The Sociosexuality and Well-Being of Incels

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Abstract

In the last years, it was observable that the online community of involuntary celibates (incels) shows several signs of low well-being. The growth of this community is a reason for this research, which aims to measure the sociosexual orientation of incels compared to non-incels but also to find possible factors for this low well-being. Individuals that are active on platforms like *Reddit* and identify themselves as incels participated in this cross-sectional study as well as students from the University of Twente. At first, the sociosexual orientation of incels (N = 23) was compared to non-incels (N = 192) with the Sociosexual Orientation Inventory (SOI). The hypothesis was that incels score higher in sociosexual desire and lower in sociosexual behaviour than non-incels. It was also hypothesized that the discrepancy between sociosexual desire and behaviour is related to low well-being, as well as the degree of inceldom, which is the degree of lacking sexual and romantic relationships despite desiring those. The results of comparing the means showed that incels indeed score higher on sociosexual desire and lower on sociosexual behaviour than non-incels while their scores are similar on their global sociosexual orientation and their attitude. Furthermore, low well-being was indeed predicted by both the discrepancy between sociosexual desire and behaviour, as well as the degree of inceldom, with the degree of inceldom being the stronger factor. However, more research has to be done to test more factors that could influence incels' low well-being in order to help incels.

In 2014, the 22-year-old Elliot Rodger injured 14 people, killed six, and afterwards shot himself in California during the infamous Isla Vista killings. Prior, he wrote a manifesto and uploaded videos on YouTube, where he explained that he was jealous of sexually active men and hated women for rejecting him and being responsible for his unhappiness (Young, 2019). Rodger became an idol for a new online community called "Incels" which is short for "involuntary celibates", a group of mostly males, who blame their celibacy on women (Ging, 2019). One year later, Chris Harper-Mercer shot nine students and injured nine. He also wrote a manifesto where he mentions Elliot Rodger. Since then, at least three more shootings with a connection to the incel community have taken place (Young, 2019).

Incels most often want to have sexual intercourse but find themselves unable to, which might lead to a dissonance between their sexual desire and behaviour. This dissonance, as well as the degree of inceldom, might be related to their low well-being since individuals who have a general discrepancy between their desire and behaviour report lower subjective well-being (Michalos, 1985). In this research, the degree of inceldom means one's degree of lacking romantic and sexual activity (e.g. dating, being in a romantic relationship, kissing and sexual intercourse) despite desiring those, but also the frequency of visiting incel forums and posting there. The low well-being could be seen in their loneliness, anger, frustration, and dissatisfaction (Jaki, De Smedt, Gwóźdź, Panchal, Rossa & De Pauw, 2019). This paper will focus on incels and their well-being, their sociosexual orientation as well as how low well-being is related to the discrepancy between sexual desire and behaviour and to the degree of inceldom.

Characteristics of the incel community

The term "incel" was first used in 1997 by a queer woman who used it on a support website (Young, 2019). Today, incels changed to an all-male group with the minimal criteria of "being male and not having had a sexual partner for a long time" (Jaki et al., 2019, p. 15). Incels are often seen as racist and sexist which is connected to a belief of male supremacy that they often mention, stating that men are superior to women (Labbaf, 2019).

Incels generally desire sexual and romantic relationships but feel that they are unable to get them. They have a general hatred for women because they perceive women to be the main reason for their celibacy, next to that they blame their mental health (e.g. autism), perceived own low attractiveness or their ethnicity (Young, 2019). Incels blame women for being too demanding in their partner choice and some blame feminism for increasing loneliness and suicide in men and for being "the decay of society and terror" (Jaki et al., 2019, p.11). Some incels even advice the annulment of women's rights. Those views often come from the

belief that women are hypergamous, which means that they are not "sexually generous" (Young, 2019, p.16) and are only attracted to a small percentage of men, looking for a partner that is more attractive than they are themselves.

Most of the time, incels see themselves as "beta-males", which means being less successful (mostly regarding women, but also in other aspects), dominant and attractive than "alpha males". Those alpha males, who are called "Chad" by the incel community are often portrayed as strong, masculine, and confident. As they are perceived as sexually active and thus often preferred by women, they are also an object of hate by incels (Young, 2019).

Many incels often show signs of low well-being, such as depression, suicidality, or violent thoughts (Jones, 2020), which could be the result of their celibacy but also of a lack of confidence. The consequences of involuntary celibacy, the lack of romantic and sexual experience despite desiring those, can include loneliness, anger, frustration, and dissatisfaction (Jaki et al., 2019).

Although many platforms that incels use, such as specific forums on the platform Reddit, have already been closed due to discrimination, the online community is growing. The increased use of social media within the last years is an important factor for this, as the group as it is now, has not existed before the rise of social media (Young, 2019). Because of the growth of this online community and the knowledge that incels oftentimes experience low well-being, research is needed with the aim to understand the causes of low well-being of incels.

Unfulfilled sexual desire and its impact on well-being

 One important factor for well-being could be sociosexuality. Simpson and Gangestad (1991) defined sociosexuality as the individual differences to engage in uncommitted sexual relationships. So far, no research on the sociosexuality of incels has been done, but as mentioned before, incels often state that they desire sexual or romantic relationships, while not respecting women or even hating them. Therefore, it is interesting to measure incels' sexual restrictedness, meaning how likely they are to engage in uncommitted sexual relationships, compared to non-incels.

One's general sociosexuality can be assessed by their sociosexual desire, sociosexual behaviour, and sociosexual attitudes. Sociosexual desire is a motivational state which consists of increased sexual interest, arousal but also sexual fantasies (Penke & Asendorpf, 2008). Individuals with high scores on sociosexual desire have a more unrestricted sexual desire, which means being mainly attracted and aroused by potential mates without the intention of engaging in a committed relationship. Generally, men have a more unrestricted desire than

women (Penke & Asendorpf, 2008) and one recurring topic found in the incel community is their unfulfilled sexual desire. Besides, since individuals who are not in a committed romantic relationship show higher scores in sociosexual desire (del Rio, Ramos-Villagrasea, Castro & Barrada, 2019), it is predicted that incels score higher than non-incels.

Sociosexual behaviour reflects the sum of short-term sexual encounters and individuals with a high score on sociosexual behaviour tend to have more mating-partners, but unstable relationships in the future (Penke & Asendorpf, 2008). It is predicted that incels have lower sociosexual behaviour compared to non-incels, as incels most of the time do not have any sexual experiences at all.

Sociosexual attitude reflects an individual's aspire to closeness with a potential mating-partner and the moral feelings about sex in general (Penke & Asendorpf, 2008). Given that some incels only desire sexual relationships while others also aspire romance, which is the same in non-incels, it is predicted that incels should not differ in their attitudes to sex than non-incels.

As incels probably have a higher sexual desire and lower sexual behaviour than non-incels, the discrepancy between sexual desire and behaviour is higher as well. This discrepancy could be a factor that is related to low well-being, since individuals who have a general discrepancy between their desire and behaviour report a lower subjective well-being too (Michalos, 1985). Furthermore, sexuality is a contributor to one's perceived quality of life and general well-being (Mitchell et al., 2013) and individuals with higher scores on sociosexual behaviour report higher levels of well-being (Vrangalova & Ong, 2014). This dissonance as well as a higher degree of inceldom, might be related to a decreased well-being, which could then lead to depression, anxiety, stress, or even violence and suicide.

In summary, this research aims to investigate if there is a difference between the sociosexuality of incels compared to non-incels with the aim to indicate how sexually restricted they are. Next to that, it aims to examine whether the discrepancy between desire and behaviour, and the degree of inceldom, are indeed related to low well-being,

Current study

This study entails two main goals. The first goal is to compare sociosexuality in terms of desire, attitude, and behaviour, as well as the global sociosexual orientation of incels to non-incels. This was done using an online self-report questionnaire. The second goal is analysing whether the discrepancy between sociosexual desire and behaviour as well as the degree of inceldom are related to low well-being. The second goal is not only relevant for incels but for non-incels as well. This research is important to incels because therapists might

understand them more and can help them to feel better or have more insight to design interventions. Furthermore, it is relevant in order to detect potential signs of inceldom and its possible negative consequences, such as low well-being. This paper focuses on the question: *Is there a difference in the sociosexuality of incels compared to non-incels and is the discrepancy between sociosexual desire and behaviour, as well as the degree of inceldom related to low well-being?* Based on research on incels as well as on sociosexuality, the following hypotheses have been created:

Hypothesis 1 (H1): *Incels score higher on sociosexual desire and lower on sociosexual behaviour than non-incels, but no differences in sociosexual attitude or global sociosexual orientation scores are expected.*

Hypothesis 2 (H2): *The discrepancy between sociosexual desire and behaviour as well as the degree of inceldom are related to low well-being.*

Methods

Participants

This study had an online sample of individuals who could speak English and were at least 18 years old. There were 264 participants of whom 28 identified themselves as incels, while 235 participants were non-incels.

Although most self-defined incels were male, the gender was not a requirement to participate and out of all participants, there were 103 male, 154 female and seven who defined as other. The participants were 18 to 69 years old with an average of 25 years (SD = 7). The demographics are shown in Table 1.

The participants were active members of online forums for incels or in incel groups on social media such as *Reddit* (individual forums that are not closed yet), *Discord* and *Facebook*. Furthermore, students from the University of Twente participated through SONA and received study credits. Each participant could join a lottery to win a €50 Amazon voucher.

Table 1

Demographics (N=264)

Variable	Variable	Frequency	%
Sex			
	Male	103	39.0
	Female	154	58.3
	Other	7	2.7
Incel Status			
	Incel	28	10.6
	Non-incel	235	89.0
Research-Defined Incels			
	High-incel	135	51.1
	Low-incel	106	40.2
Country of Birth			
	United States	71	27.0
	Germany	72	27.4
	Netherlands	41	15.6
	Other	80	30.0
Ethnicity			
	White-European	159	60.2
	White-American	44	16.7
	Other	61	23.1
Sexual Orientation			
	Heterosexual	164	62.1
	Homosexual	16	6.1
	Bisexual	67	25.4
	Asexual	7	2.7
	Other	10	3.7
Variable	Variable	Frequency	%
Highest Level of Education			
	Less than high school	9	3.4
	High school graduate	121	45.8
	College graduate	41	15.5

	Undergraduate degree	66	25.0
	Master's degree	24	10.8
	PhD or higher degree	3	1.1
Status of Employment			
	Student	140	53.2
	Full-time employment	65	24.7
	Part-time Employment	15	5.7
	Unemployment (looking for work)	20	7.6
	Unemployment (not looking for work)	9	25.0
	Self-employment	6	2.3
	Unable to work	7	2.7
Socio-Economic-Status			
	Very poor	11	4.2
	Poor	27	10.3
	Slightly poor	35	13.
	Middle class	116	44.6
	Slightly wealthy	67	21.6
	Wealthy	6	21.6
	Very wealthy	1	1.4
Relationship Status			
	Single	113	43.0
	Casually dating	29	11.0
	Exclusively dating	63	24.0
	Living together/engaged/married	58	22.0

Design and Procedure

The research was designed as a cross-sectional study and the data collection took five weeks in which the questionnaire was distributed on several online platforms that are used by the incel community. The participants were told that it investigated people's perceived motives, attitudes, and preferences in relationships. First, participants had to agree with the informed consent form (Appendix A) which stated that participation was voluntary, that it

was possible to end the survey at any time, that all information would be anonymous and be kept confidential.

The participants filled in their demographics, questions about their degree of inceldom, their well-being and sociosexual orientation. Afterwards, the participants were debriefed and informed that the study investigated how one's degree of involuntary celibacy was related to their personality, mental health, various motives, attitudes and perception of women and male-female relationships.

Materials

This study was part of a larger project investigating motives and mental health characteristics of incels. Therefore, the survey included a variety of other measurement instruments that are not relevant to this study. For this study only the demographics (9 items), the degree of inceldom (12 items), their well-being (14 items) and the sociosexuality (13 items) are relevant.

Demographics. The demographics were measured with nine items asking for the participants' age, sex, country of birth, ethnicity, sexual orientation, their highest level of education, employment status, socio-economic status, and current relationship status (Appendix B).

Incel Status. To measure the incel status, the participants had to state in one item whether they identify as incels (Appendix C).

Degree of Inceldom. The degree of inceldom scale was created by the research team and it measures one's degree of lacking romantic and sexual experience despite desiring those, but also the frequency of visiting incel forums and posting there (Appendix D). Subsequently, participants filled in twelve statements about their degree of inceldom *(e.g. I have tried having sexual/romantic relationships, but I have been rejected too many times)* that were measured on a five-point Likert-scale ("*does not describe me*" to "*describes me extremely well*"). Because the scale was new and made for this study by the researchers, a factor analysis was conducted to test whether all variables were important, and it was decided to keep all variables as they all measured the construct. Cronbach's alpha equalled 0.93 in this data set and therefore the internal consistency was excellent. The score was calculated through the mean of all twelve items.

Sociosexual Orientation. For measuring the sociosexual orientation, a revised version of the Sociosexual Orientation Inventory (SOI) was used. The SOI measured global sociosexual orientations, but also the sociosexual behaviour, attitude, and desire (Penke & Asendorpf, 2008).

Sociosexual Attitude was measured through five items (e.g. *Sex without love is ok*) that were answered on a nine-point Likert-scale (*strongly disagree* to *strongly agree*). One of the SOI items was removed and two were included after Weeden, Cohen and Kendrick (2008). The internal consistency here was excellent (α=0.93).

Sociosexual Behaviour was measured with four items (e.g. With how many different partners have you had sexual intercourse within the past three years?); three from the SOI and one after Weeden, Cohen and Kendrick (2008). The answers were also given on a nine-point Likert-scale (*0* to *20+*). The internal consistency in this study was good (α=0.89).

To measure the *Sociosexual Desire*, there were three items (e.g. *How often do you have fantasies about having sex with someone you are not in a committed relationship with?)* that had to be answered on a nine-point Likert-scale (*never* to *at least once a day*). With a Cronbach's alpha of 0.83, the internal consistency in the study was good. Each of the three variables was computed with the mean of the items.

The *Global Sociosexual Orientation* was measured with all the items above. The test had a good internal consistency (α=0.89) in this data set and shows a good One-Year retest-stability (Penke, 2011). Furthermore, it had adequate discriminant validity, construct validity, convergent validity, and predictive validity (Simpson & Gangestad, 1991). All items can be found in Appendix E.

To test the *discrepancy between sociosexual desire and sociosexual behaviour*, the mean of the behaviour scores was subtracted from the mean of the desire scores.

Well-being. The participants' well-being was measured with the Mental Health Continuum Short (MHC-SF) which was created by Keyes. It is a self-reported questionnaire which tests general well-being, emotional well-being, social well-being, and psychological well-being (Keyes, 2009).

To test the *emotional well-being,* three questions (e.g. *During the past month, how often have you felt happy?)* were asked. Those were answered on a six-point Likert-scale (*never* to *everyday*). The possible answers were the same for each item on the MHC-SF (Appendix F). Cronbach's alpha in the data set was 0.87 and therefore the internal consistency was good.

Social well-being was measured with five items (e.g. *During the past month, how often have you felt that you had warm and trusting relationships with others?).* The internal consistency here was good (α=0.82).

To measure *psychological well-being,* six items (e.g. *During the past month, how often have you felt that you liked most parts of your personality?*) were answered, the scale had a good internal consistency (α=0.84) in this study.

Lastly, *general well-being* was measured with all the items above; the MHC-SF had excellent internal consistency reliability (α=0.92) in this data set and a moderate test-retest reliability (α=0.68), which indicated that the test was stable but could be reactive to change over time. Additionally, the MHC-SF had good convergent and discriminant validity in adults and adolescents (Lamers, Westerhof, Bohlmeijer, ten Klooster & Keyes, 2011).

Data Analysis

The data was analysed by using the program IBM SPSS Statistics 26. Because the sample sizes differed so much, a new category was made: researcher-identified incels. Participants whose degree of inceldom, the tendency to be an incel, was higher than the median (1.16) were categorized as high-incels, while participants who scored 1.16 or lower were considered low-incels. The number of participants who filled in the items that were important for this measure was lower, hence, there were 135 high-incels and 106 low-incels.

To test the first hypothesis (*Incels score higher on sociosexual desire and lower on sociosexual behaviour than non-incels, but no differences in sociosexual attitudes or global sociosexual orientation scales are expected),* two One-Way-Anova tests were conducted to compare the mean scores of the SOI between incels and non-incels and between high-incels and low-incels. To test the significance, the one-tailed significance was checked. Next to that, the effect sizes were computed. It was considered small with $\eta 2 > 0.01$, medium with $\eta 2 > 0.06$ and strong with $\eta 2 > 0.14$ (Pierce, Block & Aguinis, 2004). However, the hypothesis was accepted if the p-value showed significance ($p < 0.05$) or marginal significance ($0.05 < p < 0.10$).

For testing the second hypothesis (*The discrepancy between sociosexual desire and behaviour as well as the degree of inceldom are related to low well-being.),* a new variable "discrepancy between sociosexual desire and behaviour" was created by subtracting the mean of sociosexual behaviour from the mean of sociosexual desire, as the desire was expected to be higher than the behaviour. Then, one-tailed bivariate correlation analyses were conducted, to test the relationship of the discrepancy as well as the degree of inceldom to each construct of well-being. The correlation coefficient of 0.1 to 0.3 would show a small effect, between 0.3 and 0.5 a medium effect, and a correlation coefficient of above 0.5 would indicate a large effect (Cohen, 1988

To test the relevant contribution of each variable, multiple linear regression analyses were done where the independent variables were the discrepancy between sociosexual desire and behaviour, but also the total degree of inceldom with the dependent variables being the four different constructs of well-being.). If the unstandardized coefficient B in the multiple linear regression would be below 0. 25, it would be a weak linear relationship, between 0.25 and 0.64 a medium relationship and above 0.64 a strong relationship (Lehne & Sibbertsen, 2012).

Results

When testing the first hypothesis, it showed that self-defined incels scored higher on sociosexual desire than non-incels which was statistically marginally significant but had a small effect size, as can be seen in Table 2. Incels scored lower on sociosexual behaviour than non-incels. This comparison was significant but also had a small effect size. Next to that, incels scored the same on sociosexual attitude and their global sociosexual orientation as non-incels.

Comparing high-incels to low-incels showed similar results. High-incels scored higher on sociosexual desire than low-incels which was statistically marginally significant. They scored lower on sociosexual behaviour than low-incels, which was marginally significant. High-incels scored the same on sociosexual desire on global sociosexual orientation as low-incels.

Based on the means, the results support the hypothesized directions. However, due to a very low sample size, especially in the self-defined incel group, the effect sizes are very low (Table 2). Still, the sociosexual desire of incels can be considered as higher and the sociosexual behaviour as lower than non-incels.

Table 2

Means and standard deviations for sociosexual orientation of self-defined incels (N=23), and non-incels (N=192) and high-incels (N=123) and low-incels (N=91)

	Self-defined incels M (SD)	Non-incels M (SD)	df	F	p	η2
Global Sociosexual Orientation	3.82 (1.51)	4.23 (1.71)	1	1.17	.280	.01
Sociosexual Desire	4.04 (2.16)	3.30 (1.84)	1	3.24	.073	.02
Sociosexual Behaviour	1.63 (1.21)	2.94 (2.00)	1	9.44	.002	.04
Sociosexual Attitude	5.42 (2.48)	5.78 (2.53)	1	.41	.525	.01
	High-incels M (SD)	Low-incels M (SD)	df	F	p	η2
Global Sociosexual Orientation	4.05 (1.71)	4.35 (1.67)	1	1.60	.207	.01
Sociosexual Desire	3.57 (1.91)	3.12 (1.81)	1	3.03	.083	.01
Sociosexual Behaviour	2.57 (1.92)	3.10 (1.96)	1	3.78	.053	.02
Sociosexual Attitude	5.52 (2.54)	6.04 (2.51)	1	2.23	.137	.01

Testing the second hypothesis showed that there is a weak and statistically significant negative relationship between the discrepancy of sociosexual desire and behaviour and all domains of well-being; general well-being (r (211) = -.18, p = .004), emotional well-being (r (211) = -.21, p = .001), social well-being (r (211) = -.15, p = .013) and psychological well-being (r (211) = -.16, p = .010). Furthermore, it showed that there are medium strong,

negative relationships between the degree of inceldom and general well-being (r (218) = -.44, p < .001), emotional well-being (r (218) = -.45, p < .001), social well-being (r (218) = -.33, p < .001) and psychological well-being (r (218) = -.44, p < .001) which were all statistically significant. Thus,, the second hypothesis was supported.

Additionally, four multiple linear regression analyses showed that the degree of inceldom influenced well-being negatively, which can be seen in Table 3. The model was statistically significant and the adjusted R² showed that 11% (social well-being), 20% (general and psychological well-being) to 21% (emotional well-being) of variance in well-being can be explained by the two predictor variables. The analysis suggested that the degree of inceldom was the more influential predictor in all analyses, which was also statistically significant, while the influence of discrepancy between desire and behaviour was less strong and not statistically significant.

Table 3

Multiple regression results measuring the effects of the discrepancy between sociosexual desire and behaviour and the degree of inceldom on well-being (N=212)

Dependent Variable	Independent Variable	B	β	T	df	p	95% CI
General Well-Being					2		
	Degree of Inceldom	-0.59	-0.46	-6.86		0.000	[-0.76, -0.42]
	Discrepancy Desire and Behaviour	-0.001	-0.001	0.02		0.986	[-0.06, 0.07]
Emotional Well-Being					2		
	Degree of Inceldom	-0.65	-0.45	-6.76		0.000	[-0.84, -0.46]
	Discrepancy Desire and Behaviour	-0.01	-0.02	-0.34		0.734	[-0.08, 0.06]
Social Well-Being					2		
	Degree of Inceldom	-0.50	-0.34	-4.77		0.000	[-0.71, -0.30]
	Discrepancy Desire and Behaviour	-0.01	-0.02	-0.24		0.810	[-0.09, 0.07]
Psychological Well-Being					2		
	Degree of Inceldom	-0.64	-0.47	-7.00		0.000	[-0.82, -0.46]
	Discrepancy Desire and Behaviour	-0.02	-0.03	0.44		0.659	[-0.05, 0.08]

The degree of inceldom and discrepancy between sociosexual desire and behaviour have a medium strong relationship (r (212) = 0.40, p < .001). However, the model shows no signs of multicollinearity (Tolerance = 0.83, VIF = 1.19). Although the variance of the discrepancy between sociosexual desire and behaviour has a significant effect on well-being by itself, this significance was cancelled out by the effect of the degree of inceldom in the multiple regressions.

Discussion

This study was conducted because there is a growth in members in the incel community who often show signs of loneliness, depression, stress, and anxiety. Some of these characteristics are indicators for low well-being, which can be related to misogyny, violence or suicide. Since one's sociosexual orientation could have an influence on their well-being, it had to be researched with the aim to understand this low well-being in order to design interventions.

The sociosexual orientation of incels and non-incels, as well as researcher-defined high-incels and low-incels, was measured and compared and the results indicate that incels have a higher sociosexual desire and lower sociosexual behaviour than non-incels while their sociosexual attitude and global orientation is similar. This could mean that their sexual restrictedness does not differ that much and that incels look for romantic relationships just as non-incels do.

The discrepancy between sociosexual desire and behaviour was a factor that affects one's low well-being, which would be important to know in order to understand incels' mental health and to model interventions. One other contributor to decreased well-being could be the degree of inceldom. This includes one's attempts in finding a partner and the rejections one perceives to get, as these often feel hard on someone. Results show that both factors are indeed related to low well-being, with one's degree of inceldom being the stronger factor. Hence, having unsatisfied sociosexual desire does affect one's low well-being but when it is combined with the degree of inceldom, this effect is way less, which means that the tendency to be an incel is a more important factor for low well-being than the discrepancy between sociosexual desire and behaviour.

There has not been any previous research that tested the sociosexual orientation of incels or their well-being; however, the results of this study are consistent with findings about general sociosexuality. Incels showed higher scores on sociosexual desire. Assuming that both self-defined and research-defined incels are not in a relationship, this is in line with the

finding of Del Rio et al. (2019) that individuals who are single generally score higher on sociosexual desire. In this study, it was demonstrated that incels have lower sociosexual behaviour. This is linked to the research of Penke and Asendorpf (2008), who found out that higher scores on this variable often lead to unstable relationships in the future, which could mean that incels might have rather stable relationships later in life.

The finding that the discrepancy between sociosexual desire and behaviour is negatively related to well-being is consistent with previous research as well, since Michalos (1985) suggests that unfulfilled desire negatively influences one's subjective well-being. This is also consistent with the finding of individuals with higher sociosexual behaviour scoring higher on well-being (Vrangalova & Ong, 2014).

Strengths and Limitations

A strength of this research is that it was an online survey as it was easy to distribute and it would be easy to replicate the study as well. Another strength is that self-identifying incels from many different countries participated, with the limitation that they only represent a few incels who were willing to participate in the study, which means that the results cannot be generalized. This is also the case for the non-incels; this research only studied a small number of individuals that speak English, so the results cannot be applied to the entire population either. Therefore, a larger sample size would have been beneficial.

Furthermore, using a median-split for defining research-identified incels is not optimal and because there was a floor effect as the median on the degree of inceldom scale was extremely low. Accordingly, participants who are no incels are classified as those and their scores on sociosexuality could those lead to misleading results. Next to that, by adding all genders to the study, the median might be different from the median if only males participated, as women score lower in sociosexual desire (Penke & Asendorp, 2008), which also might affect the discrepancy to behaviour. Furthermore, the contact person that was mentioned in the questionnaire for the data collection was female, which might have negatively affected the willingness of some incels to participate.

On the other hand, the sample sizes of self-defined incels and non-incels are quite imbalanced which makes the p-values unstable and the effect sizes lower (Slavin & Smith, 2009). The results in this paper are still significant, but they should be measured again with more equal groups. It also affects the homogeneity of variance assumption in the One-Way-Anova which was used to test the first hypothesis. This could mean that the first hypothesis might be falsely accepted.

Another limitation of this study is that the data collection took place during the Covid-19 pandemic (April and May 2020), which means that social contacts were heavily restricted. This situation could also have a negative effect on one's well-being as well as their recent sociosexual behaviour. Next to the influences of the pandemic, one's sociosexual orientation and degree of inceldom, there are still many other factors that predict one's well-being, such as self-acceptance, personal growth or relationships with others (Ryff, 1989) that were not studied in this research but could be important.

Recommendations for future research and interventions

Future research could focus on more factors that cause low well-being in incels, as well as testing whether the discrepancy between general sexual desire and behaviour would have a larger negative effect on one's well-being in a larger sample. Besides, as there were many participants that did not define themselves as incels while they fulfilled the criteria this to be classified as incels here, it would be effective to research the reasons that might make someone join the incel community apart from being an involuntary celibate. It is often hard to recognize some of the offline behaviour of incels and it is also hard to predict whether someone will eventually commit a crime or suicide. Therefore, future research could compare the incels that were involved in shootings, violence, or suicide with incels that were not, to find possible differences that could forecast this behaviour, in order to intervene.

Furthermore, research should investigate the relationship of incels with their families and friends, as other possible reasons for low well-being could be their upbringing or social environment. Next to that, it is suspected that incels' (online) behaviour might be linked to their coping strategy regarding their involuntary celibacy. Perhaps joining incel groups in the first place is to cope with low well-being. Therefore, future research should look into incels' coping methods and into other reasons to join online groups such as incels' struggles regarding celibacy but also because they give social and psychological support (Idriss, Kvevar & Watson, 2009). This research showed that incels scored higher on sociosexual desire. However, it could be researched whether they scored higher because they are involuntary celibates or whether they became incels because their sexual desire was higher and could not be fulfilled.

Further research could test whether research-identified incels also tend to have low well-being, are misogynist or if this increases through forums only, and whether the violence is influenced by inceldom or low well-being. This would be important to know with the aim to either modify incel forums or therapy.

At the same time, it is often seen on the online forums that incels do not believe in therapy, which is why different approaches to help them have to be considered. Recommendations for further interventions and preventions include being in closer contact with the moderators of online groups and forums visited by incels, especially because the online communities are growing. They could be stricter with permitting hate speech, mostly misogyny and detect the potential signs for low well-being or aggressive thoughts, so those individuals could receive more help. Next to that, incels could perhaps try to focus on desires that are unrelated to sexuality such as (new) hobbies, friendships, or academic success in order to increase their well-being (Ryff, 1989). In this way, other desires might be fulfilled, which is often satisfying and the chances of becoming hateful or even violent might decrease as well. As many incels are still young, it might be beneficial to involve their parents or teachers; so if schools would show parents how to detect signs of inceldom, they could try to prevent them from joining forums by talking to their children about possible dangers of joining and giving them support in an offline setting. This could include group therapy for involuntary celibates that are guided by a professional but also by supporting them in finding a new coping strategy, such as a new hobby. Looking for a personal bond with women in form of friendships would be valuable too in order to understand them better and to see them from a different perspective, which might also make it easier in the long run to find relationships.

Conclusion

In this paper, the sociosexual orientation of incels and non-incels was tested and compared, showing that incels score higher in sociosexual desire while scoring lower in sociosexual behaviour. Furthermore, it was tested whether the discrepancy between sociosexual desire and behaviour as well as the degree of inceldom influenced one's well-being. It showed that both factors, but mostly the degree of inceldom had a negative effect on well-being, especially on emotional well-being. However further research is needed to test more factors that influence incels' well-being with the aim to understand it and help increasing it.

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Appendix

Appendix A:
Consent Form

PROJECT TITLE: People's Perceived Motives, Attitudes and Relationship Preferences
INVESTIGATORS: *Dr. Pelin Gül, Department of Psychology, Health, and Technology, University of Twente, Netherlands.*
PURPOSE This study investigates people's perceived motives, attitudes and preferences in relationships. We kindly ask you to participate in this study, as we are trying to understand these mechanisms in a diverse group of individuals. We aim to deepen our understanding of the impact that underlying cognitions and emotions can have on different behaviours and formations of relationships among people. **This survey is only open to participants who are 18+ years old.**
PROCEDURES If you agree to participate, you will be asked general demographics questions (age, sex, sexual orientation, nationality, etc.). Following this, you will be asked with a number of questions about where you stand regarding sexual/romantic relationships, your attitudes towards sex, past sexual behaviour, sexual fantasies, pornography consumption, your attitudes and perceptions of women, and relationships between men and women. You will also be asked questions about your personality. At the end of the survey, you will be provided with more details about this study. You will also have a chance to enter your email address if you would like to be considered in a **€50 raffle for an Amazon voucher for those who complete the survey.**   Your participation will last approximately **20 minutes**. People who participate via SONA Systems will be compensated with **0.5 credits.**
PARTICIPANT RIGHTS
 Your participation in this study is completely voluntary. You are free to decline to participate, refuse to answer any individual questions, or withdraw from the study at any time without the need to give any reason.
RISKS AND BENEFITS There are no known or anticipated risks associated with this study. Although this study will not benefit you personally, we hope that our results will add to the knowledge about how people's emotions can influence their attitudes and decisions.
CONFIDENTIALITY

Your responses are completely anonymous, and cannot be traced back to you because no personally identifying information such as names is asked in this survey. The information you provide will not be disclosed to third parties, and they will be aggregated with the responses of other participants and examined for hypothesized patterns. Your anonymous responses will be used for scientific research into various aspects of personality and social psychology and will be published.

QUESTIONS

For further information about this study, you may contact **Dr. Pelin Gül, p.gul@utwente.nl,** the person in charge of this research study.   If you would like to talk with someone other than the researchers to discuss problems or concerns, to discuss situations in the event that a member of the research team is not available, or to discuss your rights as a research participant, If you have any questions about the rights of research participants, please contact the Ethical Review Committee of the Behavioral and Management Sciences Faculty, University of Twente, Netherlands, **ethicscommittee-bms@utwente.nl**. **CONSENT AND AUTHORIZATION PROVISIONS**

In order to continue with this survey, you have to agree with the aforementioned information and consent to participate in the study.

Clicking **"I agree and consent to participating in this study"** indicates that you have been informed about the nature and method of this research in a manner which is clear to you, you have been given the time to read the page, and that you voluntarily agree to participate in this study.

◯ Yes, I agree and consent to participating in this study. (1)

◯ No, I do not agree or consent to participating in this study. (2)

Appendix B:

Demographics

Demo First, we will ask you to describe your background (age, sex, ethnicity, nationality etc.) as part of demographic information...

How old are you?

_____

What is your sex?

○ Female (1)

○ Male (2)

○ Other / prefer not to say (3)

What is your country of birth?

    ○ China (1)

    ○ India (2)

    ○ United States (3)

    ○ Canada (4)

    ○ United Kingdom (5)

    ○ Germany (6)

    ○ Netherlands (7)

    ○ Other, please indicate: (8)

    _____

What is your ethnicity?

○ White - European (1)

○ White - American (2)

○ White - UK/Irish (3)

○ White - Other (4)

○ Black - Caribbean (5)

○ Black - African (6)

○ Black - Other (7)

○ Hispanic/Latino(a) (8)

○ Native American/Native Hawaiian/Alaskan Native (9)

○ Indian   (10)

○   Pakistani   (11)

○   Bangladeshi   (12)

○   Chinese   (13)

○ Asian - Other (14)

○   Mixed Race   (15)

○   Prefer not to say (16)

What is your sexual orientation?

○ Heterosexual (1)

○ Homosexual (2)

○ Bisexual (3)

○ Transsexual (4)

○ Asexual (5)

○ Other / Prefer not to say (6)

What is the highest level of education you have completed?

○ Less than high school (1)

○ High school graduate (2)

○ College graduate (3)

○ Undergraduate degree (4)

○ Master's degree (5)

○ PhD or higher level degree (6)

What is your current employment status?

○ Student (1)

○ Employed full-time (32+ hrs a week) (2)

○ Employed part-time (less than 32 hrs per week) (3)

○ Unemployed (currently looking for work) (4)

○ Unemployed (currently not looking for work) (5)

○ Retired (6)

○ Self-employed (7)

○ Unable to work (8)

- -

What is your socio-economic status?

○ very poor 1 (1)

○ 2 (2)

○ 3 (3)

○ middle class 4 (4)

○ 5 (5)

○ 6 (6)

○ very wealthy 7 (7)

What describes your current relationship status best?

     ⚪ I'm currently not in a relationship or dating (1)

     ⚪ Casually dating (2)

     ⚪ Exclusively dating (3)

     ⚪ Living together/ engaged/ married (4)

Appendix C
Incel Status

Do you identify as an Incel?

Incels (a term derived from "involuntary celibates") are members of an online subculture who define themselves as unable to find a romantic or sexual partner despite desiring one, a state they describe as inceldom.

     ⚪ Yes (1)

     ⚪ No (2)

Appendix D

Level Of Inceldom

Please indicate how well each statement describes you.

	does not describe me 1 (1)	describes me slightly well 3 (2)	describes me moderately well 4 (3)	describes me very well 5 (4)	describes me extremely well 6 (5)
I have tried having sexual/romantic relationships, but I have been rejected too many times.	○	○	○	○	○
I have tried having sexual/romantic relationships, but I have failed too many times.	○	○	○	○	○
I want to find a romantic/sexual partner, but I am too physically unattractive.	○	○	○	○	○
I want to date, but nobody wants to date me.	○	○	○	○	○

I want to have sex, but there is noone to do it with.	○	○	○	○	○
I want to love someone, but there is noone out there for me.	○	○	○	○	○
Noone from the opposite sex ever shows an interest in me.	○	○	○	○	○
I have never been lucky enough to enjoy the pleasure of kissing a person of the opposite sex.	○	○	○	○	○
I have never been lucky enough to enjoy the pleasure of dating a person of the opposite sex.	○	○	○	○	○

I have never been lucky enough to enjoy the pleasure of having sex with a person of the opposite sex.	○	○	○	○	○
I have never been lucky enough to enjoy the pleasure of being desired by the opposite sex.	○	○	○	○	○
Other men/women are enjoying the pleasure of having romantic/sexual experiences, but not me.	○	○	○	○	○

Appendix E

Sociosexual Orientation Inventory Revised

Please answer what you think about the questions below as honestly as possible, using a 9-point scale ranging from 1 (*strongly disagree*) to 9 (*strongly agree*).

	strongly disagree 1 (1)	2 (2)	moderately 3 (3)	4 (4)	undecided 5 (5)	6 (6)	moderately agree 7 (7)	8 (8)	strongly agree 9 (9)
Sex without love is OK.	○		○		○		○		○
I can easily imagine myself being comfortable and enjoying "casual" sex with different partners.	○		○		○		○		○
I can imagine myself enjoying a brief sexual encounter with someone I find very attractive.	○		○		○		○		○

| I could easily imagine myself enjoying one night of sex with someone I would never see again. | ○ | ○ | ○ | ○ | ○ |
| I could enjoy sex with someone I find highly desirable even if that person does not have long-term potential. | ○ | ○ | ○ | ○ | ○ |

With how many different partners have you had sexual intercourse within the past three years?

○ 0 (1)

○ 1 (2)

○ 2 (3)

○ 3 (4)

○ 4 (5)

○ 5-6 (6)

○ 7-9 (7)

○ 10-19 (8)

○ 20 + (9)

With how many different partners have you hooked up (non-intercourse) within the past three years?

○ 0 (1)

○ 1 (2)

○ 2 (3)

○ 3 (4)

○ 4 (5)

○ 5-6 (6)

○ 7-9 (7)

○ 10-19 (8)

○ 20 + (9)

With how many different partners have you had sexual intercourse on *one and only one occasion (one-night stand)*?

○ 0 (1)

○ 1 (2)

○ 2 (3)

○ 3 (4)

○ 4 (5)

○ 5-6 (6)

○ 7-9 (7)

○ 10-19 (8)

○ 20 + (9)

With how many different partners have you had sexual intercourse without having an interest in a long-term committed relationship with this person?

○ 0 (1)

○ 1 (2)

○ 2 (3)

○ 3 (4)

○ 4 (5)

○ 5-6 (6)

○ 7-9 (7)

○ 10-19 (8)

○ 20 + (9)

How often do you have fantasies about having sex with someone you are <u>not</u> in a committed romantic relationship with?

○ never 1 (1)

○ very seldom 2 (2)

○ about once every two or three months 3 (3)

○ about once a month 4 (4)

○ about once every two weeks 5 (5)

○ about once a week 6 (6)

○ several times per week 7 (7)

○ nearly every day 8 (8)

○ at least once a day 9 (9)

How often do you experience sexual arousal when you are in contact with someone you are _not_ in a committed romantic relationship with?

○ never 1 (1)

○ very seldom 2 (2)

○ about once every two or three months 3 (3)

○ about once a month 4 (4)

○ about once every two weeks 5 (5)

○ about once a week 6 (6)

○ several times per week 7 (7)

○ nearly every day 8 (8)

○ at least once a day 9 (9)

In everyday life, how often do you have spontaneous fantasies about having sex with someone you have just met?

○ never 1 (1)

○ very seldom 2 (2)

○ about once every two or three months 3 (3)

○ about once a month 4 (4)

○ about once every two weeks 5 (5)

○ about once a week 6 (6)

○ several times per week 7 (7)

○ nearly every day 8 (8)

○ at least once a day 9 (9)

- -

Appendix F

Mental Health Continuum Short Form

The following questions are about how you have been feeling during the past month. Please choose the option that best represents how often you have experienced or felt the following:

During the past month, how often have you felt....

	never (1)	once or twice (2)	about once a week (3)	about 2 to 3 times a week (4)	almost every day (5)	everyday (6)
happy (MHC_1)	○	○	○	○	○	○
interested in life (MHC_2)	○	○	○	○	○	○
satisfied with life (MHC_3)	○	○	○	○	○	○
that you had something important to contribute to society (MHC_4)	○	○	○	○	○	○
that you belonged to a community (like a social group, or your neighborhood) (MHC_5)	○	○	○	○	○	○
that our society is a good place, or is becoming a better place, for all people (MHC_6)	○	○	○	○	○	○

that people are basically good (MHC_7)	○	○	○	○	○	○
that the way our society works makes sense to you (MHC_8)	○	○	○	○	○	○
that you liked most parts of your personality (MHC_9)	○	○	○	○	○	○
good at managing the responsibilities of your daily life (MHC_10)	○	○	○	○	○	○
that you had warm and trusting relationships with others (MHC_11)	○	○	○	○	○	○

that you had experiences that challenged you to grow and become a better person (MHC_12)	○	○	○	○	○	○
confident to think or express your own ideas and opinions (MHC_13)	○	○	○	○	○	○
that your life has a sense of direction or meaning to it (MHC_14)	○	○	○	○	○	○
if you are reading this, could you please select "almost every day"? (AttChk_1)	○	○	○	○	○	○

Appendix G

Debriefing

Q128 Thank you very much for participating in our study!   Precisely, our study investigates how one's degree of involuntary celibacy is related to their personality, mental

health, various motives, attitudes and perceptions of women and male-female relationships. We thank you for your help and the decision to participate in our study. If you know of any friends or acquaintances that are eligible to participate in this study, we request that you do not discuss it with them until after they have had the opportunity to participate. Prior knowledge of the questions asked during the study can invalidate the results. We greatly appreciate your cooperation. For further information about this study, you may contact **Dr. Pelin Gül, p.gul@utwente.nl,** the person in charge of this research study.

If you have any questions about the rights of research participants, please contact the Ethical Review Committee of the Behavioral and Management Sciences Faculty, University of Twente, Netherlands, **ethicscommittee-bms@utwente.nl**.

If you are feeling distressed and are unable to contact a person associated with this study, please contact the **Counseling centre at the University of Twente at +31 53 489 2035**. Thanks again for your participation.