Measure**

Sleep was measured with the Sleep Quality Scale (C.Shin, YI 2006). The scale measures the perceived quality of the sleep of the participant, along with evaluations of the outcomes of poor sleep. The scale contains 10 items with scores ranging from strongly disagree (0) to strongly agree (4). The Cronbach alpha of the scale is .695.

**2.3.3 Need for Belonging Scale Measure**

The need of belonging was measured with the Need to Belong Scale (Leary, M.R,2013). The scale measures are associated with measuring the desire for being socially accepted and belong to a group. The scale contains 10 items with scores ranging from strongly disagree (0) to strongly agree (4). The Cronbach alpha of the scale is .584.

**2.3.4 Social Media Usage Scale Measure**

Social media usage was measured with the Social Media Usage Scale (Jenkins-Guarnieri et al, 2013). The scale measures the importance and the need for social media in the daily lives of participants. The scale contains 10 items with scores ranging from strongly disagree (0) to strongly agree (4). The Cronbach alpha of the scale is .796.

**2.3.5 Body Appreciation Scale Measure**

Body appreciation was measured with the Body Appreciation Scale. The scale measures the perceived idea of the body and the feelings associated with it. The scale contains 13 items with scores ranging from never (0) to always (4). The Cronbach alpha of the scale is .796.

|  |  |  |
| --- | --- | --- |
| Scale | Items | α |
| Perceived Stress Scale | 10 | .418 |
| Quality of Sleep | 11 | .695 |
| Need of Belonging | 10 | .584 |
| Social Media Usage | 10 | .796 |
| Body Appreciation Scale | 13 | .931 |

**2.4 Procedure**

Ethics approval was obtained from the University of Westminster.

Participants have been recruited through advertised emails to University of Westminster students. Participants could forward the e-mail message to other students at the University of Westminster. The e-mail contained a link to a Qualtrics survey.

Participants after entering the link will have the following path. Possible participants in the mail will be informed about their anonymity and data published will not be identifiable to them.

Participants firstly will be asked to sign the tick boxes, where they will confirm their consent followed by their gender and age. As already mentioned in the e-mail, the gender box will exist on the survey website and only females will proceed. To continue all boxes of the participation consent must be ticked. In the case of not ticking every box of the consent form, participants will not be able to continue.

Data will be fully anonymous, and after analysed the data will be stored password protected. Data will be protected by an encrypted password file on personal computer. The survey has a duration approximate of 8-12 minutes. and represents no harm to the participant. The participant has the right to close and to leave at any moment the website and their results will be immediately deleted. The participants have the right to withdraw from the study at any moment.

**3.Results**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | B | SE | β | t | p | Tolerance | VIF |
| (constant) | 4.454 | 17.12 |  | .260 | .796 |  |  |
| Social Media | .393 | .222 | .256 | 1.769 | .082 | .619 | 1.615 |
| Quality of sleep | .084 | .217 | .046 | .387 | .700 | .914 | 1.094 |
| Need of Belonging | -.632 | .297 | -.289 | -2.125 | .038 | .698 | 1.432 |
| Perceived Stress | 1.386 | .332 | .523 | 4.178 | .001 | .826 | 1.211 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 |
| (1) Body Appreciation |  | -.084 | -.077 | -.234 | .467 |
| (2) Social Media Usage |  |  | .203 | .548 | -.364 |
| (3) Quality of Sleep |  |  |  | .116 | -.270 |
| (4) Need of Belong |  |  |  |  | -.172 |
| (5) Perceived Stress |  |  |  |  |  |
| Mean | 42.6 | 31.13 | 31.16 | 33.68 | 32.15 |
| SD | 11.17 | 7.27 | 6.12 | 5.11 | 4.21 |

To examine the variables a multiple linear regression using the enter method was used. In the regression we entered as predictors, perceived stress, social media usage, quality of sleep, need of belonging. The predicted variable is body appreciation. Results showed that the regression was significant (F (4,55) – 5.541, p < .001). The model explains 28.7% of variance in one variable explained by the other (R^2 = .287). The R^2 value is moderate.

The table of coefficients show that only Perceived Stress is a significant predictor having sig p<.001.

Table Regression Coefficients

**4. Discussion**

Although we considered social media to be a strong predictor of body appreciation, results showed to have a weak negative correlation with body appreciation, and moderate strength levels of prediction. In examining the effects of social media on body appreciation, the study sustained its hypothesis based on the social comparison theory (Fardouly & Vartanian, 2016). What the paper proposed to be more threatening to body appreciation, is the standards of body image that social network creates. Overall, several research sustains the effects of social media usage, and how it is associated with body image (Fardouly & Vartanian, 2016), (Vall-Roqué, Andrés & Saldaña, 2020), (Tiggemann & Miller, 2010). Statics prove that social networks are arising among teenagers and adults, and the effects of exposure could strengthen over time. What is not clear in the results of the study, is what exactly social media influences body image. For example, comparison to other attractive users could affect in a certain and different way than seeing specific content on social media.

Our results showed that the only significant predictor in the equation of prediction is perceived stress. The scale measures intake levels of stress. This study’s results validates as being a strong predictor of negative body appreciation. The significant predictor shows it. High levels of stress are negatively correlated with all the other measures, meaning that as stress levels are higher in social media, quality of sleep, and need for belonging decrease.

The paper-based its assumptions of stress on the internalization behaviour of females in coping with it. On the other hand, externalization relates to the strategies adopted to achieve certain muscular targets. This is typical of males in adolescence (Cafri, Yamamiya, Brannick & Thompson, 2005). We could consider a limitation of this study in measuring stress, not measuring also coping strategies for it and what are the stressors factors. Research showed that in western countries females tend to be more under pressure from peers regarding body factors (Tiggemann & Miller, 2010). But academic stress also has been found to be a significantly strong predictor of body image problems affecting body image in a different way than pressure from peers (Tiggemann & Miller, 2010). For better validity of measuring outcomes of stress, further research will have to consider strongly measuring causes of the ongoing stress, and differences from gender in stress related to body image. Socio-economic status was not taken in calculus in the assumption of stress and findings found that financial situation represents a threat to mental health, especially throughout adolescence (Hyseni Duraku, Kelmendi & Jemini-Gashi, 2018).

As well, what could help understand how social media along with stress influence body image, would be to understand in what proportion social ideas of body standards are related to social media popular models.

Overall, stress results are in concordance with papers supporting being a predictor of body image and being correlation with sleep (Murray, Byrne & Rieger, 2011).

Need of belonging coefficients supports recent research on being correlated to body image, and usage of social media (Büttner & Rudert, 2022). The study tried to find out negative outcomes of the need of belonging in consideration of the exclusion effects of social media and conformation (Büttner & Rudert, 2022). While it is not possible to assume in this paper the levels of correlation with conformation, belonging results prove correlation with social media. The paper considered the need of belonging to be a threat to body appreciation, because of the importance given to social exclusion. In this case, social exclusion refers to being socially excluded from social networks. Correlations approve and supports the study (Büttner & Rudert, 2022) that users with a high level of belonging need to belong in any group including virtual ones.

What paper assumed to be threatening to body image, is the response to social exclusion being perceived as a body image threat in cases of high levels of belongingness. The results support research (Mu, Schoenleber, Leon & Berenbaum, 2019) that high levels of need for belonging can be threatening throughout social exclusion.

Results show that sleep is not a significant predictor of body appreciation. Symptoms of poor sleep have been attributed to ill health, and this is observable by one cutaneous appearance feature (Lemola, Räikkönen, Gomez & Allemand, 2012). The paper considered poor sleep to affect body appreciation throughout the cutaneous image and lowered levels of 5HT (Yokokura et al., 2019).  
Even if sleep-deprived induvial are rated less attractive, a limitation of this study could be the age of the participants which could invalidate this theory. In terms of current findings, sleep is not a significant predictor and does not have a strong correlation with other predictors. Research (Lemola, Räikkönen, Gomez & Allemand, 2012) demonstrated that the relationship between cutaneous body image dissatisfaction is partially mediated by age. This could be because signs of skin aging and cutaneous consequences appear in older adults due to more sensitiveness to poor sleep. Cutaneous consequences have been showing that affect body image after a certain threshold as heavy sore and itchy eyes, feeling of fatigue, or heaviness of the body.

One possible reason which could support our results of sleep not being a predictor for body appreciation is that short sleep duration and poor-quality sleep lead to dysregulation of the hypothalamic-pituitary-adrenocortical axis involving changes in cortisol secretion which in turn is known to be positively related to positive body characteristics ((((Lemola, Räikkönen, Gomez & Allemand, 2012). As well, individual differences may facilitate lower levels of quality of sleep to be influencing positively on physical and mental well-being.

Further research would have to consider age in examining levels of sleep, and measure levels of cutaneous body image regarding sleep.

In conclusion, the paper provides evidence and support to predictors which can cause or are correlated with body image. The paper aims to help further research, in finding and helping problems related to body appreciation. As discussed, negative levels of body appreciation represent a possible threat to the cognitive and emotional development of people. Usage of social media is statically arising among teenagers, and the outcomes of it are continuing to strengthen body image dissatisfaction.

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