

The Influence of Passive Social Networking Site Use on Self-Esteem: The Mediating Role of Upward Comparison and FoMO

Silke M. van de Klundert (6815243)

Faculty of Social and Behavioral Sciences, Utrecht University

Master Thesis Youth Studies

First assessor: Marlies Maes

Second assessor: Margot Peeters

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“This thesis has been written as a study assignment under the supervision of a Utrecht University teacher. Ethical permission has been granted for this thesis project by the ethics board of the Faculty of Social and Behavioral Sciences, Utrecht University, and the thesis has been assessed by two university teachers. However, the thesis has not undergone a thorough peer-review process so conclusions and findings should be read as such”.

Abstract

Previous research indicates that passive use of social networking sites (SNSs) negatively affects self-esteem. However, no clear explanation for this relation has yet been found. Therefore, the current study investigated the relation between passive SNS use and self-esteem among Dutch adolescents, and whether upward comparison and Fear of Missing Out (FoMO) could explain this relation. Longitudinal data from the Digital Youth Project collected in 2017/2018 were used. The data were collected using annual online surveys. The sample included 1372 adolescents between the ages of 11 and 17 ($M = 13.61$, $SD = 1.18$). Against expectations, passive SNS use was not associated with later self-esteem in adolescents. Upward comparison and FoMO could therefore not explain this relation. However, the results showed that a higher degree of upward comparison and a higher degree of FoMO are both associated with lower self-esteem in adolescents. These findings implicate that the passive type of SNS use might not determine negative SNS effects on adolescents' self-esteem. Instead, future research should focus on examining individual characteristics that determine negative or positive effects of SNS use on self-esteem and general well-being of adolescents.

Keywords: adolescents, passive SNS use, upward comparison, FoMO, self-esteem

Abstract

Voorgaande literatuur liet zien dat passief gebruik van sociale netwerksites (SNSs) een negatief effect heeft op zelfwaardering. Echter is er nog geen duidelijke verklaring gevonden voor dit verband. Daarom onderzocht de huidige studie het verband tussen passief SNS gebruik en zelfwaardering onder Nederlandse adolescenten, en of opwaartse vergelijking en Fear of Missing Out (FoMO) dit verband konden verklaren. Longitudinale data van het Digital Youth Project, verzameld in 2017/2018, werden gebruikt. De data waren verzameld middels jaarlijkse digitale vragenlijsten. De steekproef bevatte 1372 adolescenten in de leeftijd 11 tot 17 jaar ($M = 13.61$, $SD = 1.18$). Tegen verwachting in had passief SNS gebruik geen verband met de latere zelfwaardering van adolescenten. Opwaartse vergelijking en FoMO konden dit verband hierdoor niet verklaren. Desondanks lieten de resultaten zien dat een hogere mate van opwaartse vergelijking en een hogere mate van FoMO beide gerelateerd zijn aan een lagere zelfwaardering. Deze bevindingen impliceren dat het passief gebruiken van SNSs wellicht niet de negatieve SNS effecten op de zelfwaardering van adolescenten kan verklaren. Toekomstig onderzoek zou moeten richten op het bestuderen van individuele

kenmerken die bepalen of adolescenten positieve of negatieve SNS effecten ondervinden op hun zelfwaardering en globaal welzijn.

Kernwoorden: adolescenten, passief SNS gebruik, opwaartse vergelijking, FoMO, zelfwaardering

The use of SNSs has become a key part of life nowadays, especially for adolescents (Krause et al., 2019). Numerous studies have been conducted on the influence of SNS use on different aspects of mental well-being, including self-esteem. The concept of self-esteem is particularly of interest when investigating adolescents, as developing a clear and stable sense of self-esteem is an important developmental task during the adolescent phase (Van Dijk et al., 2020). A meta-analytic review including 84 studies on the relation between SNS use and self-esteem showed inconsistent results (Saiphoo et al., 2020). Some studies showed positive effects of SNS use on self-esteem, whereas other studies showed negative effects. Recent research proposes that it is particularly passive SNS use, which entails browsing other people's content and profiles without any interaction (Hanley et al., 2019), that is related to lower self-esteem (Zheng et al., 2020). However, no clear explanation for this relation has yet been found. The aim of this study is to investigate two potential explanatory mechanisms for the relation between passive SNS use and self-esteem; upward comparison and the Fear of Missing Out.

The Concept of Self-Esteem

The concept of self-esteem is defined as an individual's subjective evaluations about their worth as a person (Orth & Robins, 2014). More specifically, self-esteem has to do with the degree of (dis)approval a person has towards themselves (Swann et al., 2007). Individuals with low self-esteem often perceive themselves as not being 'good enough' and being worthless. Having low self-esteem can be considered problematic because it is an important predictor of lower mental well-being and because it has been shown to negatively affect life satisfaction (Chen et al., 2016).

Upward Comparison as a Potential Mediator

A mechanism that could explain the relation between passive SNS use and self-esteem is social comparison. Social comparison theory by Festinger (1954) entails that individuals have a need to gain a clear self-evaluation. To satisfy this need, they compare themselves and their characteristics to others. Social comparison can take place on various domains, such as intelligence, appearance and social status (Couture Bue, 2020). Festinger proposes two types of social comparison. The first type is downward comparison, which occurs when one compares themselves to others who they view as inferior to them. This type usually results in a more positive self-evaluation (Festinger, 1954), and generally relates to positive mental well-being outcomes (Verduyn et al., 2020). The second type is upward comparison, which occurs when a person compares themselves to others who they view as superior to them.

Individuals who engage in upward comparison typically end up with a more negative self-evaluation (Festinger, 1954). As described earlier, self-esteem has to do with the way a person evaluates themselves. In this manner, a more negative self-evaluation corresponds with having lower self-esteem (Orth & Robins, 2014). A review including 49 studies with a sample of mainly adolescents showed that, in most cases, upward comparison was related to lower self-esteem (Krause et al., 2019).

SNSs provide a breeding ground for social comparisons to occur, as numerous comparison targets are available (Verduyn et al., 2020). Particularly passive SNS use has been linked to (upward) social comparison (Müller et al., 2020). This could be the case because, while passively using SNSs, online content is being consumed, rather than created. Therefore, passive SNS users are likely to have higher exposure to the content of other users (Ding et al., 2017). This higher exposure increases the likelihood of encountering comparison targets and engaging in social comparison. Especially upward comparison is prone to take place, as SNS users mostly share the positive aspects and highlights of their lives rather than the more negative experiences (Verduyn et al., 2020).

The Fear of Missing Out as a Potential Mediator

Another explanatory factor in the relation between passive SNS use and self-esteem could be the Fear of Missing Out (FoMO). FoMO can be defined as “a pervasive apprehension that others might be having rewarding experiences from which one is absent” (Przybylski et al., 2013, p. 1841). FoMO has been shown to negatively affect mood and life satisfaction (Tanhan et al., 2022). A longitudinal study by Buglass et al. (2017), found that greater general SNS use was associated with subsequent increased levels of FoMO. Fewer studies have yet examined the relation between the passive type of SNS use and FoMO. A longitudinal study by Ma (2020) was conducted on this relation and showed that greater passive SNS use was associated with increased levels of FoMO later on.

A possible explanation for the influence of passive SNS use on FoMO can be found in the non-social nature of passive SNS use. Passive SNS use does not include any interaction with peers or other users (Verduyn et al., 2017). In addition, users are constantly confronted with exciting experiences shared by others online (Buglass et al., 2017). The combination of these two factors might evoke feelings of social exclusion. When individuals feel socially excluded, they will likely become preoccupied with the fun experiences others are having, which increases their Fear of Missing Out (Alabri, 2022).

Connecting this to our outcome variable, it has been found that experiencing increased

levels of FoMO is related to lower self-esteem (Burnell et al., 2019). This can be explained, because an individual who experiences FoMO, may view their own life as lonelier and less eventful than that of others (Luca et al., 2020). The individual may feel as if their life does not look like they wished it would. This creates a feeling of failure and worthlessness which can result in lower self-esteem (Luca et al., 2020).

The Current Research

The aim of this study is to investigate the influence of passive SNS use on adolescents' later self-esteem, and whether FoMO and upward comparison can explain this relation. The conceptual model presented in Figure 1 portrays the relations that will be investigated along with the expected directions. Based on theoretical and empirical evidence, the following research questions and hypotheses have emerged:

Rq1: *What is the influence of passive SNS use on later self-esteem?*

Rq2: *Does upward comparison explain the relation between passive SNS use and later self-esteem?*

Rq3: *Does FoMO explain the relation between passive SNS use and later self-esteem?*

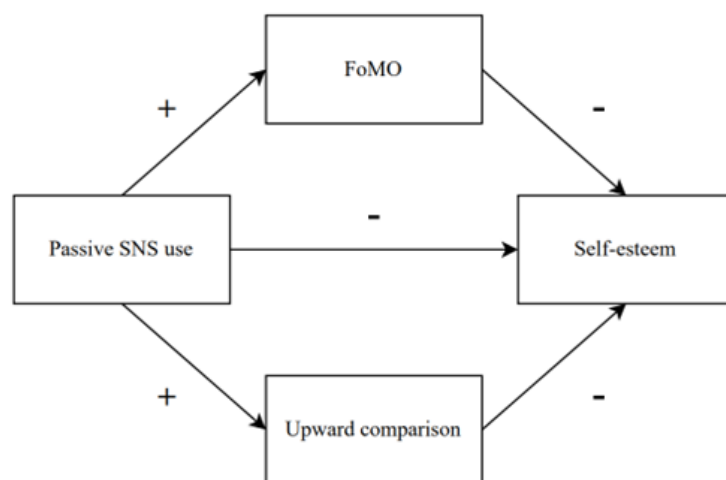
H1: *Passive SNS use will be negatively associated with later self-esteem.*

H2: *Upward comparison will mediate the relation between passive SNS use and later self-esteem; passive SNS use will relate to a higher degree of upward comparison which will relate to lower self-esteem.*

H3: *FoMO will mediate the relation between passive SNS use and later self-esteem; passive SNS use will relate to higher levels of FoMO which will relate to lower self-esteem.*

Figure 1

Conceptual Model



Methods

Research Design and Procedure

The current study derived data from the longitudinal Digital Youth Project (DiYo; Van den Eijnden et al., 2018), in which Dutch adolescents annually fill out a digital survey about online behaviors and well-being. Participants were recruited from six high schools across the Netherlands. Prior to the data collection, participants' parents received a letter, which contained information on the research project and described the right to refuse participation or to withdraw at a later time. Participants self-completed an online survey during school hours. Research assistants were present to supervise the data collection and to assist when necessary. Participation was voluntary and anonymous. The research was approved by the Ethics Review Board of the Faculty of Social Sciences from Utrecht University (FETC16-076 Eijnden).

Sample

The current study used data from two measurement waves, conducted in February of 2017 and 2018 (T3 and T4 in the DiYo project). In this study, these two waves will be referred to as T1 and T2. The original sample consisted of 4716 participants. The final sample consisted of 1372 participants, who participated on both T1 and T2. The sample contained 693 boys (50.5%) and 679 girls (49.5%). The age of the participants was between 11 and 17 years at T1 ($M = 13.61$, $SD = 1.18$). The educational level of the participants varied, with 37.0% ($N = 507$) of participants from VMBO, 7.2% ($N = 99$) from VMBO-HAVO, 38.8% ($N = 533$) from HAVO-VWO, and 17.0% ($N = 233$) from VWO. The majority of participants (85.3%) had a Dutch background. The socioeconomic status of participants varied, with 8.4% of participants being of below average wealth, 60.5% being of average wealth, and 26.5% being of above average wealth. Attrition analyses were conducted to check whether there were differences between those participants who dropped out after T1 and those who still participated on T2. It turned out that there was a small but significant difference between the two groups on the variables: passive SNS use, FoMO, and upward comparison (Cohen's $d_s \leq 0.20$).

Measurements

The survey was provided in Dutch. All four concepts were measured at both T1 and T2. Passive SNS use was measured through the question: '*How many times a day do you look at social networking sites?*'. Answers could be given on a 7-point Likert scale ranging from 1

(never) to 7 (over 40).

Self-esteem was measured using five items from the Rosenberg Self-Esteem Scale (Rosenberg et al., 1989), such as: *'I take a positive attitude toward myself'*. All five items that were used can be found in Appendix E. Answer categories were provided on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The negatively phrased item 4 was reverse coded. Sinclair et al. (2010) found good internal consistency of this scale among American adolescents ($\alpha = .91$). The internal consistency in the current study was also good, with a Cronbach's alpha of .80 at T1 and .81 at T2. The self-esteem scale was constructed by computing a mean variable.

Degree of upward comparison was measured using five items such as: *'He or she does more fun activities than I do'*. Answers could be given on a 5-point Likert scale ranging from 1 (never) to 5 (very often). All five items of this self-developed scale by the DiYo project can be found in Appendix F. The internal consistency of the scale was good, with a Cronbach's alpha of .88 at both T1 and T2 in the current study. The upward comparison scale was constructed by computing a mean variable.

Fear of Missing Out (FoMO) was measured using five items from the Fear of Missing Out Scale by Przybylski et al. (2013), such as: *'I get worried when I find out my friends are having fun without me'*. All five items that were used can be found in Appendix G. Answer categories were provided on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Barry et al. (2017) found good internal consistency of this scale among American adolescents ($\alpha = .94$). The internal consistency in the current study was also good, with a Cronbach's alpha of .82 at T1 and .81 at T2. The FoMO scale was constructed by computing a mean variable.

Data Analysis

To analyze the data, *IBM SPSS Statistics 28* was used. The syntax can be found in Appendix D. Initially, 1422 participants were selected, who participated on both T1 and T2. The data were then checked for missing values. Firstly, 32 participants were excluded because they missed two or more full scales of FoMO, upward comparison and/or self-esteem at T1 and/or T2. Secondly, there were 191 participants who missed one full scale (five items) of upward comparison at T1 or T2. Because this variable would only be included in some of the analyses, it was decided that the 191 participants could remain in the sample. Lastly, there were 18 participants who missed one full scale (five items) of self-esteem at T1 or T2. Because this variable would be included in every single analysis, the choice was made to

exclude these 18 participants. This resulted in a final sample of 1372 participants.

Moreover, there were no unreliable or impossible values present in the data. After creating boxplots and checking Mahalanobis and Cook's distance, no significant outliers were found. A confirmatory factor analysis was conducted for the items of the self-developed upward comparison scale by the DiYo project. The last step before conducting the main analyses was checking assumptions. Linearity was checked with a scatterplot. Normality was checked with a histogram, Shapiro Wilk's test and skewness statistics. Homoscedasticity was checked with a residual plot and Levene's test. Multicollinearity was checked through correlations and VIF values. All assumptions were met.

To test the main relation between passive SNS use and self-esteem (H1), a multiple linear regression analysis with the enter method was used. Self-esteem on T2 was included as the dependent variable. In the first step, the control variables gender and self-esteem on T1 were added. In the second step, the independent variable passive SNS use on T1 was added.

To test the mediating effect of upward comparison in the relation between passive SNS use and self-esteem (H2), the four steps of a mediation analysis by Baron and Kenny (1986) were followed. In each step, self-esteem on T1 and upward comparison on T1 were added as control variables. The first step was conducting a linear regression analysis with independent variable passive SNS use on T1 and dependent variable self-esteem on T2. The second step was conducting a linear regression analysis with independent variable passive SNS use on T1 and mediator upward comparison on T2. The third step was conducting a linear regression analysis with mediator upward comparison on T2 and dependent variable self-esteem on T2, while controlling for independent variable passive SNS use on T1. The fourth step is to check if there is a case of complete or partial mediation (Baron & Kenny, 1986). To examine the mediating effect of FoMO on the relation between passive SNS use and self-esteem (H3), step two to four were repeated with FoMO as the mediator. In each step, self-esteem on T1 and FoMO on T1 were added as control variables.

Results

Preliminary Results

The confirmatory factor analysis for the upward comparison scale showed that one factor fitted the data best. This means that the items of this scale measure one construct and therefore the scale is unidimensional.

Descriptive statistics and correlations of all important variables are presented in Table 1. The main variables passive SNS use, upward comparison, FoMO and self-esteem were included at T1 and T2. Gender and age were added as control variables. Table 1 shows that, on average, participants passively used SNSs 6-10 times a day at T1 ($M = 4.09$, $SD = 1.71$). In addition, participants scored between neutral and high on self-esteem at T2 ($M = 3.78$, $SD = 0.74$). Furthermore, Table 1 shows that passive SNS use at T1 significantly and negatively correlated with self-esteem at T2. However, this correlation is weak ($r = -.06$). The control variable age did not significantly correlate with all other important variables, thus this variable was excluded from the next analyses. Gender did significantly correlate with all other variables and was therefore included in the next analyses as a control variable.

Table 1*Descriptive Statistics and Correlation Matrix for the Main Variables*

| Variables | <i>M</i> | <i>SD</i> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-------------------------|----------|-----------|--------|-------|--------|--------|--------|--------|--------|--------|-------|
| 1. Gender | 1.49 | 0.50 | 1 | | | | | | | | |
| 2. Age T2 | 14.70 | 1.20 | -.07** | 1 | | | | | | | |
| 3. Passive SNS use T1 | 4.09 | 1.71 | .07* | .13** | 1 | | | | | | |
| 4. Passive SNS use T2 | 4.26 | 1.68 | .06* | .13** | .54** | 1 | | | | | |
| 5. Upward comparison T1 | 1.96 | 0.87 | .20** | .05 | .13** | .10** | 1 | | | | |
| 6. Upward comparison T2 | 1.86 | 0.87 | .23** | .09** | .07* | .12** | .50** | 1 | | | |
| 7. FoMO T1 | 1.78 | 0.72 | .11** | .10** | .10** | .11** | .55** | .37** | 1 | | |
| 8. FoMO T2 | 1.83 | 0.76 | .14** | .10** | .07** | .10** | .39** | .57** | .49** | 1 | |
| 9. Self-esteem T1 | 3.79 | 0.73 | -.12** | -.07* | -.10** | -.08** | -.36** | -.23** | -.32** | -.17** | 1 |
| 10. Self-esteem T2 | 3.78 | 0.74 | -.10** | -.04 | -.06* | -.05 | -.29** | -.34** | -.22** | -.29** | .51** |

Note. Spearman's rho was used for all correlations which included the non-continuous variable gender. For all other correlations Pearson's *r* was used.

The scale for passive SNS use ranged from 1 - 7. All other scales ranged from 1 - 5, apart from gender (1 = males, 2 = females) and age (12 - 18).

* $p < .05$. ** $p < .01$

Passive SNS Use and Self-Esteem

In Table 2, the results of the regression analysis testing the main relation between passive SNS use and self-esteem are presented. Table 2 shows that passive SNS use at T1 was not a significant predictor of self-esteem at T2 ($\beta = -0.00, p = .88$), when controlling for gender and self-esteem at T1. According to Baron and Kenny (1986), a significant relation between the independent and the dependent variable is a condition that must be met when conducting a mediation analysis. However, as this is a master thesis and therefore a learning process, the mediation analysis will still be carried out as planned. Lastly, as shown in Table 2, control variable gender was not significant in the regression analysis ($\beta = -0.03, p = .22$). Because of this, gender was no longer included as a control variable in the following analyses.

Table 2

Hierarchical Regression Analysis with Passive SNS Use at T1 Predicting Self-Esteem at T2

| Model | | <i>B</i> | <i>SE (B)</i> | <i>t</i> | <i>p</i> | <i>R</i> ² |
|-------|--------------------|----------|---------------|----------|----------|-----------------------|
| 1 | Intercept | 1.91 | 0.11 | 17.37 | <.001 | .26 |
| | Gender | -0.04 | 0.04 | -1.24 | .22 | |
| | Self-esteem T1 | 0.51 | 0.02 | 21.45 | <.001 | |
| 2 | Intercept | 1.92 | 0.12 | 16.02 | <.001 | .26 |
| | Gender | -0.04 | 0.04 | -1.23 | .22 | |
| | Self-esteem T1 | 0.51 | 0.02 | 21.33 | <.001 | |
| | Passive SNS use T1 | -0.00 | 0.01 | -0.15 | .88 | |

The Mediating Role of Upward comparison

In Table 3, the results of the mediation analysis with upward comparison as the mediator are presented in three steps according to the Baron and Kenny method (1986). In each step, self-esteem and upward comparison were added at T1 as control variables. Step 1 showed that passive SNS use at T1 did not significantly predict self-esteem at T2 ($\beta = 0.02, p = .50$). Step 2 showed that passive SNS use at T1 did not significantly predict upward comparison at T2 ($\beta = -0.00, p = .87$). In Step 3, Model 1 showed that upward comparison at T1 significantly predicted self-esteem at T2 ($\beta = -0.12, p = <.001$). Based on only Model 1, there seems to be a longitudinal relation between upward comparison and self-esteem. However, when upward comparison at T2 was added in Model 2 ($\beta = -0.24, p = <.001$), upward comparison at T1 became no longer significant. Based on this, it can be concluded that in this study, there is a cross-sectional relation between upward comparison and self-

esteem. It is a relatively small negative effect which indicates that a higher degree of upward comparison is related to lower self-esteem.

Table 3

Mediation Analysis

| <i>Step 1: Linear regression passive SNS use T1 on self-esteem T2</i> | | | | | | |
|--|----------------------|----------|---------------|----------|----------|-----------------------|
| Model | | <i>B</i> | <i>SE (B)</i> | <i>t</i> | <i>p</i> | <i>R</i> ² |
| 1 | Intercept | 2.19 | 0.12 | 17.83 | <.001 | .27 |
| | Self-esteem T1 | 0.47 | 0.03 | 17.94 | <.001 | |
| | Upward comparison T1 | -0.10 | 0.02 | -4.70 | <.001 | |
| 2 | Intercept | 2.16 | 0.13 | 16.47 | <.001 | .27 |
| | Self-esteem T1 | 0.47 | 0.03 | 17.95 | <.001 | |
| | Upward comparison T1 | -0.10 | 0.02 | -4.75 | <.001 | |
| | Passive SNS use T1 | 0.01 | 0.01 | 0.68 | .50 | |
| <i>Step 2: Linear regression passive SNS use T1 on upward comparison T2</i> | | | | | | |
| Model | | <i>B</i> | <i>SE (B)</i> | <i>t</i> | <i>p</i> | <i>R</i> ² |
| 1 | Intercept | 1.21 | 0.15 | 8.05 | <.001 | .25 |
| | Self-esteem T1 | -0.07 | 0.03 | -2.22 | .03 | |
| | Upward comparison T1 | 0.47 | 0.03 | 17.83 | <.001 | |
| 2 | Intercept | 1.22 | 0.16 | 7.57 | <.001 | .25 |
| | Self-esteem T1 | -0.07 | 0.03 | -2.22 | .03 | |
| | Upward comparison T1 | 0.47 | 0.03 | 17.74 | <.001 | |
| | Passive SNS use T1 | -0.00 | 0.01 | -0.16 | .87 | |
| <i>Step 3: Linear regression upward comparison T2 and passive SNS use T1 on self-esteem T2</i> | | | | | | |
| Model | | <i>B</i> | <i>SE (B)</i> | <i>t</i> | <i>p</i> | <i>R</i> ² |
| 1 | Intercept | 2.20 | 0.12 | 17.71 | <.001 | .27 |
| | Self-esteem T1 | 0.47 | 0.03 | 17.64 | <.001 | |
| | Upward comparison T1 | -0.10 | 0.02 | -4.44 | <.001 | |
| 2 | Intercept | 2.41 | 0.13 | 18.26 | <.001 | .31 |
| | Self-esteem T1 | 0.46 | 0.03 | 17.58 | <.001 | |
| | Upward comparison T1 | -0.01 | 0.02 | -0.19 | .85 | |
| | Upward comparison T2 | -0.20 | 0.02 | -8.63 | <.001 | |
| | Passive SNS use T1 | 0.01 | 0.01 | 0.55 | .58 | |

The Mediating Role of FoMO

In Table 4, the results of the mediation analysis with FoMO as the mediator are presented in three steps according to the Baron and Kenny method (1986). In each step, self-esteem and FoMO were added at T1 as control variables. Step 1 showed that passive SNS use at T1 did not significantly predict self-esteem at T2 ($\beta = -0.00, p = .98$). Step 2 showed that

passive SNS use at T1 did not significantly predict FoMO at T2 ($\beta = 0.03, p = .28$). In step 3, Model 1 showed that FoMO at T1 significantly predicted self-esteem at T2 ($\beta = -0.07, p = <.001$). Based on only this model, the relation between FoMO and self-esteem appears to be longitudinal. However, when FoMO at T2 was added in Model 2 ($\beta = -0.23, p = <.001$), FoMO at T1 became no longer significant. This result indicates that in this study, there is a cross-sectional relation between FoMO and self-esteem. It is a relatively small negative effect which indicates that a higher degree of FoMO is related to lower self-esteem.

Table 4

Mediation Analysis

| <i>Step 1: Linear regression passive SNS use T1 on self-esteem T2</i> | | | | | | |
|---|--------------------|----------|---------------|----------|----------|-----------------------|
| Model | | <i>B</i> | <i>SE (B)</i> | <i>t</i> | <i>p</i> | <i>R</i> ² |
| 1 | Intercept | 2.05 | 0.12 | 17.40 | <.001 | .26 |
| | Self-esteem T1 | 0.49 | 0.03 | 19.72 | <.001 | |
| | FoMO T1 | -0.07 | 0.03 | -2.88 | <.001 | |
| 2 | Intercept | 2.05 | 0.13 | 16.23 | <.001 | .26 |
| | Self-esteem T1 | 0.49 | 0.03 | 19.66 | <.001 | |
| | FoMO T1 | 0.07 | 0.03 | -2.87 | <.01 | |
| | Passive SNS use T1 | 0.00 | 0.01 | -0.03 | .98 | |
| <i>Step 2: Linear regression passive SNS use T1 on FoMO T2</i> | | | | | | |
| Model | | <i>B</i> | <i>SE (B)</i> | <i>t</i> | <i>p</i> | <i>R</i> ² |
| 1 | Intercept | 0.99 | 0.12 | 8.17 | <.001 | .24 |
| | Self-esteem T1 | -0.02 | 0.03 | -0.61 | .54 | |
| | FoMO T1 | 0.51 | 0.03 | 19.55 | <.001 | |
| 2 | Intercept | 0.94 | 0.13 | 7.23 | <.001 | .24 |
| | Self-esteem T1 | -0.01 | 0.03 | -0.53 | .59 | |
| | FoMO T1 | 0.51 | 0.03 | 19.43 | <.001 | |
| | Passive SNS use T1 | 0.01 | 0.01 | 1.07 | .28 | |
| <i>Step 3: Linear regression FoMO T2 and passive SNS use T1 on self-esteem T2</i> | | | | | | |
| Model | | <i>B</i> | <i>SE (B)</i> | <i>t</i> | <i>p</i> | <i>R</i> ² |
| 1 | Intercept | 2.05 | 0.12 | 17.34 | <.001 | .26 |
| | Self-esteem T1 | 0.49 | 0.03 | 19.72 | <.001 | |
| | FoMO T1 | -0.07 | 0.03 | -2.88 | <.01 | |
| 2 | Intercept | 2.26 | 0.13 | 18.04 | <.001 | .30 |
| | Self-esteem T1 | 0.49 | 0.02 | 20.07 | <.001 | |
| | FoMO T1 | 0.04 | 0.03 | 1.46 | .14 | |
| | FoMO T2 | -0.22 | 0.03 | -8.76 | <.001 | |
| | Passive SNS use T1 | 0.00 | 0.01 | 0.22 | .82 | |

Discussion

The aim of the current study was to investigate the relation between passive SNS use and self-esteem and to examine whether upward comparison and FoMO could explain this relation. This study found no evidence for the influence of passive SNS use on adolescents' later self-esteem. In addition, no evidence was found for the influence of passive SNS use on adolescents' later levels of FoMO and adolescents' later degree of upward comparison. The current study's results did show that adolescents who engaged in a higher degree of upward comparison, experienced lower self-esteem. Lastly, it was found that adolescents who experienced higher levels of FoMO, had lower self-esteem.

Passive SNS Use and Self-Esteem

This study found no evidence for the influence of passive SNS use on adolescents' later self-esteem. This finding is not in line with a sizeable portion of previous research, as several cross-sectional and longitudinal studies have found that passive SNS use is associated with lower self-esteem and other negative well-being outcomes (e.g., Burnell et al., 2019; Frison & Eggermont, 2015). However, the idea that passive SNS use is 'bad' and harms well-being is progressively being questioned and criticized. For example, a review including 40 studies showed that, in most cases, passive SNS use was not related to well-being (Valkenburg et al., 2021). Moreover, recent studies have shown that passive SNS use can actually positively affect well-being (Meier & Krause, 2022). A study by Beyens et al. (2020) revealed that the effects of passive SNS use on well-being vary strongly across adolescents. It is important to understand in which circumstances, passive SNS use positively or negatively affects adolescents' well-being.

According to De Vries et al. (2018), the effects of passive SNS use on well-being depends on individual characteristics of the user. This is the case because individuals differently process SNS content and are therefore differently affected by passive SNS use (De Vries et al., 2018). De Vries et al. extend their theory by suggesting that there are two main ways of processing SNS content and responding to it; social comparison and emotional contagion (2018). Because of the fact that SNS users mainly share the most positive aspects of themselves and their lives, the theory is built around passively viewing positive SNS content. The theory entails that some individuals are more likely to respond with social comparison when viewing positive SNS content. Due to the positive nature of the content, these individuals will likely feel as if they are worse off than others and engage in upward comparison. This type of comparison usually results in negative outcomes for the individual

(Festinger, 1954), which can explain why some individuals are negatively affected by passive SNS use. On the other hand, some individuals are more likely to respond with emotional contagion when viewing positive SNS content. These individuals tend to adopt or mimic the positive emotions they see in the content, which can explain why some individuals are positively influenced by passive SNS use (De Vries et al., 2018).

The Role of Upward Comparison

Firstly, this study found no evidence for the influence of passive SNS use on adolescents' later degree of upward comparison. Some previous research did show that passive SNS use was related to a higher degree of upward comparison (e.g., Müller et al., 2020; Rozgonjuk et al., 2019). Other research indicates that the tendency to engage in (upward) social comparison is a predetermined individual characteristic (Yang, 2016). According to Yang (2016), this trait is also called 'social comparison orientation', and entails that some individuals naturally have a higher tendency to engage in social comparison, whereas others do not. In this case, an external factor such as passive SNS use, would not necessarily influence one's tendency to engage in (upward) social comparison. This could explain why passive SNS use did not influence adolescents' engagement in upward comparison in the current study. Another possible explanation for the current findings is that individuals with a higher tendency to engage in (upward) social comparison, engage in greater passive SNS use because it offers opportunities for social comparison (Vogel et al., 2015). In this manner, the current study may have found no influence of passive SNS use on upward comparison because the relation occurs in the opposite direction.

Secondly, this study's results showed that adolescents who engaged in a higher degree of upward comparison, experienced lower self-esteem. This finding is in line with Festinger's social comparison theory (1954), and most empirical evidence on this relation (e.g., Schmuck et al., 2019; Wang et al., 2017). Interestingly, the results also showed that adolescents who experienced higher self-esteem, engaged in a lower degree of upward comparison. This finding suggests a bidirectional relation between upward comparison and self-esteem. Previous research supports this notion as it was shown that individuals with higher self-esteem engage less in (upward) social comparison (Saadat et al., 2017). This can be explained, as the main goal of engaging in social comparison is to gain a clear self-evaluation (Festinger, 1954). However, individuals with higher self-esteem are generally more confident and already have a clear and stable sense of who they are (Campbell, 1990). In this regard,

individuals with higher self-esteem would not really need to evaluate themselves by engaging in (upward) social comparison.

The Role of FoMO

Firstly, no evidence was found for the influence of passive SNS use on adolescents' later levels of FoMO. A possible explanation for this finding is that the relation occurs in the opposite direction. One of few longitudinal studies did show that passive SNS use was related to subsequent increased levels of FoMO (Ma, 2020). However, a larger portion of (longitudinal) research supports the notion that experiencing increased levels of FoMO is related to greater passive SNS use (e.g., Elhai et al., 2021; Giagkou et al., 2018). From a theoretical perspective, individuals high in FoMO are characterized by having a strong sense that others are having rewarding experiences from which they are missing out on (Przybylski et al., 2013). It could be the case that individuals high in FoMO engage in passive SNS use more often to monitor other people's activities and to see which experiences they are potentially missing out on (Tanhan et al., 2022).

Secondly, this study's results showed that adolescents who experienced higher levels of FoMO, had lower self-esteem. Several previous studies have found that experiencing increased levels of FoMO is related to lower self-esteem and other negative well-being outcomes (e.g., Buglass et al., 2017; Giagkou et al., 2018). The existing literature does, however, lack an extensive explanation for this relation. Some researchers have suggested that FoMO is connected with general self-worth (Burnell et al., 2019). For example, individuals high in FoMO may experience lower self-esteem because they feel as if they are not worth as much as others who seemingly engage in more rewarding experiences. Nonetheless, more research is needed to explain the relation between FoMO and self-esteem.

Theoretical and Practical Implications

Although it is a common hypothesis in the literature that passive SNS use harms well-being, the current study does not support this notion. Recent literature suggests that, instead, individual characteristics may better explain SNS effects on different aspects of mental well-being. Future research needs to examine when, and for which adolescents, SNS use positively or negatively impacts well-being. This way, protective factors and risk factors for experiencing negative SNS effects can be identified, which can be helpful when designing interventions. For instance, those adolescents who are most at risk of being negatively affected by SNS use can be targeted more easily.

Moreover, this study's results showed that adolescents who engaged in a higher degree

of upward comparison, had lower self-esteem. Even though the current study did not find an influence of passive SNS use on adolescents' degree of upward comparison, SNSs can still be a means to engage in upward comparison. Especially individuals with a high tendency to engage in (upward) social comparison are likely to use SNSs for this purpose. A potential protective factor for engaging in online upward comparison is social media literacy (Gordon et al., 2020). Social media literacy can be explained as the capacity to critically evaluate SNS content and consume it correspondingly (Paxton et al., 2022). This involves acknowledging the fabricated nature of SNS content and recognizing when content is positively biased, greatly edited or selectively posted. When individuals critically analyze and understand SNS content, it is more likely that they will consider this content unsuitable for (upward) social comparison. In this manner, engagement in upward comparison will likely decrease, along with the negative well-being outcomes (Gordon et al., 2020). Interventions could very well use social media literacy to combat the problem of upward comparison.

In addition, it would be beneficial to implement training in social media literacy for adolescents in general. Especially for younger adolescents, as the potential risks of SNS use are likely to be greater in early adolescence (American Psychological Association, 2023). Apart from critically analyzing SNS content, social media literacy training could teach younger adolescents how to, for example, build healthy online relationships or how to recognize signs of problematic SNS use (American Psychological Association, 2023). In this manner, adolescents will be equipped, early on, with the necessary skills to engage in SNS use in a safe and positive way.

Strengths and Limitations

This study extends scientific knowledge on the relations between passive SNS use, self-esteem, upward comparison and FoMO. Longitudinal data were used, which made it possible to examine effects over time.

Limitations of the current study should be noted as well. Firstly, the measures in this study were based on self-reports. Thus, the possibility exists that participants' reported information is different from their actual experience. For example, participants sometimes over-report desirable behaviors and under-report undesirable behaviors. This is called social desirability bias (Krumpal, 2013). However, anonymity was ensured, which has been shown to decrease social desirability bias (Krumpal, 2013). Secondly, passive SNS use was measured through a single item. Some researchers claim that a single item may not be able to fully capture a construct (Grapentine, 2001). Nevertheless, Grapentine (2001), also stated that

this is mostly the case for complex theoretical constructs. The current study focused on the frequency of passive SNS use, which cannot really be identified as a complex theoretical construct. Therefore, a single item may have been able to effectively measure passive SNS use. Thirdly, to measure the concept of upward comparison, the DiYo Project used a self-developed scale. Although Cronbach's alpha of the upward comparison scale showed good internal consistency, not much can be said about the validity of the scale. Therefore, the results of the current study have to be carefully interpreted. Future research will be needed to examine the validity of the upward comparison scale. Lastly, attrition analyses showed that the participants who dropped out after T1 and those who remained in the study differed significantly on the variables: passive SNS use, FoMO and upward comparison. This could mean that there is a case of attrition bias, where there is selective drop-out of some participants who differ significantly from the participants who remain in the study. This can be problematic as it may lead to the loss of a specific group, which can create a biased sample or a lack of generalizability (Das et al., 2011). Nonetheless, the differences between the two groups were small, which may decrease the significance of the problem.

Conclusion

The current study found no evidence for the influence of passive SNS use on adolescents' later self-esteem. Instead, recent literature indicates that individual characteristics, such as social comparison orientation, might be able to better explain different SNS effects on adolescents' mental well-being. Lastly, social media literacy training for (younger) adolescents could decrease the risk of engaging in upward comparison and could help adolescents develop the necessary competencies to positively and safely use SNSs.

References

- Alabri, A. (2022). Fear of Missing Out (FOMO): The effects of the need to belong, perceived centrality, and fear of social exclusion. *Human Behavior and Emerging Technologies*, 2022, 1–12. <https://doi.org/10.1155/2022/4824256>
- American Psychological Association. (2023). *Health advisory on social media use in adolescence*. <https://www.apa.org/topics/social-media-internet/health-advisory-adolescent-social-media-use>
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Barry, C. T., Sidoti, C. L., Briggs, S. M., Reiter, S. R., & Lindsey, R. (2017). Adolescent social media use and mental health from adolescent and parent perspectives. *Journal of Adolescence*, 61(1), 1–11. <https://doi.org/10.1016/j.adolescence.2017.08.005>
- Beyens, I., Pouwels, J. L., Van Driel, I. I., Keijsers, L., & Valkenburg, P. M. (2020). The effect of social media on well-being differs from adolescent to adolescent. *Scientific Reports*, 10(1), Article 10763. <https://doi.org/10.1038/s41598-020-67727-7>
- Buglass, S. L., Binder, J. F., Betts, L. R., & Underwood, J. D. (2017). Motivators of online vulnerability: The impact of social network site use and FOMO. *Computers in Human Behavior*, 66, 248–255. <https://doi.org/10.1016/j.chb.2016.09.055>
- Burnell, K., George, M. J., Vollet, J. W., Ehrenreich, S. E., & Underwood, M. K. (2019). Passive social networking site use and well-being: The mediating roles of social comparison and the fear of missing out. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 13(3), Article 5. <https://doi.org/10.5817/cp2019-3-5>

- Campbell, J. A. (1990). Self-esteem and clarity of the self-concept. *Journal of Personality and Social Psychology*, *59*(3), 538–549. <https://doi.org/10.1037/0022-3514.59.3.538>
- Chen, W., Fan, C. Y., Liu, Q. X., Zhou, Z. K., & Xie, X. C. (2016). Passive social network site use and subjective well-being: A moderated mediation model. *Computers in Human Behavior*, *64*, 507–514. <https://doi.org/10.1016/j.chb.2016.04.038>
- Couture Bue, A. C. (2020). The looking glass selfie: Instagram use frequency predicts visual attention to high-anxiety body regions in young women. *Computers in Human Behavior*, *108*, Article 106329. <https://doi.org/10.1016/j.chb.2020.106329>
- Das, M., Toepoel, V., & Van Soest, A. (2011). Nonparametric Tests of Panel Conditioning and Attrition Bias in Panel Surveys. *Sociological Methods & Research*, *40*(1), 32–56. <https://doi.org/10.1177/0049124110390765>
- De Vries, D. A., Möller, A. M., Wieringa, M. S., Eigenraam, A. W., & Hamelink, K. (2018). Social Comparison as the Thief of Joy: Emotional Consequences of Viewing Strangers' Instagram Posts. *Media Psychology*, *21*(2), 222–245. <https://doi.org/10.1080/15213269.2016.1267647>
- Ding, Q., Zhang, Y. X., Wei, H., Huang, F., & Zhou, Z. K. (2017). Passive social network site use and subjective well-being among Chinese university students: A moderated mediation model of envy and gender. *Personality and Individual Differences*, *113*, 142–146. <https://doi.org/10.1016/j.paid.2017.03.027>
- Elhai, J. D., Yang, H., & Montag, C. (2021). Fear of missing out (FOMO): overview, theoretical underpinnings, and literature review on relations with severity of negative affectivity and problematic technology use. *Braz J Psychiatry*, *43*(2), 203–209. <https://doi.org/10.1590/1516-4446-2020-0870>
- Festinger, L. (1954). A Theory of Social Comparison Processes. *Human Relations*, *7*(2), 117–140. <https://doi.org/10.1177/001872675400700202>

- Frison, E., & Eggermont, S. (2015). Toward an integrated and differential approach to the relationships between loneliness, different types of Facebook use, and adolescents' depressed mood. *Communication Research*, 47(5), 701–728.
<https://doi.org/10.1177/0093650215617506>
- Giagkou, S., Hussain, Z., & Pontes, H. M. (2018). Exploring the Interplay Between Passive Following on Facebook, Fear of Missing out, Self-esteem, Social Comparison, Age, and Life Satisfaction in a Community-based Sample. *International journal of psychology & behavior analysis*, 4(2), Article 149. <https://doi.org/10.15344/2455-3867/2018/149>
- Gordon, C. S., Rodgers, R. F., Slater, A., McLean, S. A., Jarman, H. K., & Paxton, S. J. (2020). A cluster randomized controlled trial of the SoMe social media literacy body image and wellbeing program for adolescent boys and girls: Study protocol. *Body Image*, 33, 27–37. <https://doi.org/10.1016/j.bodyim.2020.02.003>
- Grapentine, T. (2001). A Practitioner's Comment on Aimee L. Drolet and Donald G. Morrison's "Do We Really Need Multiple-Item Measures in Service Research?" *Journal of Service Research*, 4(2), 155–158.
<https://doi.org/10.1177/109467050142007>
- Hanley, S., Watt, S., & Coventry, W. L. (2019). Taking a break: The effect of taking a vacation from Facebook and Instagram on subjective well-being. *PLoS One*, 14(6), Article e0217743. <https://doi.org/10.1371/journal.pone.0217743>
- Krause, H. V., Baum, K., Baumann, A., & Krasnova, H. (2019). Unifying the detrimental and beneficial effects of social network site use on self-esteem: a systematic literature review. *Media Psychology*, 24(1), 10–47.
<https://doi.org/10.1080/15213269.2019.1656646>

- Krumpal, I. (2013). Determinants of social desirability bias in sensitive surveys: a literature review. *Quality & Quantity*, 47(4), 2025–2047. <https://doi.org/10.1007/s11135-011-9640-9>
- Luca, L., Burlea, S. L., Chiroasca, A. C., Marin, I. M., Ciubara, A. B., & Ciubara, A. (2020). The FOMO syndrome and the perception of personal needs in contemporary society. *Brain Broad Research in Artificial Intelligence and Neuroscience*, 11(1Sup1), 38–46. <https://doi.org/10.18662/brain/11.1sup1/27>
- Ma, L. (2020) Cross-lagged analysis of passive social network site use and fear of missing out in college students. *Chinese Journal of School Health*, 41, 70-72. <https://doi.org/10.16835/j.cnki.1000-9817.2020.01.019>
- Meier, A., & Krause, H. (2022). Does Passive Social Media Use Harm Well-Being? *Journal of Media Psychology*, 35(3), 169-180. <https://doi.org/10.1027/1864-1105/a000358>
- Müller, S. M., Wegmann, E., Stolze, D., & Brand, M. (2020). Maximizing social outcomes? Social zapping and fear of missing out mediate the effects of maximization and procrastination on problematic social networks use. *Computers in Human Behavior*, 107, Article 106296. <https://doi.org/10.1016/j.chb.2020.106296>
- Orth, U., & Robins, R. W. (2014). The Development of Self-Esteem. *Current Directions in Psychological Science*, 23(5), 381–387. <https://doi.org/10.1177/0963721414547414>
- Paxton, S. J., McLean, S. A., & Rodgers, R. F. (2022). “My critical filter buffers your app filter”: Social media literacy as a protective factor for body image. *Body Image*, 40, 158–164. <https://doi.org/10.1016/j.bodyim.2021.12.009>
- Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior*, 29(4), 1841–1848. <https://doi.org/10.1016/j.chb.2013.02.014>

- Rosenberg, M., Schooler, C., & Schoenbach, C. (1989). Self-Esteem and Adolescent Problems: Modeling Reciprocal Effects. *American Sociological Review*, *54*(6), 1004. <https://doi.org/10.2307/2095720>
- Rozgonjuk, D., Ryan, T., Kuljus, J. K., Täht, K., & Scott, G. (2019). Social comparison orientation mediates the relationship between neuroticism and passive Facebook use. *Cyberpsychology*, *13*(1), Article 2. <https://doi.org/10.5817/cp2019-1-2>
- Saadat, S. H., Shahyad, S., Pakdaman, S., & Shokri, O. (2017). Prediction of Social Comparison Based on Perfectionism, Self-Concept Clarity, and Self-Esteem. *Iranian Red Crescent Medical Journal*, *19*(4), Article e43648. <https://doi.org/10.5812/ircmj.43648>
- Saiphoo, A. N., Dahoah Halevi, L., & Vahedi, Z. (2020). Social networking site use and self-esteem: A meta-analytic review. *Personality and Individual Differences*, *153*, Article 109639. <https://doi.org/10.1016/j.paid.2019.109639>
- Schmuck, D., Karsay, K., Matthes, J., & Stevic, A. (2019). “Looking Up and Feeling Down”. The influence of mobile social networking site use on upward social comparison, self-esteem, and well-being of adult smartphone users. *Telematics and Informatics*, *42*, Article 101240. <https://doi.org/10.1016/j.tele.2019.101240>
- Sinclair, S. J., Blais, M. A., Gansler, D. A., Sandberg, E. H., Bistis, K., & LoCicero, A. (2010). Psychometric Properties of the Rosenberg Self-Esteem Scale: Overall and Across Demographic Groups Living Within the United States. *Evaluation & the Health Professions*, *33*(1), 56–80. <https://doi.org/10.1177/0163278709356187>
- Swann, W. B., Chang-Schneider, C., & Larsen McClarty, K. (2007). Do people’s self-views matter? Self-concept and self-esteem in everyday life. *American Psychologist*, *62*(2), 84–94. <https://doi.org/10.1037/0003-066x.62.2.84>

- Tanhan, F., Özok, H. İ., & Tayiz, V. (2022). Fear of Missing Out (FoMO): A Current Review. *Psikiyatride Guncel Yaklasimlar*, *14*(1), 74-85.
<https://doi.org/10.18863/pgy.942431>
- Valkenburg, P. M., Van Driel, I. I., & Beyens, I. (2021). The associations of active and passive social media use with well-being: A critical scoping review. *New Media & Society*, *24*(2), 530–549. <https://doi.org/10.1177/14614448211065425>
- Van den Eijnden, R. J. J. M., Koning, I. M., Doornwaard, S. M., Van Gorp, F. S., & Ter Bogt, T. F. M. (2018). The impact of heavy and disordered use of games and social media on adolescents' psychological, social, and school functioning. *Journal of Behavioral Addictions*, *7*(3), 697–706. <https://doi.org/10.1556/2006.7.2018.65>
- Van Dijk, M. P. A., Branje, S., Keijsers, L., Hawk, S. T., Hale III, W. W., & Meeus, W. (2020). Helderheid van zelfbeeld, communicatie met ouders en internaliserende problemen in de adolescentie. *Kind en adolescent*, *41*(2), 205–228.
<https://doi.org/10.1007/s12453-020-00238-4>
- Verduyn, P., Gugushvili, N., Massar, K., Täht, K., & Kross, E. (2020). Social comparison on social networking sites. *Current Opinion in Psychology*, *36*, 32–37.
<https://doi.org/10.1016/j.copsyc.2020.04.002>
- Verduyn, P., Ybarra, O., Résibois, M., Jonides, J., & Kross, E. (2017). Do Social Network Sites Enhance or Undermine Subjective Well-Being? A Critical Review. *Social Issues and Policy Review*, *11*(1), 274–302. <https://doi.org/10.1111/sipr.12033>
- Vogel, E. R., Rose, J. P., Okdie, B. M., Eckles, K., & Franz, B. (2015). Who compares and despairs? The effect of social comparison orientation on social media use and its outcomes. *Personality and Individual Differences*, *86*, 249–256.
<https://doi.org/10.1016/j.paid.2015.06.026>

- Wang, J., Wang, H., Gaskin, J., & Hawk, S. T. (2017). The Mediating Roles of Upward Social Comparison and Self-esteem and the Moderating Role of Social Comparison Orientation in the Association between Social Networking Site Usage and Subjective Well-Being. *Frontiers in Psychology, 8*, Article 771. <https://doi.org/10.3389/fpsyg.2017.00771>
- Yang, C. (2016). Instagram Use, Loneliness, and Social Comparison Orientation: Interact and Browse on Social Media, But Don't Compare. *Cyberpsychology, Behavior, and Social Networking, 19*(12), 703–708. <https://doi.org/10.1089/cyber.2016.0201>
- Zheng, Y., Yang, X., Zhou, R., Niu, G., Liu, Q., & Zhou, Z. (2020). Upward social comparison and state anxiety as mediators between passive social network site usage and online compulsive buying among women. *Addictive Behaviors, 111*, Article 106569. <https://doi.org/10.1016/j.addbeh.2020.106569>

Appendix A

Interdisciplinarity

The main disciplines that will be used to gain theoretical insights for the relations in this master thesis are sociology and psychology. The concepts in my model are a combination of social and psychological factors. For example, self-esteem is a psychological concept. It has to do with the way an individual subjectively evaluates themselves and how they perceive their worth as a person. Another concept in my model is Fear of Missing out (FoMO), which includes social and psychological elements. On the one hand, FoMO is about the pressure of being a part of the 'social world'. On the other hand, this pressure causes a psychological reaction of fear. Upward comparison is another concept in my model, which will be mentioned later on.

The main theory that was used is social comparison theory, which was created by social psychologist Festinger and combines aspects of sociology and psychology. This theory entails that humans have a need for accurate self-evaluation. To satisfy this need, individuals compare themselves and their characteristics to others. It is about people socially comparing themselves to others and experiencing psychological consequences afterwards. In the case of upward comparison, the psychological outcomes are usually negative. In this study, upward comparison can help explain why individuals would experience lower self-esteem after passively looking at social media content of others.

Looking at Sameroff's Model of Development, the factors in my model can be identified. Firstly, self-esteem is a person factor. It has everything to do with the individual and how they evaluate and perceive themselves. Secondly, there is FoMO. This factor, in my opinion, can be located in both the person and the group sphere. As explained before, FoMO is an interaction between social pressure to be included (for example in a group) and the personal reaction of fear. Thirdly, there is upward comparison, which I would also identify as both a person and a group factor. It can be identified as a person factor because the individual engages in upward comparison to gain a more accurate self-evaluation. Alternatively, it has a social element where the individual evaluates the qualities of others in comparison to their own. Lastly, passive SNS use. This factor can be identified as both a person and a group factor. It is a person factor because individuals create their own social media context. They can decide which activities they engage on social networking sites. It is also a group factor because social media in itself can be seen as a social context. Individuals can interact with peer, family and even strangers. In my model, an interaction between social and psychological

contexts takes place. These different social and psychological mechanisms can potentially explain the influence of passive SNS use on the eventual psychological outcome: self-esteem. To conclude, I would evaluate my research and model as interdisciplinary, as it combines different disciplines (sociology and psychology) and different contexts (person and group) to explain the influence of passive SNS use on self-esteem.

Appendix B

Contract Data-Use TED Track

Utrecht, 2022

This letter constitutes formal confirmation of the fact that the data from the Utrecht University Digital Youth Project (2017/2018) have been made available to Silke van de Klundert of Utrecht University.

These data will not be made available to others, and the data may be used only for analysis and reporting on topics for the thesis, about which agreement has been reached with Regina van den Eijnden.

Silke van de Klundert will receive access to the data from the dataset in order to answer the following research questions within the framework of the thesis:

Research questions:

Rq1: What is the influence of passive SNS use on later self-esteem?

Rq2: Does upward comparison explain the relation between passive SNS use and later self-esteem?

Rq3: Does FoMO explain the relation between passive SNS use and later self-esteem?

The following variables will be used:

Dependent variable: *Self-esteem* Q39

Independent variables: *Passive use social media* Q10

Other variables: *FoMO* Q36 and *Degree of upward social comparison with passive use* Q25

No report based on the data from the project entitled Digital Youth Project will be made public, unless permission has been obtained in advance from the Project Coordinator for the Digital Youth Project.

After the expiration of this contract, dated 09/06/2023 Silke van de Klundert shall delete the Digital Youth Project data.

Dates and signature:

27/01/2023

Name of student: Silke van de Klundert

Name of Project Coördinator: Regina van den Eijnden

Appendix C

| | |
|--|--|
| <p>P.O. Box 80140, 3508 TC Utrecht</p> <p>The Board of the Faculty of Social and Behavioural Sciences Utrecht University P.O. Box 80.140 3508 TC Utrecht</p> | <p>Faculty of Social and Behavioural Sciences</p> <p>Faculty Support Office Ethics Committee</p> <p>Visiting Address</p> <p>Padualaan 14 3584 CH Utrecht</p> |
| <p>Our Description 23-0149</p> <p>Telephone 030 253 46 33</p> <p>E-mail FETC-fsw@uu.nl</p> <p>Date 19 January 2023</p> <p>Subject Ethical approval</p> | |

ETHICAL APPROVAL

Study: The influence of passive social networking site use on self-esteem: The mediating role of upwardcomparison and FoMO

Principal investigator:

S.M. van de Klundert

Supervisor:

Regina van den Eijnden

The study is approved by the Ethical Review Board of the Faculty of Social and Behavioural Sciences of Utrecht University. The approval is based on the documents sent by the researchers as requested in the form of the Ethics committee and filed under number 23-0149. The approval is valid through 01 July 2023. The approval of the Ethical Review Board concerns ethical aspects, as well as data management and privacy issues (including the GDPR). It should be noticed that any changes in the research design oblige a renewed review by the Ethical Review Board.

Yours sincerely,

Peter van
der
Heijden,
Ph.D.
Chair

This is an automatically generated document, therefore it is not signed

Appendix D

Syntax SPSS

**I have decided that I want to keep age and gender as possible control variables, so all extra variables from wave 3 and 4 that are not needed will be deleted.

delete variables

CV5_1

CV5_2

CV6

CV7

CV8

DV5_1

DV5_2

DV6

DV7

DV8

**successfully deleted.

**checking for impossible values and missings in wave one.

DATASET ACTIVATE DataSet1.

FREQUENCIES VARIABLES=T1passiveSNSuse T1upwardcom_1 T1upwardcom_2
T1upwardcom_3 T1upwardcom_4

T1upwardcom_5 T1fomo_1 T1fomo_2 T1fomo_3 T1fomo_4 T1fomo_5 T1selfesteem_1
T1selfesteem_2 T1selfesteem_3

T1selfesteem_4 T1selfesteem_5

/ORDER=ANALYSIS.

**no impossible values, quite a lot of missings.

**checking for impossible values and missings in wave two.

FREQUENCIES VARIABLES=T2passiveSNSuse T2upwardcom_1 T2upwardcom_2
T2upwardcom_3 T2upwardcom_4

T2upwardcom_5 T2fomo_1 T2fomo_2 T2fomo_3 T2fomo_4 T2fomo_5 T2selfesteem_1
T2selfesteem_2 T2selfesteem_3


```
T2selfesteem_4 T2selfesteem_5
/ORDER=ANALYSIS.

**no impossible values, quite a lot of missings.

**making a variable to see how many items are missing for each participant in wave one.
compute miss_T1 = nmiss(T1geslacht to T1selfesteem_5).
execute.

**making a variable to see how many items are missing for each participant in wave two.
compute miss_T2 = nmiss(T2geslacht to T2selfesteem_5).
execute.

**check the total missings for wave one.
FREQUENCIES VARIABLES=miss_T1
/ORDER=ANALYSIS.

**check the total missings for wave two.
FREQUENCIES VARIABLES=miss_T2
/ORDER=ANALYSIS.

**making a variable to identify which participants miss the full scale of selfesteem T2.
compute miss_selfesteemT2 = nmiss(T2selfesteem_1 to T2selfesteem_5).
execute.

**making a variable to identify which participants miss the full scale of selfesteem T1.
compute miss_selfesteemT1 = nmiss(T1selfesteem_1 to T1selfesteem_5).
execute.

**with frequencies I can see how many participants miss the full scale of selfesteem T1 and
T2 .
DATASET ACTIVATE DataSet1.
```

```
FREQUENCIES VARIABLES=miss_selfesteemT2 miss_selfesteemT1
```

```
/ORDER=ANALYSIS.
```

**six participants are missing the full scale of selfesteem T2 and twelve participants are missing the full scale of selfesteem T1.

**These participants will be filtered out because these variables are used for all analyses.

**Participants who miss one of the other scales will remain in the dataset because these scales are only used once or twice in the analyses.

**making a filter to: filter out all participants who did not participate in wave one and two + filter out all participants who miss a full wave, either one or two.

**addition to the filter: participants who miss two or more full scales in wave one or two will be filtered out.

**addition to the filter: participants who miss the full scale of selfesteem T2 or T1 will be filtered out.

```
compute filterT1T2 = 0.
```

```
if(T1 = 0 | T2 = 0) filterT1T2 = 0.
```

```
if(T1 = 1 & T2 = 1) filterT1T2 = 1.
```

```
if(miss_T1 = 25 | miss_T2 = 26) filterT1T2 = 0.
```

```
if(miss_T1 > 5 | miss_T2 > 5) filterT1T2 = 0.
```

```
if(miss_selfesteemT1 = 5) filterT1T2 = 0.
```

```
if(miss_selfesteemT2 = 5) filterT1T2 = 0.
```

```
execute.
```

**this is the command to activate the filter.

```
USE ALL.
```

```
COMPUTE filter_$=(filterT1T2 = 1).
```

```
VARIABLE LABELS filter_$ 'filterT1T2 = 1 (FILTER)'.

```

```
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.

```

```
FORMATS filter_$ (f1.0).

```

```
FILTER BY filter_$.

```

```
EXECUTE.

```

**checking frequencies again to see if filtering the participants out was successful.

```
FREQUENCIES VARIABLES=miss_selfesteemT2 miss_selfesteemT1 miss_T1 miss_T2
/ORDER=ANALYSIS.
```

**it was successful.

**exploring all items from my four variables in T1 to check for outliers.

```
DATASET ACTIVATE DataSet7.
```

```
EXAMINE VARIABLES=T1passiveSNSuse T1upwardcom_1 T1upwardcom_2
T1upwardcom_3 T1upwardcom_4
```

```
T1upwardcom_5 T1fomo_1 T1fomo_2 T1fomo_3 T1fomo_4 T1fomo_5 T1selfesteem_1
T1selfesteem_2
```

```
T1selfesteem_3 T1selfesteem_4 T1selfesteem_5
```

```
/PLOT BOXPLOT STEMLEAF
```

```
/COMPARE GROUPS
```

```
/STATISTICS DESCRIPTIVES
```

```
/CINTERVAL 95
```

```
/MISSING LISTWISE
```

```
/NOTOTAL.
```

**no significant outliers.

**exploring all items from my four variables in T2 to check for outliers.

```
EXAMINE VARIABLES=T2passiveSNSuse T2upwardcom_1 T2upwardcom_2
T2upwardcom_3 T2upwardcom_4
```

```
T2upwardcom_5 T2fomo_1 T2fomo_2 T2fomo_3 T2fomo_4 T2fomo_5 T2selfesteem_1
T2selfesteem_2
```

```
T2selfesteem_3 T2selfesteem_4 T2selfesteem_5
```

```
/PLOT BOXPLOT STEMLEAF
```

```
/COMPARE GROUPS
```

```
/STATISTICS DESCRIPTIVES
```

```
/CINTERVAL 95
```

```
/MISSING LISTWISE
```

```
/NOTOTAL.
```

**Item 5 from selfesteem T2 shows a lot of significant outliers. The boxplot also does not look how it is supposed to be.

**After consulting the consultatiewinkel uu it seems like it is an error from spss. The boxplot does not come out normally and the 'outliers' do not seem like extreme answers at all in this question. I will not delete them.

**recoding selfesteem item 4 from wave three which is negatively phrased.

```
RECODE T1selfesteem_4 (1=5) (2=4) (3=3) (4=2) (5=1) INTO reT1selfesteem_4.
```

```
EXECUTE.
```

**item is recoded.

**recoding selfesteem item 4 from wave four which is negatively phrased.

```
RECODE T2selfesteem_4 (1=5) (2=4) (3=3) (4=2) (5=1) INTO reT2selfesteem_4.
```

```
EXECUTE.
```

**item is recoded.

**conducting a factor analysis for the T2 upward comparison items.

```
FACTOR
```

```
  /VARIABLES T2upwardcom_1 T2upwardcom_2 T2upwardcom_3 T2upwardcom_4  
T2upwardcom_5
```

```
  /MISSING LISTWISE
```

```
  /ANALYSIS T2upwardcom_1 T2upwardcom_2 T2upwardcom_3 T2upwardcom_4  
T2upwardcom_5
```

```
  /PRINT UNIVARIATE INITIAL CORRELATION SIG DET KMO EXTRACTION  
ROTATION
```

```
  /FORMAT SORT BLANK(.10)
```

```
  /PLOT EIGEN
```

```
  /CRITERIA MINEIGEN(1) ITERATE(25)
```

```
  /EXTRACTION PAF
```

```
  /CRITERIA ITERATE(25)
```

```
  /ROTATION VARIMAX
```

```
  /METHOD=CORRELATION.
```

****factor analysis showed that there is one factor, so all five items measure one thing, the scale is unidimensional..**

****reliability analysis for T1 upward comparison items.**

DATASET ACTIVATE DataSet2.

RELIABILITY

/VARIABLES=T1upwardcom_1 T1upwardcom_2 T1upwardcom_3 T1upwardcom_4
T1upwardcom_5

/SCALE('ALL VARIABLES') ALL

/MODEL=ALPHA

/STATISTICS=SCALE CORR

/SUMMARY=TOTAL.

****Cronbach's alpha is good and no item can be deleted to make it higher.**

****reliability analysis for T1 fomo items.**

RELIABILITY

/VARIABLES=T1fomo_1 T1fomo_2 T1fomo_3 T1fomo_4 T1fomo_5

/SCALE('ALL VARIABLES') ALL

/MODEL=ALPHA

/STATISTICS=SCALE CORR

/SUMMARY=TOTAL.

****Cronbach's alpha is good and no item can be deleted to make it higher.**

****reliability analysis for T1 self-esteem items.**

RELIABILITY

/VARIABLES=T1selfesteem_1 T1selfesteem_2 T1selfesteem_3 T1selfesteem_5
reT1selfesteem_4

/SCALE('ALL VARIABLES') ALL

/MODEL=ALPHA

/STATISTICS=SCALE CORR

/SUMMARY=TOTAL.

**Cronbach's alpha is good, only item 4, the reversed item, could make the alpha a little bit higher. However, I won't delete it as this is a well-known existing scale and the alpha is already high.

**reliability analysis for T2 upward comparison items.

DATASET ACTIVATE DataSet1.

RELIABILITY

/VARIABLES=T2upwardcom_1 T2upwardcom_2 T2upwardcom_3 T2upwardcom_4
T2upwardcom_5

/SCALE('ALL VARIABLES') ALL

/MODEL=ALPHA

/STATISTICS=DESCRIPTIVE SCALE CORR

/SUMMARY=TOTAL.

**Cronbach's alpha is good and no item can be deleted to make it higher.

**reliability analysis for T2 fomo items.

RELIABILITY

/VARIABLES=T2fomo_1 T2fomo_2 T2fomo_3 T2fomo_4 T2fomo_5

/SCALE('ALL VARIABLES') ALL

/MODEL=ALPHA

/STATISTICS=DESCRIPTIVE SCALE CORR

/SUMMARY=TOTAL.

**Cronbach's alpha is good and no item can be deleted to make it higher.

**reliability analysis for T2 self-esteem items.

RELIABILITY

/VARIABLES=T2selfesteem_1 T2selfesteem_2 T2selfesteem_3 T2selfesteem_5
reT2selfesteem_4

/SCALE('ALL VARIABLES') ALL

/MODEL=ALPHA

/STATISTICS=DESCRIPTIVE SCALE CORR

/SUMMARY=TOTAL.

**Cronbach's alpha is good, only item 4, the reversed item, could make the alpha a bit higher. However, I won't delete it as this is a well-known existing scale and the alpha is already high.

**creating the scale (mean) variable for T1 upward comparison.

COMPUTE

T1_MEANupwardcom=mean(T1upwardcom_1,T1upwardcom_2,T1upwardcom_3,T1upwardcom_4,T1upwardcom_5).

EXECUTE.

**scale variable successfully computed.

**creating the scale (mean) variable for T1 fomo.

COMPUTE

T1_MEANFoMO=mean(T1fomo_1,T1fomo_2,T1fomo_3,T1fomo_4,T1fomo_5).

EXECUTE.

**scale variable successfully computed.

**creating the scale (mean) variable for T1 self-esteem.

COMPUTE

T1_MEANselfesteem=mean(T1selfesteem_1,T1selfesteem_2,T1selfesteem_3,T1selfesteem_4,
T1selfesteem_5).

EXECUTE.

**scale variable successfully computed.

**creating the scale (mean) variable for T2 upward comparison.

COMPUTE

T2_MEANupwardcom=mean(T2upwardcom_1,T2upwardcom_2,T2upwardcom_3,T2upwardcom_4,T2upwardcom_5).

EXECUTE.

**scale variable successfully computed.

**creating the scale (mean) variable for T2 fomo.

COMPUTE

T2_MEANFoMO=mean(T2fomo_1,T2fomo_2,T2fomo_3,T2fomo_4,T2fomo_5).

EXECUTE.

**scale variable succesfully computed.

**creating the scale (mean) variable for T2 self-esteem.

COMPUTE

T2_MEANselfesteem=mean(T2selfesteem_1,T2selfesteem_2,T2selfesteem_3,reT2selfesteem_4,
T2selfesteem_5).

EXECUTE.

**scale variable succesfully computed.

**plotting a histogram to see if T1_MEANupwardcom is normally distributed.

* Chart Builder.

GGRAPH

/GRAPHDATASET NAME="graphdataset" VARIABLES=T1_MEANupwardcom
MISSING=LISTWISE REPORTMISSING=NO

/GRAPHSPEC SOURCE=INLINE.

BEGIN GPL

SOURCE: s=userSource(id("graphdataset"))

DATA: T1_MEANupwardcom=col(source(s), name("T1_MEANupwardcom"))

GUIDE: axis(dim(1), label("T1_MEANupwardcom"))

GUIDE: axis(dim(2), label("Frequency"))

GUIDE: text.title(label("Simple Bar of T1_MEANupwardcom"))

ELEMENT: interval(position(summary.count(bin.rect(T1_MEANupwardcom))),
shape.interior(shape.square))

END GPL.

**it looks like this variable is somewhat skewed.

**plotting a histogram to see if T1_MEANFoMO is normally distributed.

* Chart Builder.

GGRAPH


```
/GRAPHDATASET NAME="graphdataset" VARIABLES=T1_MEANFoMO
MISSING=LISTWISE REPORTMISSING=NO
```

```
/GRAPHSPEC SOURCE=INLINE.
```

```
BEGIN GPL
```

```
SOURCE: s=userSource(id("graphdataset"))
```

```
DATA: T1_MEANFoMO=col(source(s), name("T1_MEANFoMO"))
```

```
GUIDE: axis(dim(1), label("T1_MEANFoMO"))
```

```
GUIDE: axis(dim(2), label("Frequency"))
```

```
GUIDE: text.title(label("Simple Bar of T1_MEANFoMO"))
```

```
ELEMENT: interval(position(summary.count(bin.rect(T1_MEANFoMO))),
shape.interior(shape.square))
```

```
END GPL.
```

**it looks like this variable is somewhat skewed..

**plotting a histogram to see if T1_MEANselfesteem is normally distributed.

* Chart Builder.

```
GGRAPH
```

```
/GRAPHDATASET NAME="graphdataset" VARIABLES=T1_MEANselfesteem
MISSING=LISTWISE REPORTMISSING=NO
```

```
/GRAPHSPEC SOURCE=INLINE.
```

```
BEGIN GPL
```

```
SOURCE: s=userSource(id("graphdataset"))
```

```
DATA: T1_MEANselfesteem=col(source(s), name("T1_MEANselfesteem"))
```

```
GUIDE: axis(dim(1), label("T1_MEANselfesteem"))
```

```
GUIDE: axis(dim(2), label("Frequency"))
```

```
GUIDE: text.title(label("Simple Bar of T1_MEANselfesteem"))
```

```
ELEMENT: interval(position(summary.count(bin.rect(T1_MEANselfesteem))),
shape.interior(shape.square))
```

```
END GPL.
```

**this variable is somewhat skewed..

**plotting a histogram to see if T2_MEANupwardcom is normally distributed.

* Chart Builder.

GGRAPH

```
/GRAPHDATASET NAME="graphdataset" VARIABLES=T2_MEANupwardcom
MISSING=LISTWISE REPORTMISSING=NO
```

```
/GRAPHSPEC SOURCE=INLINE.
```

BEGIN GPL

```
SOURCE: s=userSource(id("graphdataset"))
```

```
DATA: T2_MEANupwardcom=col(source(s), name("T2_MEANupwardcom"))
```

```
GUIDE: axis(dim(1), label("T2_MEANupwardcom"))
```

```
GUIDE: axis(dim(2), label("Frequency"))
```

```
GUIDE: text.title(label("Simple Bar of T2_MEANupwardcom"))
```

```
ELEMENT: interval(position(summary.count(bin.rect(T2_MEANupwardcom))),
  shape.interior(shape.square))
```

END GPL.

**it looks like this variable is somewhat skewed.

**plotting a histogram to see if T2_MEANFoMO is normally distributed.

* Chart Builder.

GGRAPH

```
/GRAPHDATASET NAME="graphdataset" VARIABLES=T2_MEANFoMO
MISSING=LISTWISE REPORTMISSING=NO
```

```
/GRAPHSPEC SOURCE=INLINE.
```

BEGIN GPL

```
SOURCE: s=userSource(id("graphdataset"))
```

```
DATA: T2_MEANFoMO=col(source(s), name("T2_MEANFoMO"))
```

```
GUIDE: axis(dim(1), label("T2_MEANFoMO"))
```

```
GUIDE: axis(dim(2), label("Frequency"))
```

```
GUIDE: text.title(label("Simple Bar of T2_MEANFoMO"))
```

```
ELEMENT: interval(position(summary.count(bin.rect(T2_MEANFoMO))),
  shape.interior(shape.square))
```

END GPL.

**it looks like this variable is somewhat skewed.

**plotting a histogram to see if T2_MEANselfesteem is normally distributed.

* Chart Builder.

GGRAPH

```
/GRAPHDATASET NAME="graphdataset" VARIABLES=T2_MEANselfesteem
MISSING=LISTWISE REPORTMISSING=NO
```

```
/GRAPHSPEC SOURCE=INLINE.
```

BEGIN GPL

```
SOURCE: s=userSource(id("graphdataset"))
```

```
DATA: T2_MEANselfesteem=col(source(s), name("T2_MEANselfesteem"))
```

```
GUIDE: axis(dim(1), label("T2_MEANselfesteem"))
```

```
GUIDE: axis(dim(2), label("Frequency"))
```

```
GUIDE: text.title(label("Simple Bar of T2_MEANselfesteem"))
```

```
ELEMENT: interval(position(summary.count(bin.rect(T2_MEANselfesteem))),
  shape.interior(shape.square))
```

END GPL.

**this variable is somewhat skewed..

**checking descriptives with skewness and kurtosis statistics checked off, to see if the skewness of the variables is statistically considered problematic.

```
DESCRIPTIVES VARIABLES=T1_MEANupwardcom T1_MEANFoMO
T1_MEANselfesteem T2_MEANupwardcom T2_MEANFoMO
```

```
T2_MEANselfesteem
```

```
/STATISTICS=MEAN STDDEV VARIANCE MIN MAX KURTOSIS SKEWNESS.
```

**After checking skewness and kurtosis statistics, there are no problematic values, it is not necessary to transform the variables.

**checking the descriptives from the demographics and my main variables to put in my thesis.

```
DESCRIPTIVES VARIABLES=T1geslacht T1leeftijd T2geslacht T2leeftijd
```

```
T1passiveSNSuse T1_MEANupwardcom T1_MEANFoMO T1_MEANselfesteem
T2passiveSNSuse T2_MEANupwardcom
```

```
T2_MEANFoMO T2_MEANselfesteem
```

/STATISTICS=MEAN STDDEV MIN MAX.

**checking the correlations between all variables that I will use in my analyses.

CORRELATIONS

/VARIABLES=T2geslacht T2leeftijd T1passiveSNSuse T2passiveSNSuse
T1_MEANupwardcom

T1_MEANFoMO T1_MEANselfesteem T2_MEANupwardcom T2_MEANFoMO
T2_MEANselfesteem

/PRINT=TWOTAIL NOSIG FULL

/STATISTICS DESCRIPTIVES

/MISSING=PAIRWISE.

NONPAR CORR

/VARIABLES=T2geslacht T2leeftijd T1passiveSNSuse T2passiveSNSuse
T1_MEANupwardcom

T1_MEANFoMO T1_MEANselfesteem T2_MEANupwardcom T2_MEANFoMO
T2_MEANselfesteem

/PRINT=SPEARMAN TWOTAIL NOSIG FULL

/MISSING=PAIRWISE.

**I will only use gender as a control variable and not age. Age only significantly correlates with my X but not my Y. Gender significantly correlates with both my X and Y.

**checking for multicollinearity.

REGRESSION

/MISSING LISTWISE

/STATISTICS COLLIN TOL

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT T2_MEANselfesteem

/METHOD=ENTER T1passiveSNSuse T2_MEANupwardcom T2_MEANFoMO.

**all VIF values are good so there is no multicollinearity.

**checking whether my dependent variable is normally distributed.

EXAMINE VARIABLES=T2_MEANselfesteem

/PLOT BOXPLOT HISTOGRAM NPLOT

/COMPARE GROUPS

/STATISTICS DESCRIPTIVES

/CINTERVAL 95

/MISSING LISTWISE

/NOTOTAL.

**the shapiro wilks test is significant, this is not desirable.

**However, after a consult at the consultatiewinkel, I found out that if you have a large sample size, it often happens that the shapiro wilks test shows a positive result and this is not always a problem.

**In addition, according to the skewness statistic, the skewness of the dependent variable is not problematic.

**Also by looking at the histogram of self-esteem, you can see a little skew but it does not look extremely problematic. It can be argued that my dependent variable is distributed normally enough to continue with analyses.

**In other words: the normality assumption is met.

**conducting a linear regression with my X and my Y and testing assumptions at the same time.

REGRESSION

/DESCRIPTIVES MEAN STDDEV CORR SIG N

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA CHANGE ZPP

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT T2_MEANselfesteem

/METHOD=ENTER T1passiveSNSuse

/SCATTERPLOT=(*ZRESID ,*ZPRED)

/RESIDUALS NORMPROB(ZRESID)

/CASEWISE PLOT(ZRESID) OUTLIERS(3)

/SAVE COOK.

**In the normal PP plot, you can see that the dots on the line are somewhat skewed. This was expected but the assumptions are still met.

**plotting a scatterplot to see whether my X and Y have a linear relationship.

* Chart Builder.

GGRAPH

```
/GRAPHDATASET NAME="graphdataset" VARIABLES=T1passiveSNSuse
T2_MEANselfesteem MISSING=LISTWISE
```

```
REPORTMISSING=NO
```

```
/GRAPHSPEC SOURCE=INLINE
```

```
/FITLINE TOTAL=YES SUBGROUP=NO.
```

BEGIN GPL

```
SOURCE: s=userSource(id("graphdataset"))
```

```
DATA: T1passiveSNSuse=col(source(s), name("T1passiveSNSuse"))
```

```
DATA: T2_MEANselfesteem=col(source(s), name("T2_MEANselfesteem"))
```

```
GUIDE: axis(dim(1), label("T1: Hoe vaak PER DAG kijk je op sociale netwerk sites?"))
```

```
GUIDE: axis(dim(2), label("T2_MEANselfesteem"))
```

```
GUIDE: text.title(label("Scatter Plot of T2_MEANselfesteem by T1: Hoe vaak PER
DAG kijk je op ",
```

```
"sociale netwerk sites?"))
```

```
ELEMENT: point(position(T1passiveSNSuse*T2_MEANselfesteem))
```

END GPL.

**The relationship does not look very strong, but you can see that there is some linearity. The linearity assumption is met.

**checking frequencies of gender and age for both waves to gain information about the sample that I can put in my thesis.

```
DATASET ACTIVATE DataSet1.
```

```
FREQUENCIES VARIABLES=T1geslacht T1leeftijd T2geslacht T2leeftijd
```

```
/ORDER=ANALYSIS.
```

**checking descriptives of gender and age for both waves to gain information about the sample that I can put in my thesis.

DESCRIPTIVES VARIABLES=T1geslacht T1leeftijd T2geslacht T2leeftijd

/STATISTICS=MEAN STDDEV MIN MAX.

**checking frequencies of education level, birth country and SES for both waves to gain information about the sample that I can put in my thesis.

FREQUENCIES VARIABLES=DV_opleiding DVgeboortezelf DVSESgezin
DVgeboortevader DVgeboortemoeder

/ORDER=ANALYSIS.

**IT IS NOW TIME FOR ATTRITION ANALYSES.

**THE FOLLOWING PART OF THE SYNTAX WAS CONDUCTED IN A COPY OF MY DATASET WITH A CLEAN SYNTAX, BECAUSE OTHERWISE THE FILTERS I HAD TO CREATE WOULD DISRUPT MY ALREADY EXISTING FILTERS IN THE ORIGINAL DATASET.

**So to be clear: I am putting the part of the syntax here so you can see what I have done but you wouldn't be able to conduct it successfully in my original dataset.

**creating a filter to filter out the participants I do not need for the attrition analysis.

**These are: the participants who did not participate in both wave one and two + the participants who participated in wave two but not in wave one.

compute notusefull = 0.

if(T1 = 0 & T2 = 0) notusefull = 0.

if(T1 = 0 & T2 = 1) notusefull = 0.

if(T1 = 1 & T2 = 1) notusefull = 1.

if(T1 = 1 & T2 = 0) notusefull = 1.

execute.

**it worked. participants who I do not need for attrition analyses, now have a 0 score on this filter.

**with this activation code I am filtering out the people with score 0 on the notusefull variable.

DATASET ACTIVATE DataSet9.

USE ALL.

COMPUTE filter_\$(notusefull = 1).

VARIABLE LABELS filter_\$ 'notusefull = 1 (FILTER)'.
 VALUE LABELS filter_\$ 0 'Not Selected' 1 'Selected'.
 FORMATS filter_\$ (f1.0).
 FILTER BY filter_\$.
 EXECUTE.
 **it was succesfull.

**now I am creating a grouping variable for the attrition analyses. Participants who participated in only wave one get a 0, and participants who participated in both waves get a 1.

```
compute grouping_variable = 0.
if(T1 = 1 & T2 = 0) grouping_variable = 0.
if(T1 = 1 & T2 = 1) grouping_variable = 1.
execute.
```

**it worked. Group 0 is now: participants in wave one. Group 1 is now: participants in both wave one and two.

**conducting a T test to see if there are differences between group 0 and group 1 on the variable T1meanselfesteem.

```
T-TEST GROUPS=grouping_variable(0 1)
  /MISSING=ANALYSIS
  /VARIABLES=T1_MEANselfesteem
  /ES DISPLAY(TRUE)
  /CRITERIA=CI(.95).
```

**there are no significant differences between group 0 and group 1. This is good.

**conducting a T test to see if there are differences between group 0 and group 1 on the variable T1meanfomo.

```
T-TEST GROUPS=grouping_variable(0 1)
  /MISSING=ANALYSIS
  /VARIABLES=T1_MEANFoMO
  /ES DISPLAY(TRUE)
  /CRITERIA=CI(.95).
```


**There are significant differences between group 0 and group 1, it will take this into account in the discussion section.

**conducting a T test to see if there are differences between group 0 and group 1 on the variable T1meanupwardcom.

```
T-TEST GROUPS=grouping_variable(0 1)
```

```
/MISSING=ANALYSIS
```

```
/VARIABLES=T1_MEANupwardcom
```

```
/ES DISPLAY(TRUE)
```

```
/CRITERIA=CI(.95).
```

**There are significant differences between group 0 and group 1, it will take this into account in the discussion section.

**conducting a T test to see if there are differences between group 0 and group 1 on the variable T1passiveSNSuse.

```
T-TEST GROUPS=grouping_variable(0 1)
```

```
/MISSING=ANALYSIS
```

```
/VARIABLES=T1passiveSNSuse
```

```
/ES DISPLAY(TRUE)
```

```
/CRITERIA=CI(.95).
```

**There are significant differences between group 0 and group 1, it will take this into account in the discussion section.

**ATTRITION ANALYSES ARE FINISHED. FROM NOW ON, I WILL WORK BACK TO NORMAL FROM MY ORIGINAL DATASET.

**conducting a linear regression analysis for my main effect. T2selfesteem is my dependent variable and T1passiveSNSuse is my independent variable. As control variables I added gender and T1selfesteem.

```
DATASET ACTIVATE DataSet1.
```

```
REGRESSION
```

```
/DESCRIPTIVES MEAN STDDEV CORR SIG N
```

```
/MISSING LISTWISE
```

```

/STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT T2_MEANselfesteem
/METHOD=ENTER T2geslacht T1_MEANselfesteem
/METHOD=ENTER T1passiveSNSuse.

```

**In the output you can see that T1passiveSNSuse does not have a significant influence on T2selfesteem (when the control variables are added).

**This is not ideal because in order to conduct a mediation analysis, your main effect of X on Y has to be significant.

**T1selfesteem did have a significant influence on T2selfesteem. Gender did not have a significant influence on T2selfesteem.

**I am conducting a regression with only my X and Y to check if T1passiveSNS use does significantly influence T2selfesteem without control variables.

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT T2_MEANselfesteem
/METHOD=ENTER T1passiveSNSuse.

```

**T1passiveSNSuse does have a significant influence on T2selfesteem without control variables.

**After consulting my supervisor, we decided that I will still run the mediation analysis even though in the regression with control variables, my X did not significantly influence my Y.

**A masterthesis is a learning process so it is good to still go through all the steps as planned.

**This is step 1 of the mediation analysis (baron & kenny) with mediator FoMO. In this step I test the influence of T1passiveSNSuse on T2selfesteem. I control for T1selfesteem and T1FoMO.

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT T2_MEANselfesteem
/METHOD=ENTER T1_MEANselfesteem T1_MEANFoMO
/METHOD=ENTER T1passiveSNSuse.

```

**T1passiveSNSuse does not have a significant influence on T2selfesteem when you control for T1selfesteem and T1Fomo.

**T1selfesteem and T1Fomo significantly influence T2selfesteem.

**This is step 2 of the mediation analysis with mediator FoMO. In this step I test the influence of T1passiveSNSuse on T2FoMO. I control for T1selfesteem and T1FoMO.

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT T2_MEANFoMO
/METHOD=ENTER T1_MEANselfesteem T1_MEANFoMO
/METHOD=ENTER T1passiveSNSuse.

```

**T1passiveSNSuse does not have a significant influence on T2FoMO when you control for T1selfesteem and T1FoMO.

**T1Fomo had a significant influence on T2FoMO, T1selfesteem did not have a significant influence on T2FoMO.

**This is step 3 of the mediation analysis with mediator FoMO. In this step I test the influence of M and X on Y. I control for T1selfesteem and T1FoMO.

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT T2_MEANselfesteem
/METHOD=ENTER T1_MEANselfesteem T1_MEANFoMO
/METHOD=ENTER T2_MEANFoMO T1passiveSNSuse.

```

**T1passiveSNSuse does not significantly influence T2selfesteem. T2FoMO does significantly influence T2selfesteem.

**T1FoMO and T1selfesteem were significant in the first model. When T2upwardcom and T1passiveSNS use were added in model 2, T1FoMO was no longer significant.

**This is step 1 of the mediation analysis (baron & kenny) with mediator upward comparison. In this step I test the influence of T1passiveSNSuse on T2selfesteem. I control for T1selfesteem and T1upwardcom.

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT T2_MEANselfesteem
/METHOD=ENTER T1_MEANselfesteem T1_MEANupwardcom
/METHOD=ENTER T1passiveSNSuse.

```

**T1passiveSNSuse does not have a significant influence on T2selfesteem when you control for T1selfesteem and T1upwardcom.

**T1selfesteem and T1upwardcom significantly influence T2selfesteem.

**This is step 2 of the mediation analysis with mediator upward comparison. In this step I test the influence of T1passiveSNSuse on T2upwardcom. I control for T1selfesteem and T1upwardcom.

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT T2_MEANupwardcom
/METHOD=ENTER T1_MEANselfesteem T1_MEANupwardcom
/METHOD=ENTER T1passiveSNSuse.

```

**T1passiveSNSuse does not have a significant influence on T2upwardcom when you control for T1selfesteem and T1upwardcom.

**T1upwardcom and T1selfesteem had a significant influence on T2upwardcom.

**This is step 3 of the mediation analysis with mediator upward comparison. In this step I test the influence of M and X on Y. I control for T1selfesteem and T1upwardcom.

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT T2_MEANselfesteem
/METHOD=ENTER T1_MEANselfesteem T1_MEANupwardcom
/METHOD=ENTER T2_MEANupwardcom T1passiveSNSuse.

```

**T1passiveSNSuse did not significantly influence T2selfesteem. T2upwardcom did significantly influence T2selfesteem.

**T1upwardcom and T1selfesteem were significant in the first model. When T2upwardcom and T1passiveSNS use were added in model 2, T1upwardcom was no longer significant.

Appendix E

Rosenberg Self-Esteem Scale (Rosenberg et al., 1989) in Dutch

Kruis het antwoord aan dat het best bij jouw mening past: 1 = klopt helemaal niet, 2 = klopt niet, 3 = klopt een beetje, 4 = klopt wel, 5 = klopt helemaal.

1. Ik heb het gevoel dat ik een persoon ben die wat waard is, minstens evenveel als anderen.
2. Ik sta positief ten opzichte van mezelf.
3. Ik kan dingen minstens net zo goed als de meeste andere jongeren.
4. Ik heb het gevoel dat ik niet veel heb om trots op te zijn.
5. Ik heb het gevoel dat ik een aantal goede eigenschappen heb.

Appendix F

Upward Comparison Scale in Dutch (Van den Eijnden et al., 2018)

Hoe vaak heb je de volgende gedachten als je op sociale netwerk sites naar de berichtjes, foto's en filmpjes van leeftijdsgenoten kijkt? De antwoordopties zijn: 1 = nooit, 2 = bijna nooit, 3 = soms, 4 = best vaak, 5 = heel vaak.

1. Hij of zij doet leukere dingen dan ik.
2. Hij of zij heeft meer vrienden dan ik.
3. Hij of zij is populairder dan ik.
4. Hij of zij krijgt meer 'likes' dan ik.
5. Hij of zij ziet er leuker uit dan ik.

Appendix G

Fear of Missing Out Scale (Przybylski et al., 2013) in Dutch

Kruis het antwoord aan dat het best bij jou past: 1 = klopt helemaal niet, 2 = klopt niet, 3 = klopt een beetje, 4 = klopt, 5 = klopt helemaal.

1. Ik ben bang dat anderen meer plezier hebben dan ik.
2. Ik maak me zorgen als ik erachter kom dat vrienden plezier hebben zonder mij.
3. Ik word onrustig als ik niet weet wat mijn vrienden doen.
4. Ik stoer mij eraan wanneer ik een kans mis om af te spreken met vrienden.
5. Als ik een geplande afspraak met vrienden moet missen, dan maak ik me daar zorgen over.