Is social media really that social?

A statistical analysis to measure how social media affects our personality and confidence.

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Introduction

I can relate to many teenagers today by admitting the fact that I am a heavy social media user. Over the past few weeks, I have read many articles that have been headlining how influential social media is towards affecting people's personality and confidence. From this I did not just become concerned about how I might be affected, but also how it may affect other teenagers or even adults. According to WhatIs.com, social media "is the collective of online communications channels dedicated to community-based input, interaction, content sharing and collaboration" (WhatIs , 2016) All sounds very social, however according to articles from USA Today, Science Daily, and Readers Digest, have all made comments about how we humans are becoming narcissists.

Science Daily expressed individuals with narcissist syndrome to think of "themselves as being exceptionally talented, remarkable and successful. [Meaning] they love to present themselves to other people and seek approval from them" (Gnambs, 2017) Reading this article was shocking, because I asked myself the question "am I really that desperate?" This lead me to compose an investigation on whether social media was affecting two key expressive traits, that being personality and confidence. Even though we may be living in 'generation me', where we could easily assume from that we are highly confident and mixed in personality types. I believe that world only exists on social media, because we have a screen to protect us from either the good or bad expression made by others. This protection must have some deliberate affect towards our real confidence or personality traits.

The observation made above has allowed this investigation to find out whether the amount of usage time spent on social media has an affect towards individual's belief of personality

and confidence. From this it will answer the question whether a high amount of social media usage does or does not affect personality in consideration to both age and gender.

Plan of investigation

To test whether there is a relationship between hours spent on social media and gender, age and believed personality type (extrovert or introvert). The survey will be designed on 'Google Forms", and posted on Facebook to receive a significant amount of data that can be analysed through three mathematical processes. Posting the survey on Facebook will allow for an inflow of relatively precise data because the information received is correctly aimed to ask the most appropriate audience (social media users).

The data will then be cleaned from any inappropriate and inconclusive submissions. For example, after the one week of surveying, the investigation was left with seventy-seven of the one hundred and twenty-five submissions. Forty submissions were male, where majority aged between 15 and 20. Thirty-seven submissions were female, where again majority aged between 15 and 20. Pleased with the data received, as there was very minimal bias entries associated with age, and gender.

The survey will be designed on Google Forms because they can create questions that aim for narrow-minded answers. The survey involves three stages, hence the first stage includes general questions regarding age, gender, most used social media app and how many hours are spent on social media a day. The second stage is a personality test, referenced from a well-regarded psychiatric group called Psych Central (Grohol J. M., 2016). In the test, made by Dr. John Grohol, designed it so the sampler will receive questions asking how strongly they feel towards a range of personality qualities. For example, "I see

myself as critical, quarrelsome." The sampler can then score themselves between 1 to 10. 1 indicates a strong disagreement towards the statement, whereas 10 strongly agrees with it. The third stage was a confidence test that asked a set of hypothetic situations, and then gave the sampler options on how they would respond to the situation. The individual with a large amount of yes's, shows high confident levels, whereas an individual with many no's demonstrates them to have low confidence levels.

Once the data is collected, three mathematical processes are used in search for the answer to the proposed question. First process is a box and whisker graph to compare gender and hours spent on social media. The second process is a chi-squared test for testing independence between hours spent on social media and self-indication of personality type (introvert or extrovert). Lastly the third process will use Pearson's Product Momentum Correlation Coefficient to find the strength of the correlation between age and hours spent on social media. After processing all mathematical methods, we can develop a conclusion whether large hours spent on social media has correlation with either age, gender or personality type.

Investigation

Box and Whisker Plot for Gender and Hours Spent on Social Media:

To compare the whether there is a relationship between hours spent on social media and gender. The mathematical model Box and Whisker Plot, will allow for comparison between the two variables. From the data, the minimum value, lower quartile, median, upper quartile, and maximum value are present. The values are spread along the continuous scale between two single axes.

Mean Female time spent on social media per day score

$$X = \frac{\sum fx}{n}$$

$$X = \frac{140.2}{37}$$

$$X = 3.47$$

On average women spend 3.47 hours a day on social media.

Mean Male time spent on social media per day score

$$X = \frac{\sum fx}{n}$$

$$X = \frac{127}{40}$$

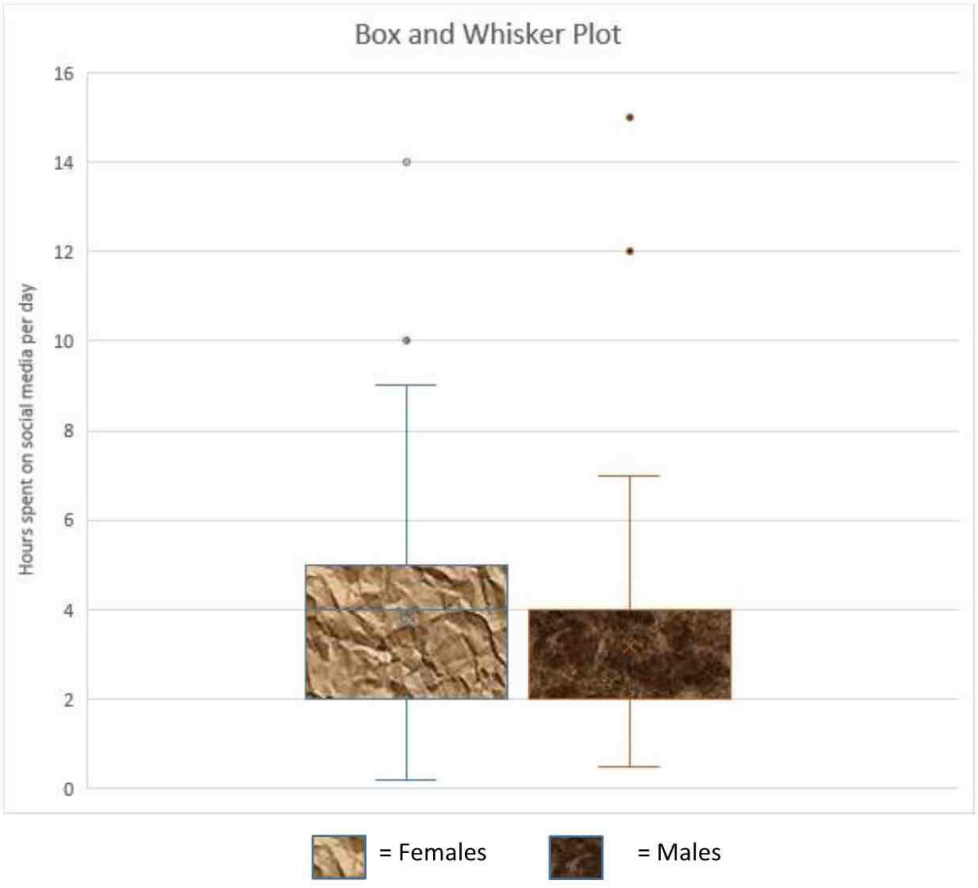
$$X = 3.175$$

Whereas on average men spend 3.20 hours per day on social media.

The raw data collected produced the following box and whisker graph:

Females	
Sum	140.2
Mean	3.47
Minimum	0.2
Q1	2
Median	4
Q3	5
Maximum	14
Range	13.8
IQR	3

Males	
Sum	127
Mean	3.175
Minimum	0.5
Q1	2
Median	2
Q3	4
Maximum	15
Range	14.5
IQR	2



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The box and whisker plot above shows that men and women express two different medians and mean scores. Hence, women appear to show a much larger median score than men. For example, males have a median score of 2, whereas women double this and indicate a score of 4. This means that over 50% of women spend more than 4 hours a day on social media because the median is located more towards the higher spectrum of the box. Whereas less than 50% of men spend up to 2 hours a day on social media because the median is seen to be at the lower end of the spectrum. This demonstrates that women on average spend a greater time on social media because they indicate a much larger median figure.

The Box and Whisker plot above also demonstrates the males 'range' appears to be much larger than the women's. This means, a range of 14.5 (males) and 13.8 (females) directs this mathematical method to claim that the data received from males was much spread compared to women. In other words, women share a high level of agreement with each other, therefore supporting the statement that women collectively share a large number of hours spent on social media compared to men. However, an inner quartile range of 2 hours (males) and 3 hours (females) showed that much of the data was clumped, hence strengthen the argument that women tend to spend more time on social media than men.

With women demonstrating a mean of 3.47, and men indicating a mean of 3.175. Expresses to us that on average women spend 0.295 more hours than men on social. Therefore, the data suggests there is a significant difference between social media usage time for men and women. Where we can conclude that there is a relationship between hours spent on social media and gender of users.

Chi-squared Test for Testing the independence of hours spent on social and self-believed identification of personality type for social media users:

To compare hours spent on social media and personality type, a chi-squared (X^2) can be used to compare two discrete values. A group of 77 males and females have been split into self-believed personality types – extrovert or introvert. An introvert is a person who is characterised by his or her thoughts, whereas an extrovert is primarily concerned with the physical and social environment (dictionary.com, 2017). Class 1-5 are individuals who strongly believe they are introverts, therefore we label them as introverts. Whereas class 6-10 strongly believe they are extroverts, hence will be labelled as extroverts. For this investigation, we are interested in finding whether the amount of time (hours) spent on our phones affects our personality type (introvert or extrovert).

The survey conducted was a self-conducted survey, meaning people could have answered the hypothetical introvert or extrovert questions at their own will. For example, "I see myself open to new experiences, complex." (Grohol J. M., 2016) From this, if an individual disagreed or agreed to this, we can compare that self-identification to how many hours they spend on social media.

Cleaning the data was necessary for this process because we did receive some responses where they spent more than 24 hours on social media per day. This is clearly unjustifiable and therefore will not be incorporated as they are insignificant. From previous answers, some participates had to be ruled out of the investigation because they were deemed inappropriate and non-conclusive.

Hypothesis:

Null Hypothesis (H_0) Time spent on social media is independent to personality type.

Alternate Hypothesis (H_1) – Time spent on social media is not independent to personality type.

Observed Frequencies:

	Low Usage (0-5)	Medium Usage (5.1 to 10)	High Usage (10.1 - 15)	Total
Introvert	19.00	14.00	1.00	34.00
Extrovert	40.00	2.00	1.00	43.00
Total	59.00	16.00	2.00	**77.00**

The table above represents how the number of hours on social media affects personality type. For example, there is 19 individuals who self-identified themselves as introverted, and had a low social media usage time. But, this was overruled by the staggering 40 individuals who self-identified themselves as extroverts and had a low social media usage time.

Expected Frequencies:

To calculate expected frequency $\frac{Row\ total\ x\ column\ total}{grand\ total}$

	Low Usage (0-5)	Medium Usage (5.1 to 10)	High Usage (10.1 - 15)	Total
Introvert	26.05	7.06	0.88	34.00
Extrovert	32.95	8.94	1.12	43.00
Total	59.00	16.00	2.00	**77.00**

In attempt to search for the Chi-Squared value, this investigation will use the Yate's continuity correction. The formula below will determine the value of Chi-Squared.

$$\mathbf{X^2 = \sum_{i=1}^{n} \frac{(O_i - E_i| - 0.5)^2}{E_i}}$$

(How2stats, 2011)

O_i	E_i	$O_i - E_i$	$\lvert O_i - E_i \rvert$	$\lvert O_i - E_i \rvert - 0.5$	$(\lvert O_i - E_i \rvert - 0.5)^2$	$\frac{(O_i - E_i\lvert - 0.5)^2}{E_i}$
19	26.05	-7.05	7.05	6.55	42.9025	1.646928983

40	32.95	7.05	7.05	6.55	42.9025	1.302048558
14	7.06	6.94	6.94	6.44	41.4736	5.874447592
2	8.94	-6.94	6.94	6.44	41.4736	4.639105145
1	0.88	0.12	0.12	-0.38	0.1444	0.164090909
1	1.12	-0.12	0.12	-0.38	0.1444	0.128928571

$$\sum_{i=1}^{n} \frac{(O_i - E_i| - 0.5)^2}{E_i} = 13.756$$

$$X^2calc = 13.756$$

Chi-squared Critical Value

Level of Significance

Degrees of Freedom (df)	0.05	0.025	0.01	0.005
1	6.314	12.706	31.821	63.653
2	2.920	4.303	6.965	9.925
3	2.353	3.18	4.541	5.841
4	2.132	2.776	3.747	4.604
5	2.015	2.571	3.365	4.032
6	1.943	2.447	3.143	3.707
7	1.895	2.365	2.998	3.499
8	1.860	2.306	2.896	3.355
9	1.833	2.262	2.821	3.250

(tutorvista.com, 2017)

When testing at a 2.5% level of significance and with 2 degrees of freedom, the critical value is **4.303**.

Degrees of freedom (v) = (# of rows -1) × (# of columns-1)

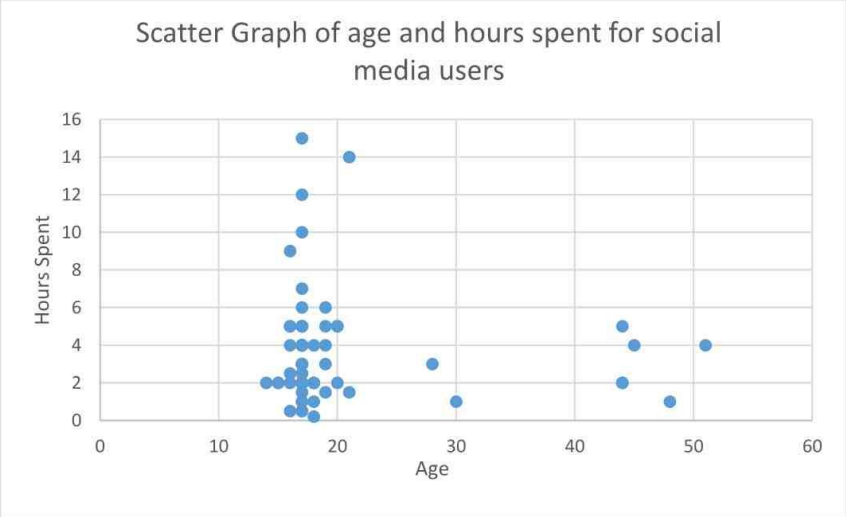
V = (2-1) × (3-1)

V = 2

As the X^2calc value of 13.756 is more than the X^2crit of 4.303, we reject the null hypothesis that individuals who spend a low usage of time on social media is independent to personality type. From what is observed we can determine that individuals who spend a low usage of time on social media does not affect their personality. This possibly supports our

original statement that high concentrates of social media does affect personality because there was no effect shown for low usage social media users.

Pearson's Product Momentum Correlation Coefficient for Age and Hours Spent on Social Media for Users:



Formula: $r = (\frac{Sxy}{SxSy})$

Data 1 **Data 2** **Data 3**

Age	Hours	xy	Age (x)	$x_i - \mu$	$(x_i - \mu)^2$	Hours (y)	$x_i - \mu$	$(x_i - \mu)^2$
17	2	34	17	-2.81	7.8961	2	-1.47	2.1609
17	4	68	17	-2.81	7.8961	4	0.53	0.2809
17	2	34	17	-2.81	7.8961	2	-1.47	2.1609
17	2	34	17	-2.81	7.8961	2	-1.47	2.1609
30	1	30	30	10.19	103.8361	1	-2.47	6.1009
14	2	28	14	-5.81	33.7561	2	-1.47	2.1609
15	2	30	15	-4.81	23.1361	2	-1.47	2.1609
16	2	32	16	-3.81	14.5161	2	-1.47	2.1609
17	6	102	17	-2.81	7.8961	6	2.53	6.4009
17	2	34	17	-2.81	7.8961	2	-1.47	2.1609
44	2	88	44	24.19	585.1561	2	-1.47	2.1609
18	2	36	18	-1.81	3.2761	2	-1.47	2.1609
17	2	34	17	-2.81	7.8961	2	-1.47	2.1609

15	2	30	15	-4.81	23.1361	2	-1.47	2.1609
17	5	85	17	-2.81	7.8961	5	1.53	2.3409
17	7	119	17	-2.81	7.8961	7	3.53	12.4609
17	2	34	17	-2.81	7.8961	2	-1.47	2.1609
18	2	36	18	-1.81	3.2761	2	-1.47	2.1609
18	2	36	18	-1.81	3.2761	2	-1.47	2.1609
16	2.5	40	16	-3.81	14.5161	2.5	-0.97	0.9409
17	2.5	42.5	17	-2.81	7.8961	2.5	-0.97	0.9409
17	3	51	17	-2.81	7.8961	3	-0.47	0.2209
19	4	76	19	-0.81	0.6561	4	0.53	0.2809
19	1.5	28.5	19	-0.81	0.6561	1.5	-1.97	3.8809
44	5	220	44	24.19	585.1561	5	1.53	2.3409
17	2	34	17	-2.81	7.8961	2	-1.47	2.1609
17	4	68	17	-2.81	7.8961	4	0.53	0.2809
17	0.5	8.5	17	-2.81	7.8961	0.5	-2.97	8.8209
16	0.5	8	16	-3.81	14.5161	0.5	-2.97	8.8209
17	0.5	8.5	17	-2.81	7.8961	0.5	-2.97	8.8209
20	5	100	20	0.19	0.0361	5	1.53	2.3409
17	2	34	17	-2.81	7.8961	2	-1.47	2.1609
17	12	204	17	-2.81	7.8961	12	8.53	72.7609
17	15	255	17	-2.81	7.8961	15	11.53	132.9409
20	2	40	20	0.19	0.0361	2	-1.47	2.1609
17	4	68	17	-2.81	7.8961	4	0.53	0.2809
17	2	34	17	-2.81	7.8961	2	-1.47	2.1609
17	3	51	17	-2.81	7.8961	3	-0.47	0.2209
28	3	84	28	8.19	67.0761	3	-0.47	0.2209
17	2	34	17	-2.81	7.8961	2	-1.47	2.1609
20	5	100	20	0.19	0.0361	5	1.53	2.3409
17	4	68	17	-2.81	7.8961	4	0.53	0.2809
17	1	17	17	-2.81	7.8961	1	-2.47	6.1009
16	9	144	16	-3.81	14.5161	9	5.53	30.5809
17	2	34	17	-2.81	7.8961	2	-1.47	2.1609
17	10	170	17	-2.81	7.8961	10	6.53	42.6409
16	5	80	16	-3.81	14.5161	5	1.53	2.3409
18	1	18	18	-1.81	3.2761	1	-2.47	6.1009
51	4	204	51	31.19	972.8161	4	0.53	0.2809
17	1.5	25.5	17	-2.81	7.8961	1.5	-1.97	3.8809
48	1	48	48	28.19	794.6761	1	-2.47	6.1009
17	4	68	17	-2.81	7.8961	4	0.53	0.2809
18	4	72	18	-1.81	3.2761	4	0.53	0.2809
19	3	57	19	-0.81	0.6561	3	-0.47	0.2209

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16	5	80	16	-3.81	14.5161	5	1.53	2.3409
17	3	51	17	-2.81	7.8961	3	-0.47	0.2209
17	5	85	17	-2.81	7.8961	5	1.53	2.3409
17	2	34	17	-2.81	7.8961	2	-1.47	2.1609
17	4	68	17	-2.81	7.8961	4	0.53	0.2809
18	0.2	3.6	18	-1.81	3.2761	0.2	-3.27	10.6929
17	2	34	17	-2.81	7.8961	2	-1.47	2.1609
21	1.5	31.5	21	1.19	1.4161	1.5	-1.97	3.8809
19	5	95	19	-0.81	0.6561	5	1.53	2.3409
17	5	85	17	-2.81	7.8961	5	1.53	2.3409
17	5	85	17	-2.81	7.8961	5	1.53	2.3409
17	4	68	17	-2.81	7.8961	4	0.53	0.2809
17	2	34	17	-2.81	7.8961	2	-1.47	2.1609
17	4	68	17	-2.81	7.8961	4	0.53	0.2809
45	4	180	45	25.19	634.5361	4	0.53	0.2809
17	2	34	17	-2.81	7.8961	2	-1.47	2.1609
44	2	88	44	24.19	585.1561	2	-1.47	2.1609
17	3	51	17	-2.81	7.8961	3	-0.47	0.2209
17	1	17	17	-2.81	7.8961	1	-2.47	6.1009
16	4	64	16	-3.81	14.5161	4	0.53	0.2809
21	14	294	21	1.19	1.4161	14	10.53	110.8809
19	6	114	19	-0.81	0.6561	6	2.53	6.4009
17	2	34	17	-2.81	7.8961	2	-1.47	2.1609
$\bar{x}$ = 19.81								
$\bar{y}$ = 3.47								
$\overline{xy}$ = 67.75								

Step 1

Data used to calculate Sw:

Calculate $s_{xy} = \overline{xy} - (\bar{x} \times \bar{y})$

$S_{xy} = 67.75 - (19.81 \times 3.47)$

Step 2

Data used to calculate standard deviation of x:

Calculate $\sigma = \sqrt{\frac{\sum(xi-\mu)^2}{n}}$

$\sum(xi - \mu)^2 = 4875.46$

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$S_{xy} = -.9907$

$$\sqrt{\frac{\sum(xi-\mu)^2}{n}} = \sqrt{\frac{4875.46}{77}}$$

$$\sqrt{\frac{\sum(xi-\mu)^2}{n}} = 63.31$$

Step 3

Data used to calculate standard deviation of y:

$$\text{Calculate } \sigma = \sqrt{\frac{\sum(xi-\mu)^2}{n}}$$

$$\sum(xi-\mu)^2 = 580.8213$$

$$\sqrt{\frac{\sum(xi-\mu)^2}{n}} = \sqrt{\frac{580.8213}{77}}$$

$$\sqrt{\frac{\sum(xi-\mu)^2}{n}} = 7.54$$

$$\text{Formula: } r = \left(\frac{Sxy}{SxSy}\right)$$

$$r = \frac{-.9907}{(63.31 \times 7.54)}$$

$$r = -0.0482$$

The value (r) is then squared to find the r^2 value from the following calculations. The r^2 value will be between 0 and 1, showing the strength of the correlation that exists between hours spent on social media and age.

$$r^2 = (-0.0482)^2$$

$$r^2 = 0.02323$$

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With reference to the table below, we can determine the strength of the correlation.

Value	Strength
$r^2 = 0$	No Correlation
$0 < r^2 > 0.25$	Very Weak
$0.25 \leq r^2 > 0.5$	Weak
$0.5 \leq r^2 > 0.75$	Moderate
$0.75 \leq r^2 > 1$	Strong
$r^2 = 1$	Perfect Correlation

A r^2 value of 0.02323 demonstrates that the correlation between hours spent on social media and age is very weak. A very weak correlation shows age does not act as a determinate in how many hours an individual will spend on social media per day. (Lucas, 2012)

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Conclusion

To conclude, the three mathematical processes carried out in this investigation did produce some evaluative points from the answers received. The evidence seemed to suggest that between the amount hours spent on social media, and gender is well as self-indicated personality type of users are independent to each other. Unfortunately, due to an insignificant amount of evidence some may conclude that the relationship between hours spent on social media and age is not independent.

However, the box and whisker graph did present some outstanding results showing how women on average tend to spend more time on social media than men. This was indicated through women spending a mean of 3.47 hours per day, whereas men spent a mean of 3.175 hours per day. Even though it was only a .295 of an hour difference, this can still exclaim how women in the data showed a greater usage time. Furthermore, this statement was proved by women demonstrating a smaller range of different hours spent on social media. For example, women had a range of 13.8 hours, whereas men were 14.5 hours. A smaller range concludes that the data from women was more clumped, therefore the mean given was stronger.

In the chi-squared test, outstanding results forced the investigation to reject the null hypothesis that individuals who spend a low usage of time on social media is independent to personality type. Reason being because the critical value of 4.303 was less than the calculated value of 13.756. The significant difference in values caused a rejection of the null hypothesis, appearing that people with low social media usage do not encounter any effects towards personality. Both mathematical methods mentioned above, answers' the original

question of whether a high amount of social media usage does or does not affect personality in consideration to both age and gender. It certainly does in terms of gender and self-indicated personality. Gender because women appeared to show a greater average number of hours spent on social media compared to men. Self-indication because individuals who spent less usage time on social media showed very consistent and strong personality qualities in the questionnaire. However, it can be concluded that there is no definite relationship between hours spent on social media and age due to the lack of supporting evidence. Therefore only 2 out of the 3 chosen methods answer our question, therefore we cannot fully determine whether a relationship exsists between these two variables.

Validity

This report has many different limitations that could have deputised the overall outcome of the investigation.

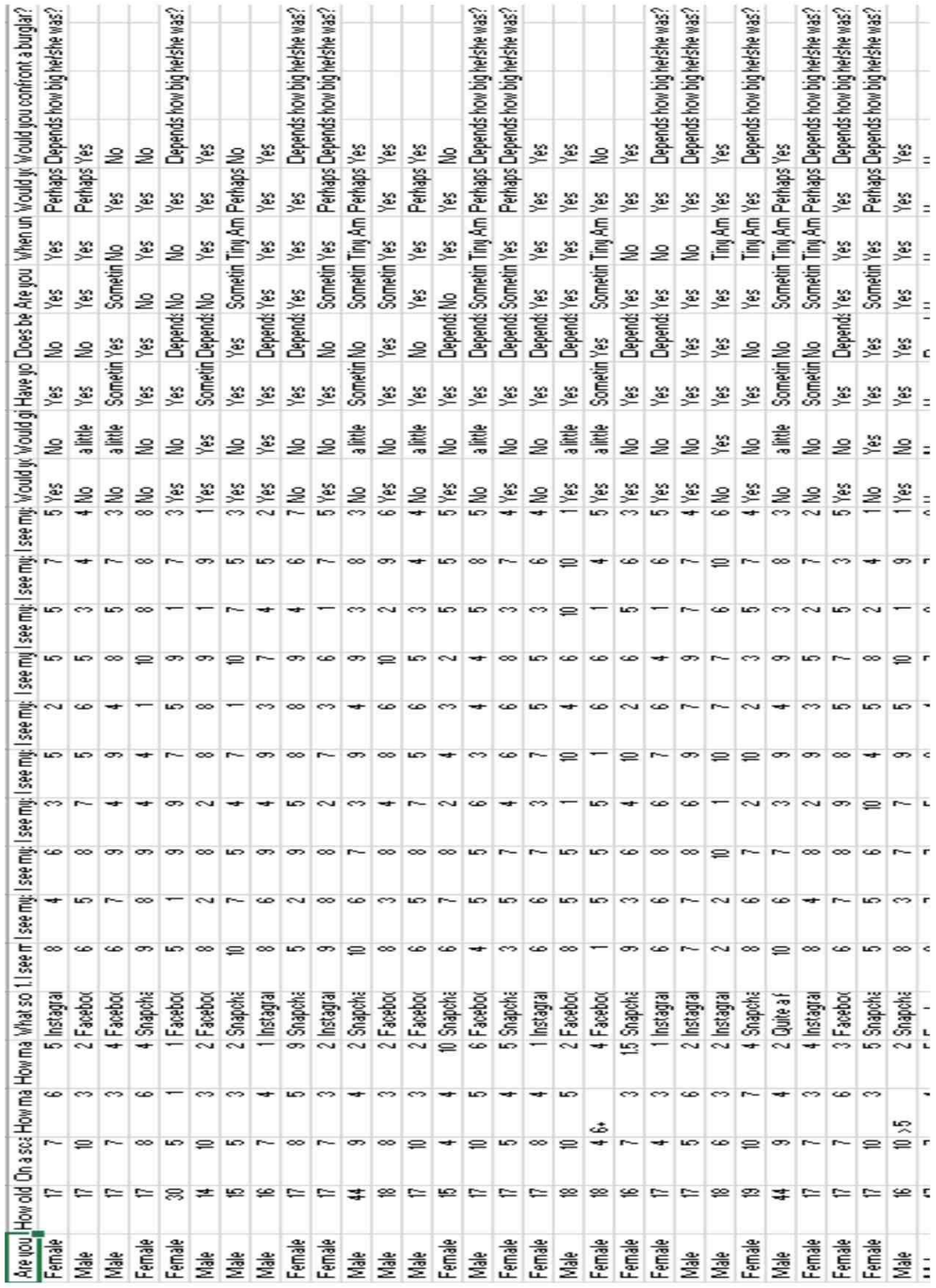
Firstly, the data could have been strengthened if it was more balanced across age groups especially, and a greater quantity. E.g. For Pearson's Product Momentum Correlation Coefficient did produce a fair answer of how there was a very weak correlation between age and hours spent on social media. But this could have been overruled by the disproportion amount of age samples that were 17. In future, instead of posting the questionnaire on my own Facebook. Post it on others who vary in age, that way this would eradicate the significant disproportionate number of teenagers.

Secondly, the organisation of cleaning the data received was not professional. For example, in the box and whisker plot many of the outliers used for that mathematical process, was not taken out for other mathematical process as well. Therefore, this would have skewed

the overall investigation because the other two methods contained uncleaned data, as well as extra data. In future, this can be improved by first cleaning all data on one excel sheet that will work for all mathematical processes.

Lastly, would be to reword the original observation and make sense of 'self-indicated personality belief'. This investigation intended to show how the different concentrations of time spent on social media can cause negative or poor personality traits. The introduction could have done with a paragraph specifying why and how poor personality traits are generated through high concentrates of social media. In future, this could have improved through a better and more focussed plan.

Appendix



Are you	How old	On a sca	How ma	How ma	What so	1.I see m	I see my	I see my	I see my	I see my	I see my	I see my	I see my	I see my	Would yo	Would gi	Have yo	Does be	Are you	When un	Would yo	Would you confront a burglar?
Female	17	7	6	5	Instagrai	8	4	6	3	5	2	5	5	7	5 Yes	No	Yes	No	Yes	Yes	Perhaps	Depends how big he/she was?
Male	17	10	3	2	Facebor	6	5	8	7	5	6	5	3	4	4 No	a little	Yes	No	Yes	Yes	Perhaps	Yes
Male	17	7	3	4	Facebor	6	7	9	4	9	4	8	5	7	3 No	a little	Somelin	Yes	Somelin	No	Yes	No
Female	17	8	6	4	Snapchi	9	8	9	4	4	1	10	8	8	8 No	No	Yes	Yes	No	Yes	Yes	No
Female	30	5	1	1	Facebor	5	1	9	9	7	5	9	1	7	3 Yes	No	Yes	Depend:	No	No	Yes	Depends how big he/she was?
Male	14	10	3	2	Facebor	8	2	8	2	8	8	9	1	9	1 Yes	Yes	Somelin	Depend:	No	Yes	Yes	Yes
Male	15	5	3	2	Snapchi	10	7	5	4	7	1	10	7	5	3 Yes	No	Yes	Yes	Somelin	Tiny Am	Perhaps	No
Male	16	7	4	1	Instagrai	8	6	9	4	9	3	7	4	5	2 Yes	Yes	Yes	Depend:	Yes	Yes	Yes	Yes
Female	17	8	5	9	Snapchi	5	2	9	5	8	8	9	4	6	7 No	No	Yes	Depend:	Yes	Yes	Yes	Depends how big he/she was?
Female	17	7	3	2	Instagrai	9	8	8	2	7	3	6	1	7	5 Yes	No	Yes	No	Somelin	Yes	Perhaps	Depends how big he/she was?
Male	44	9	4	2	Snapchi	10	6	7	3	9	4	9	3	8	3 No	a little	Somelin	No	Somelin	Tiny Am	Perhaps	Yes
Male	18	8	3	2	Facebor	8	3	8	4	8	6	10	2	9	6 Yes	No	Yes	Yes	Somelin	Yes	Yes	Yes
Male	17	10	3	2	Facebor	6	5	8	7	5	6	5	3	4	4 No	a little	Yes	No	Yes	Yes	Perhaps	Yes
Female	15	4	4	10	Snapchi	6	7	8	2	4	3	2	5	5	5 Yes	No	Yes	Depend:	No	Yes	Yes	No
Male	17	10	5	6	Facebor	4	5	5	6	3	4	4	5	8	5 No	a little	Yes	Depend:	Somelin	Tiny Am	Perhaps	Depends how big he/she was?
Female	17	5	4	5	Snapchi	3	5	7	4	6	6	8	3	7	4 Yes	No	Yes	Depend:	Somelin	Yes	Perhaps	Depends how big he/she was?
Female	17	8	4	1	Instagrai	6	6	7	3	7	5	5	3	6	4 No	No	Yes	Depend:	Yes	Yes	Yes	Yes
Male	18	10	5	2	Facebor	8	5	5	1	10	4	6	10	10	1 Yes	a little	Yes	Depend:	Yes	Yes	Yes	Yes
Female	18	4	6+	4	Facebor	1	5	5	1	10	6	6	1	4	5 Yes	a little	Somelin	Yes	Somelin	Tiny Am	Yes	No
Female	16	7	3	1.5	Snapchi	9	3	6	4	10	2	6	5	6	3 Yes	No	Yes	Depend:	Yes	No	Yes	Yes
Female	17	4	3	1	Instagrai	6	6	8	6	7	6	4	1	6	5 Yes	No	Yes	Depend:	Yes	No	Yes	Depends how big he/she was?
Male	17	5	6	2	Instagrai	7	7	8	6	9	7	9	7	7	4 Yes	No	Yes	Yes	Yes	No	Yes	Depends how big he/she was?
Male	18	6	3	2	Instagrai	2	2	10	1	10	7	7	6	10	6 No	Yes	Yes	Yes	Yes	Tiny Am	Yes	Yes
Female	19	10	7	4	Snapchi	8	6	7	2	10	2	3	5	7	4 Yes	No	Yes	No	Yes	Tiny Am	Yes	Depends how big he/she was?
Male	44	9	4	2	Quite a f	10	6	7	3	9	4	9	3	8	3 No	a little	Somelin	No	Somelin	Tiny Am	Perhaps	Yes
Female	17	7	3	4	Instagrai	8	4	8	2	9	3	5	2	7	2 No	No	Somelin	No	Somelin	Tiny Am	Perhaps	Depends how big he/she was?
Female	17	7	6	3	Facebor	6	7	8	9	8	5	7	5	3	5 Yes	No	Yes	Depend:	Yes	Yes	Yes	Depends how big he/she was?
Female	17	10	3	5	Snapchi	5	5	6	10	4	5	8	2	4	1 No	Yes	Yes	Yes	Somelin	Yes	Perhaps	Depends how big he/she was?
Male	16	10	>5	2	Snapchi	8	3	7	7	9	5	10	1	9	1 Yes	No	Yes	Yes	Yes	Yes	Yes	Yes

Male	17	7	4	5	Facebo	9	7	7	5	6	1	7	2	7	3	Yes	No	Yes	Depend	Yes	Yes	Yes						
Female	20	10	3	3	Snapcha	9	2	7	4	8	3	9	4	7	5	Yes	No	Sometin	Depend	No	Tiny Am	Yes	No					
Male	17	10	3	7	facebo	8	6	7	7	8	2	7	7	7	4	Yes	No	Yes	No	Yes	Yes	Yes	Yes					
Male	17	8	5	2	Instagra	7	7	7	4	8	7	6	4	6	5	Yes	a little	Yes	Depend	Sometin	Yes	Yes	Depends how big he/she was?					
Female	17	5	5	5	Instagra	7	1	6	2	8	2	8	5	9	7	Yes	No	Yes	Depend	Yes	Yes	Yes	Depends how big he/she was?					
Male	20	9	2	2	Fb	5	9	10	7	6	6	9	3	7	4	Yes	a little	Sometin	Depend	Yes	Yes	Yes	Depends how big he/she was?					
Female	17	3	4	2	snapcha	1	4	8	6	10	10	8	3	6	2	No	a little	Sometin	Yes	No	Yes	Yes	Depends how big he/she was?					
Female	17	10	3	4	Instagra	6	3	3	2	8	1	9	4	8	2	No	No	Sometin	Depend	Sometin	Yes	Perhaps	Depends how big he/she was?					
Male	17	5	6	2	Faceboo	8	5	8	1	10	1	9	1	10	5	Yes	No	Yes	Yes	No	Tiny Am	Yes	Depends how big he/she was?					
Female	28	10	3	0.2	Faceboo	6	3	10	8	8	3	6	5	4	1	No	No	Yes	No	No	Yes	Yes	Depends how big he/she was?					
Male	17	8	3	2.5	Snapcha	8	8	6	3	7	4	5	5	6	3	Yes	a little	Yes	Depend	Yes	No	Yes	Yes					
Male	20	10	3	2.5	facebo	6	4	3	3	5	5	5	5	5	5	No	Yes	Yes	Yes	No	No	Yes	Depends how big he/she was?					
Male	17	7	3	3	instagra	6	8	5	6	8	4	7	8	9	4	Yes	No	Yes	Yes	Sometin	No	Yes	Yes					
Male	17	8	3	4	Faceboo	9	6	6	3	8	2	8	5	9	4	Yes	a little	Sometin	Depend	Sometin	Tiny Am	Perhaps	Depends how big he/she was?					
Male	16	10	3	1.5	Snapcha	7	5	7	3	7	5	7	3	7	3	Yes	No	Yes	Yes	Sometin	Tiny Am	Yes	Depends how big he/she was?					
Male	17	10	5	5	Faceboo	10	10	10	1	8	1	8	1	9	1	Yes	Yes	Yes	Depend	Yes	No	Yes	Yes					
Female	17	6	3	2	instagra	6	3	7	7	7	3	5	2	4	2	No	No	Yes	Depend	Sometin	Tiny Am	Yes	Yes					
Male	16	2	4	2	snapcha	1	1	1	10	1	3	3	10	1	5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes					
Male	18	4	5	4	Snapcha	6	4	6	4	7	4	4	6	6	4	Yes	a little	Yes	Depend	Sometin	Yes	Yes	Yes					
Female	51	10	1	1.5	Faceboo	9	2	7	2	9	2	9	3	9	3	Yes	No	Yes	Yes	Yes	Tiny Am	Yes	Depends how big he/she was?					
Female	17	8	6	5	Faceboo	4	7	9	6	7	8	5	4	6	4	No	a little	Sometin	Depend	Yes	Tiny Am	Perhaps	Depends how big he/she was?					
Male	48	7	3	0.5	LinkedIn	7	2	8	2	7	6	6	2	8	2	Yes	No	Yes	Depend	Sometin	No	Yes	Yes					
Female	17	4	6	5	Faceboo	3	4	8	8	6	8	5	7	3	8	No	a little	No	Depend	Sometin	Yes	Perhaps	No					
Female	18	9	4	5	Instagra	8	7	5	2	4	4	4	7	9	5	Yes	No	Yes	No	Yes	Yes	Yes	No					
Female	19	6	3	4	instagra	6	4	6	7	7	5	6	2	5	8	Yes	No	Sometin	Depend	Yes	Yes	Yes	No					
Male	16	6	5	0.5	Faceboo	8	6	7	4	8	3	7	7	5	5	Yes	No	Sometin	Yes	Sometin	Tiny Am	Yes	Yes					
Female	17	5	3	2	Snapcha	5	7	7	7	8	4	4	9	6	3	Yes	No	Yes	Yes	Yes	No	Yes	Depends how big he/she was?					
Female	17	8	2	4	Faceboo	7	4	5	2	10	4	8	9	7	3	Yes	No	Sometin	Depend	Sometin	Tiny Am	Perhaps	Depends how big he/she was?					
Male	17	5	1	0.5	Faceboo	7	3	5	2	8	2	8	4	4	2	No	No	Yes	Depend	Sometin	Yes	Yes	Depends how big he/she was?					
Male	17	5	4	5	Faceboo	8	4	7	3	7	1	8	7	4	4	Yes	No	Yes	Depend	Sometin	Yes	Yes	No					

Male	f17	5	1	0.5	Facebook	7	3	5	2	8	2	8	4	4	2	No	No	Yes	Depends	Somelim	Yes	Yes	Depends how big he/she was?
Male	f17	5	4	5	Facebook	8	4	7	3	7	1	8	7	4	4	Yes	No	Yes	Depends	Somelim	Yes	Yes	No
Male	f18	6	3	2	Instagram	5	8	9	3	10	6	7	2	8	4	Yes	No	Yes	No	Somelim	Yes	Yes	Depends how big he/she was?
Male	f17	5	2	12	Facebook	3	6	6	7	5	6	4	3	7	6	Yes	a little	No	Depends	Somelim	Tiny Am	Perhaps	No
Male	21	6	10	15	Instagram	10	10	10	10	10	10	10	10	10	10	Yes	No	Yes	No	Yes	Yes	Yes	Yes
Female	f19	10	7	4	Snapchat	8	6	7	2	10	2	3	5	7	4	Yes	No	Yes	No	Yes	Tiny Am	Yes	Depends how big he/she was?
Female	f17	6	4	2	Instagram	6	4	8	8	8	5	8	3	6	5	Yes	No	Somelim	Depends	No	Yes	Yes	Depends how big he/she was?
Female	f17	6	4	2	Snapchat	6	6	10	7	10	10	8	1	8	5	Yes	a little	Yes	Depends	Somelim	Yes	Yes	Depends how big he/she was?
Male	f17	7	4	2	Facebook	5	8	5	2	6	5	1	6	8	4	Yes	a little	Yes	Depends	Yes	Yes	Yes	Depends how big he/she was?
Male	f17	7	5	4	Instagram	8	8	7	7	10	8	9	4	5	2	Yes	No	Yes	Depends	Somelim	Tiny Am	Perhaps	Yes
Female	f17	5	5	3	instagram	3	2	7	3	8	8	9	7	6	2	Yes	No	Yes	No	No	Tiny Am	Perhaps	Depends how big he/she was?
Female	45	9	1	1	Facebook	9	1	8	2	9	2	9	3	8	4	Yes	a little	Yes	Yes	Yes	Tiny Am	Yes	Yes
Female	f17	10	5	4	Facebook	10	9	9	7	10	2	9	4	8	5	Yes	No	Somelim	Depends	Somelim	Yes	Perhaps	Depends how big he/she was?
Male	44	9	4	2	wechat	10	6	7	3	9	4	9	3	8	3	No	a little	Somelim	No	Somelim	Tiny Am	Perhaps	Yes
Male	f17	7	5	3	Facebook	3	4	5	7	7	5	8	6	5	7	Yes	a little	Yes	Yes	No	Yes	Yes	Depends how big he/she was?
Male	f17	7	5	3	Facebook	3	4	5	7	7	5	8	6	5	7	Yes	a little	Yes	Yes	No	Yes	Yes	Depends how big he/she was?
Female	f16	10	8	14	Facebook	1	10	10	10	10	1	1	10	3	1	Yes	No	Yes	No	Yes	Yes	Yes	Yes
Female	21	10	5	6	Instagram	9	5	9	8	9	2	8	3	8	5	No	No	Yes	Depends	Somelim	Yes	Yes	No
Female	f19	4	3	2	Instagram	7	10	10	1	1	6	6	8	10	3	Yes	No	Yes	No	Yes	Yes	Yes	Yes
Male	f17	10	2	2	Facebook	10	3	8	3	9	1	9	8	9	9	Yes	No	Yes	Depends	No	Tiny Am	Perhaps	Depends how big he/she was?

Questionnaire

Is Social media really that social?

Maths IA

Are you Male or Female?

- Male
- Female

How old are you?

Short answer text

On a scale from 1 to 10, how popular do you think you are? 1 being 1 friend and 10 being over 20.

	1	2	3	4	5	6	7	8	9	10	
Not Very Popular	○	○	○	○	○	○	○	○	○	○	Very Popular

How many social media accounts do you have?

Short answer text

How many hours a day are you on social media?

Short answer text

What social media app or site do you visit most?

Short answer text

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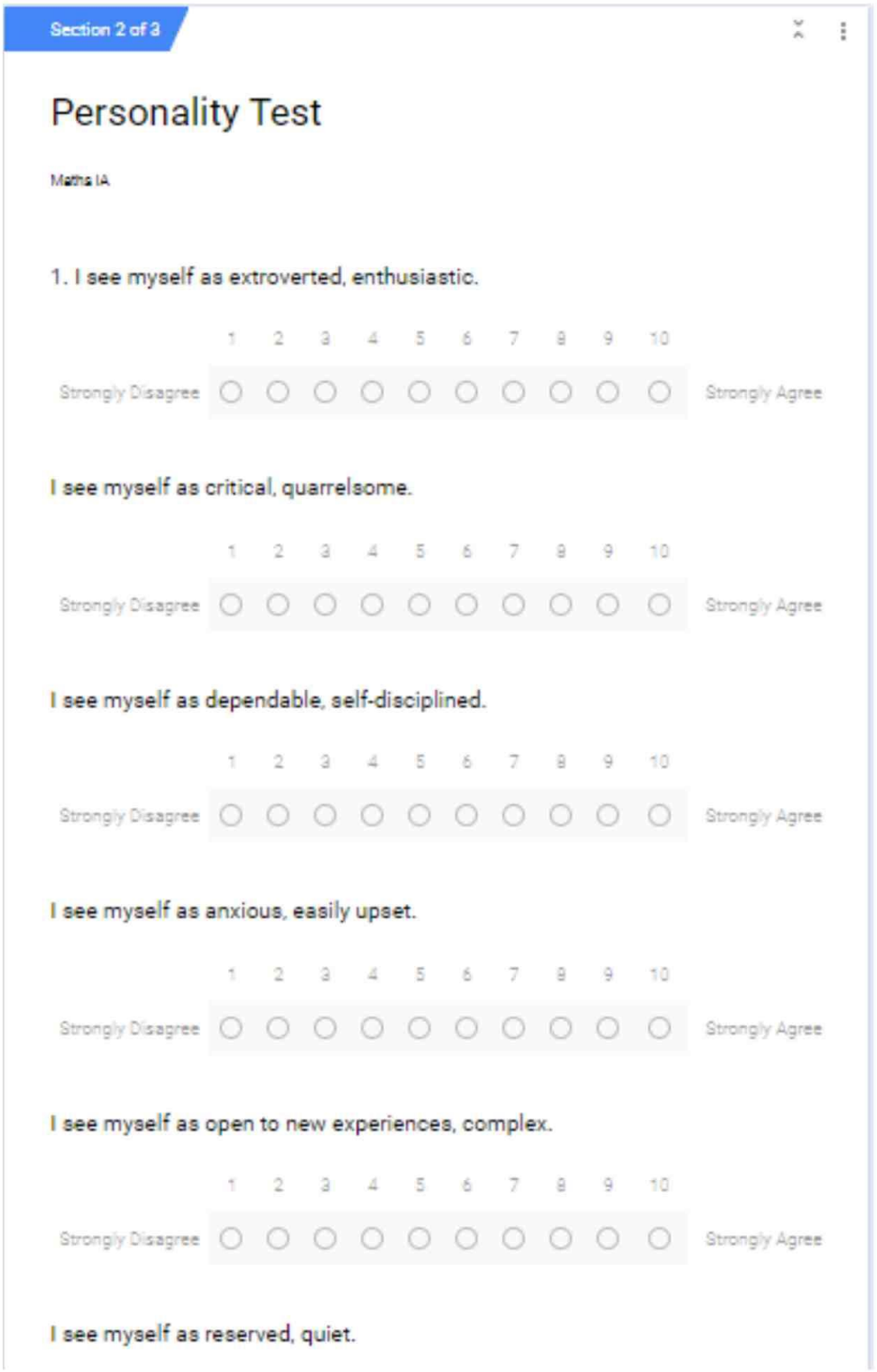

Section 2 of 3

Personality Test

Maths IA

1. I see myself as extroverted, enthusiastic.

	1	2	3	4	5	6	7	8	9	10	
Strongly Disagree	○	○	○	○	○	○	○	○	○	○	Strongly Agree

I see myself as critical, quarrelsome.

	1	2	3	4	5	6	7	8	9	10	
Strongly Disagree	○	○	○	○	○	○	○	○	○	○	Strongly Agree

I see myself as dependable, self-disciplined.

	1	2	3	4	5	6	7	8	9	10	
Strongly Disagree	○	○	○	○	○	○	○	○	○	○	Strongly Agree

I see myself as anxious, easily upset.

	1	2	3	4	5	6	7	8	9	10	
Strongly Disagree	○	○	○	○	○	○	○	○	○	○	Strongly Agree

I see myself as open to new experiences, complex.

	1	2	3	4	5	6	7	8	9	10	
Strongly Disagree	○	○	○	○	○	○	○	○	○	○	Strongly Agree

I see myself as reserved, quiet.

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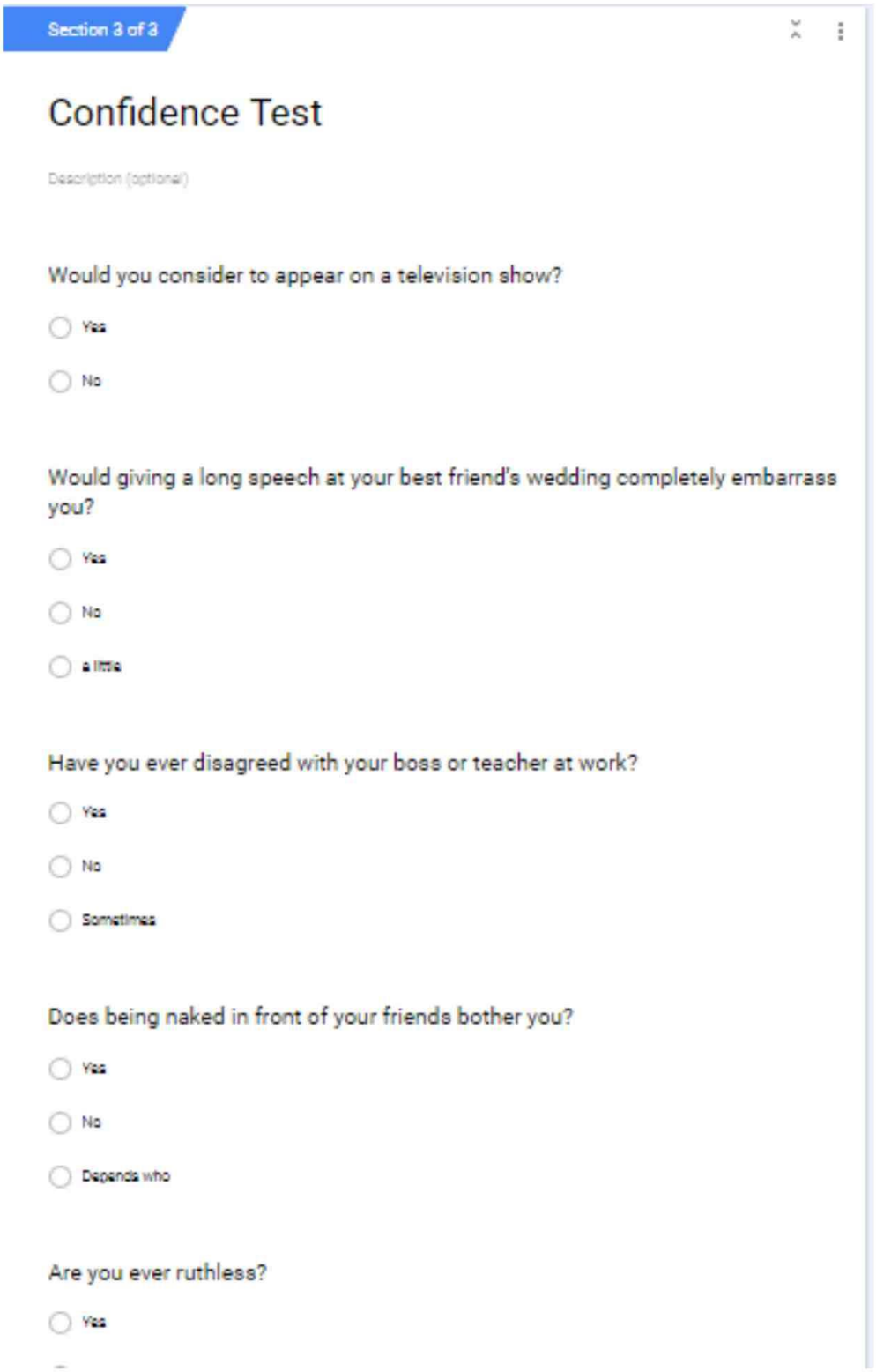

Section 3 of 3

Confidence Test

Description (optional)

Would you consider to appear on a television show?

- Yes
- No

Would giving a long speech at your best friend's wedding completely embarrass you?

- Yes
- No
- a little

Have you ever disagreed with your boss or teacher at work?

- Yes
- No
- Sometimes

Does being naked in front of your friends bother you?

- Yes
- No
- Depends who

Are you ever ruthless?

- Yes

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