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Associations between picture-based mobile dating app use, sociosexuality, self-perceived mate value and self-esteem

Hovedoppgave ved profesjonsstudiet i psykologi

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Forord

Denne hovedoppgaven ble gjennomført ved NTNU fra januar 2016 til april 2017, og markerer slutten på den teoretiske delen av profesjonsstudiet i psykologi.

Med god hjelp fra min veileder Leif Edward Ottesen Kennair ble hypoteser utformet og undersøkelsen planlagt. Vi diskuterte oss frem til hvilke spørreskjemaer vi skulle bruke og lagde spørsmål sammen. Datainnsamlingen ble gjennomført av meg i april 2016. Jeg fikk god hjelp til å forstå og bruke SPSS, og gjennomførte deretter analysene selv.

Jeg ønsker å takke Kyrre Svarva, Trond Viggo Grøntvedt og Mons Bendixen for hjelp og innspill underveis.

Til slutt vil jeg rette en spesiell takk til Leif Edward Ottesen Kennair for sin tilgjengelighet og hjelpsomhet. Leif har med sitt gode humør, genuine interesse og ikke minst solide kompetanse gjort dette arbeidet til en svært positiv opplevelse.

Ernst Olav Botnen
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Abstract

The aim of this study was to explore the use of picture-based mobile dating app (PBMDA) use, and to investigate its associations primarily to sociosexuality. This study also explores PBMDA-use in relation to self-perceived mate value and global self-esteem. The study was conducted among Norwegian 18-30 year old university students (N = 651) who completed a questionnaire in class. 300 participants were current or former users of PBMDAs. Sociosexual orientation was assessed with the Sociosexual Orientation Inventory Revised (SOI-R), self-perceived mate value was assessed with a version of the Mate Value Inventory (MVI), and global self-esteem was assessed with a Single-Item Self-Esteem Scale (SISE). We found that PBMDA-users tend to report higher SOI scores than participants who had never used PBMDAs, and that PBMDA-use was more strongly linked to SOI than sex. Our data showed no association between SOI and MVI, and found no sex differences in this association. In addition, we found participants SOI scores to be associated with activity on PBMDAs, and that male PBMDA-users were more interested in casual sex than female PBMDA-users. There were no significant differences in global self-esteem between PBMDA-users and participants who had never used PBMDAs. To our knowledge this is the first quantitative study of PBMDA-use in a Norwegian population.

Keywords: Picture-based mobile dating apps, Tinder, sociosexuality, mate value, self-esteem, self-worth, sex differences

Contents

Introduction

Mating is a human universal and more than 80% of people in known societies form some kind of marriage alliance during their lives (Lundberg, Pollak, & Stearns, 2016; Price & Vandenberg, 1980). At the same time uncommitted sexual encounters is becoming more common in western popular culture, and openness and acceptance around casual sex is increasing progressively (Garcia, Reiber, Massey, & Merriwether, 2012; Sager, Alderson, & Boyes, 2016). This study explores an arena where one can meet both potential short-term and long-term partners, namely through the use of mobile dating apps. Here "short-term partner" is used to describe uncommitted short-term sexual relationships (e.g., one-night stands, casual sex, hook-ups). "Long-term partner" is used to describe a committed long-term relationship (e.g., girlfriend, spouse).

Online dating has been around for about 20 years, and has become an important tool people can use in search for a mate. More than one in ten Americans have used online dating tools like dating sites and mobile dating apps (Smith & Duggan, 2013). Mobile dating apps have increased in popularity since the introduction of smartphones, and in recent years an important change has been location-based services (Sumter, Vandenbosch, & Ligtenberg, 2016). Online dating has normally been based on personal information such as interests and values, but with location-based services you can also easily find and interact with potential mates that are geographically nearby. This study investigates the use of picture-based mobile dating apps (PBMDAs). Picture-based means that the primary information on these apps are pictures of potential mates. Tinder and Happn are examples of two popular PBMDAs (Sumter et al., 2016). Based on an impression formed from one or more photos the user can choose to like or dislike a potential mate. If two people like each other, they will be given the opportunity to contact each other via text messaging. This is usually called a "match".

Tinder is currently considered to be the most popular PBMDA with at least 10 million active users (Freier, 2015; Sumter et al., 2016). Tinder was introduced in 2012 and is free to use. According to Tinder's website the app exists in 196 countries and in total there has been over 10 billion matches on Tinder (Tinder, 2016). There is no available information on the prevalence of active PBMDA-users by country, and hence no such information about the number of users in Norway. Although PBMDAs are popular tools for meeting potential mates, few studies have investigated the use of these apps. It is not uncommon to associate PBMDAs as tools for finding a short-term partner (Sager et al., 2016), and this may be due to the importance of looks when choosing a short-term partner (e.g., Li & Kenrick, 2006; Regan,

Levin, Sprecher, Christopher, & Gate, 2000). Nonetheless, a recent Dutch study on Tinder-users among emerging adults found that users motivation for love was stronger than the motivation for casual sex (Sumter et al., 2016).

The theoretical framework for this study is evolutionary psychology (EP). EP theories posit that sex differences in how humans attract and keep potential mates in today's modern environment is a result of evolved psychological mechanisms (Buss & Barnes, 1986). Successful mate selection and mate attainment lays a foundation for sexual reproduction, which is how genes are propagated into the next generation. Sexual selection is adaptations following successful mating, and along with natural selection thus fundamental in evolution (Barkow, Cosmides, & Tooby, 1995).

Sexual strategies theory

Sexual strategies theory (SST, Buss, 1998; Buss & Schmitt, 1993) identifies two main human mating strategies, short-term and long-term. In human evolutionary history, both men and women have pursued short-term and long-term mating in contexts where the reproductive benefits have outweighed the costs. Which strategy the individual chooses is contingent on different factors, such as sex ratio in the local mating pool, personal attractiveness and parental influences (Gangestad & Simpson, 2000). Long-term mating involves extended courtship, pair-bonding emotions and dedication of resources over time, while short-term mating is referring to fleeting sexual encounters. Between long-term and short-term mating there are other intermediate-term relationships such as affairs. In short, SST takes into account the different adaptive problems men and women confront in various mating contexts, and how this activates different strategies.

Mating effort in EP is commonly used to describe the sum of time, energy and resources devoted to pursuing mates and besting same-sex competitors (Brase & Guy, 2004). SST outlines that men devote a larger proportion of their total mating effort to short-term mating strategies than women (Buss & Schmitt, 1993). In his influential paper Trivers (1972) argues that this stems from a fundamental asymmetry between the sexes in minimum levels of parental investment. Trivers suggested that the sex that invests less in the offspring in general competes for access to the sex that invests the most in the offspring, and this increases the less invested sex chances for having more offspring. Females tend to be the more heavily invested sex both in humans and most other mammals (Trivers, 1972). To produce a single child, women risk a nine-month pregnancy followed by childbirth and lactation. While many men

invest heavily in their offspring, their minimal cost is much lower than that of females, namely one act of sexual intercourse. EP propose that this asymmetry in minimum parental investment explains why men desire short-term partners more than women, and thus men are expected to devote more resources to short-term mating compared to their female counterparts (Buss, 1998; Buss & Schmitt, 1993).

While motivation for having sex varies greatly (Kennair, Grøntvedt, Mehmetoglu, Perilloux, & Buss, 2015; Meston & Buss, 2007), according to SST two causal factors potentially influence the motivation for having sex; the sex of the individual and his or her mating strategy (Buss & Schmitt, 1993). Sex differences are expected to appear in areas where men and women have faced recurrently different adaptive problems through human evolution, e.g., related to parental investment (Buss, 1998). Likewise, men and women are expected to be more similar in domains where they have faced the same adaptive problems, e.g., survival (Barkow et al., 1995).

According to SST both men and women have evolved adaptations for short-term mating. Despite this, men seem to possess three adaptations which direct them more towards short-term mating than women (Schmitt, Shackelford, & Buss, 2001): (1) Men desire short-term partners more; (2) Men generally desire a larger amount of short-term partners. (3) Men need less time before consenting to sex. These adaptations have been shown in many studies and across cultures (e.g., Buss & Schmitt, 1993; Clark & Hatfield, 1989; Kennair, Schmitt, Fjeldavli, & Harlem, 2009; Lippa, 2009; Schmitt, 2005).

Sociosexuality

Sociosexuality can be defined as a person's orientation towards uncommitted sexual activity (Simpson & Gangestad, 1991). While SST outline and predicts sex differences in mating strategies, sociosexuality varies between individuals. In the late 1940s Kinsey and colleagues found large individual differences in people's attitudes towards uncommitted sexual activity and behaviors related to such activity (Kinsey, Pomeroy, Martin, & Sloan, 1948). Simpson and Gangestad (1991) later developed a measure of individual differences in sociosexual orientation, the Sociosexual Orientation Inventory (SOI). Penke and Asendorpf (2008) have further developed this measure, and their revised SOI-R is a self-report measure which assess individual differences in sociosexuality in three components; behavior, attitudes and desire.

Sociosexual desire describes to which degree one has sexual interest in mates one has no committed romantic relationship with. It can therefore be described as a motivational state, and sexual fantasies and arousal for different partners is more common for higher scores (Penke & Asendorpf, 2008). SOI attitudes can be conceptualized as the evaluative disposition toward uncommitted sex (Penke & Asendorpf, 2008). Individual differences in SOI attitudes is influenced by many factors including normative and cultural aspects (e.g., chasity, Gangestad, Haselton, & Buss, 2006). As an example, Schmitt (2005) showed that across nations environmental stressors were associated with a more restricted sociosexuality. Over a lifespan, an individual sociosexual behavior reflects how mating effort is allocated towards short-term or long-term mating (Penke & Asendorpf, 2008). High overall scores indicate an unrestricted sociosexuality, e.g., the person follows a promiscuous behavioral tendency. On the other hand, low overall scores indicate a restricted sociosexuality, e.g., the person follows a more monogamous mating strategy.

Previous studies have found strong universal sex differences in SOI, with men typically scoring higher than women consistently on all three components (e.g., Lippa, 2009; Schmitt, 2005). Considering the three different SOI components investigated with SOI-R, previous research have found no or small sex differences in SOI behavior, moderate sex differences in SOI attitudes and moderate to large sex differences in SOI desire (Arnocky, Woodruff, & Schmitt, 2016; Penke & Asendorpf, 2008). An unrestricted sociosexuality (i.e., higher SOI scores) are hypothesized to make the individuals more motivated to seek out arenas where they can meet and attain short-term partners, and PBMDAs can be helpful in this errand. To our knowledge, this study is the first to investigate the relationship between PBMDA-use and sociosexuality.

Self-perceived mate value

There has been little consensus within the EP perspective so far on how to define mate value (Fisher, Cox, Bennett, & Gavric, 2008). Theoretically Waynforth (2001, p. 207) has defined mate value as "the total value of the characteristics that an individual possesses in terms of the potential contribution to his or her mate's reproductive success". Other researchers propose that mate value is the genetic quality of oneself as a sexual partner shown through observable characteristics (Kirsner, Figueredo, & Jacobs, 2003). Fisher et al. (2008) is arguing that mate value also is intrinsic to an individual, and for that reason cannot solely be defined by others. To include self-assessment these authors propose the following

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definition of mate value: "The total sum of characteristics an individual possesses at a given moment and within a particular contexts that impacts on their ability to successfully find, attract and retain a mate" (Fisher et al., 2008, p. 157).

Li, Bailey, Kenrick, and Linsenmeier (2002) found that participants with higher mate value could afford to be choosier on many different long-term partner characteristics, including creativity and liveliness. Participants with a lower mate value restricted themselves more when listing what they found important in a potential partner. This study found that a minimum level of physical appearance was a necessity for men, and some minimum level of status and resources was a necessity for women. This study also showed that kindness and intelligence was necessities for both sexes during mate selection.

Mate value is also relevant when it comes to men and women's mating strategies. Men's mate value has been shown to be associated with higher SOI scores (Clarke, 2006), and thereby suggesting men with high mate-value are pursuing a short-term mating strategy. The link between women's mate value and mating strategy is mixed. Even though women with low waist-hip ratio (which indicates low mate value) tend to follow a more unrestricted mating strategy (Brewer & Archer, 2007), other studies have found no association between women's mate value and their SOI scores (e.g., Landolt, Lalumière, & Quinsey, 1995; Mikach & Bailey, 1999). No association between women's mate value and SOI scores may be due to different costs for the sexes. Due to differences in minimum parental investment (Trivers, 1972), the cost of an unrestricted sexuality for a man with high mate value has been lower than for a woman with high mate value.

Despite the important role of mate value in human mating, there has been little research on how mate value should be measured. A measure of mate value should ideally reflect mate preferences, and mate preferences are numerous (Buss, 1989; Buss & Barnes, 1986) and context-dependent (Fisher et al., 2008; Gangestad & Simpson, 2000). We do not know of any such measurements of mate value. This study used Kirsner et al. (2003) Mate Value Inventory (MVI) since it was the only multi-dimensional self-report measure of self-perceived mate value we could locate. To our knowledge this is the first study to explore PBMDA-use and mate value.

Global self-esteem and self-worth validation

In addition to sociosexuality and self-perceived mate-value, this study looks at global self-esteem and self-worth validation. Global self-esteem will from now on be referred to as

self-esteem. Different definitions of self-esteem have been proposed and applied in the literature, and one common definition of self-esteem is: "A general positive or negative orientation toward the self" (Brown, 2014, p. 28). It is an attitude of approval or disapproval of oneself (Rosenberg, 1965). In Kling, Hyde, Showers, and Buswell (1999) meta-analysis on sex differences in self-esteem, the overall difference was a small effect size (Cohen's d) of 0.21 favoring males. Considering self-perceived mate value and self-esteem, there is evidence for a positive association between these concepts (e.g., Brase & Guy, 2004; Goodwin et al., 2012).

We could not locate any published studies on the topic of PBMDA-use and self-esteem. Sumter et al. (2016) found that self-worth validation was one of six primary motivations for using Tinder. This study investigated self-esteem in the entire sample, and specifically self-worth validation related to PBMDA-use. Here self-worth validation refers to PBMDA-use related to feeling better about one-self, and can be seen as a psycho-social need.

The current study

In lack of research on mobile dating apps, the purpose of this study was to investigate the following exploratory research question: *What is the associations between PBMDA-use, sociosexuality, self-perceived mate-value, self-esteem and sex?*

The term PBMDA-users here refers to both current and former PBMDA-users. Otherwise, it will be specified which group we refer to (i.e., former users, current users or participants who have never used PBMDAs). Previous research has shown that that men when compared to women in general tend to have a more short-term oriented mating strategy (e.g., Buss & Schmitt, 1993; Clark & Hatfield, 1989; Lippa, 2009). Two studies have shown that this appears to be the case with PBMDA-use as well (Sager et al., 2016; Sumter et al., 2016). We therefore hypothesized that males in our study were more interested in short-term partners compared to female participants. We expected to find this both among single participants without experience with PBMDAs and among PBMDA-users. Since PBMDAs can be used to find a potential partner, this use can be seen as a mating effort. SOI is found to be associated with mating effort (Penke & Asendorpf, 2008), and consequently we hypothesized to find that both PBMDA-use and PBMDA-activity was positively associated with higher SOI scores. In addition to the exploratory research question this leads to three specific hypotheses regarding PBMDA-use and mating strategies:

Hypothesis 1: PBMDA-use is positively associated with higher SOI scores.

Hypothesis 2: Activity on PBMDAs is positively associated with SOI scores.

Hypothesis 3: Single males and male PBMDA-users are more interested in finding a short-term partner than single females and female PBMDA-users.

Methods

Procedure and participants

The participants filled out anonymous questionnaires (se appendix) in lectures, and were carefully informed that the survey was completely anonymous and voluntary. To ensure anonymity the participants were asked not to show their answers to anyone and respect the other respondents. They were also asked not to write any information on the survey that could identify them, and to deposit their questionnaires in a sealed box when done. The respondents did not receive credit or any other reward for partaking in the study, and their participation could be terminated at any point without consequences. The questionnaires were scanned electronically.

Participants who identified themselves as non-heterosexual and participants who were above 30 years old were excluded, and in total 29 participants were removed from further analyses. The final sample consisted of 651 heterosexual adults with an age ranging from 19 - 29 years (361 women, $M = 21.45$, $SD = 1.57$; 290 men, $M = 21.57$, $SD = 1.49$). The average PMBDA-user was slightly older ($N = 300$, $M = 21.69$, $SD = 1.65$) than the non-users ($N = 351$, $M = 21.34$, $SD = 1.40$). In the total sample, which only included students at Norwegian University of Science and Technology, 57.6% reported that they were single, 35.8% were in a relationship and 6.6% were in an undefined relationship. Approximately 63% of surveys were collected in math and physics lectures, and about 37% in psychology and sociology lectures. The participants were mostly undergraduate students, except for 22 graduate students in sociology.

Measurements

Sociosexual orientation inventory revised (SOI-R). Sociosexual orientation was assessed with the revised Sociosexual Orientation Inventory (SOI-R)(Penke & Asendorpf, 2008), which is a self-report measure with 9-items (see appendix). SOI-R includes three subscales that correspond to facets of sociosexual orientation. The sociosexual behavior subscale (SOI-behavior, $\alpha = 86$) reflects an individual's past uncommitted sexual activity; the sociosexual attitudes subscale (SOI-attitudes, $\alpha = .89$) reflects an individual's beliefs about uncommitted sexual activity; the sociosexual desire subscale (SOI-desire, $\alpha = .88$) reflects an individual's interest in uncommitted sex. A global sociosexual orientation score (SOI-total, α

= .88) is obtained by computing the mean of the 9 items. If not otherwise specified, SOI will refer to SOI-total in this paper. A 9-point Likert-scale is used and higher numbers indicates a more unrestricted sociosexual orientation (e.g., a greater frequency of casual sex, positive attitudes towards casual sex, and a greater number of spontaneous sexual fantasies). The Norwegian version of SOI-R was translated by Mons Bendixen, Trond Viggo Grøntvedt and Leif Edward Ottesen Kennair.

Mate value index (MVI). Self-perceived mate value was assessed with a version of the Mate Value Inventory (MVI)(Kirsner et al., 2003). The participants were asked to describe themselves as accurately as possible on 17 items (see appendix), which are meant to reflect the participants mate value (e.g., attractive body, kind and understanding, healthy, intelligent). A 7-point Likert-scale is used with higher numbers indicating a higher self-perceived mate value. A global mate value score (MVI-total, $\alpha = .75$) is obtained by computing the mean of the 17 items. MVI is considered to have good psychometric quality, but external validity has not yet been established (Fisher et al., 2008; Kirsner et al., 2003). The Norwegian version of MVI was translated by Trond Viggo Grøntvedt and back translated by Leif Edward Ottesen Kennair.

The Single-Item Self-Esteem Scale (SISE). Rosenberg Self-Esteem Scale (RSES)(Rosenberg, 1965) is the most widely used self-esteem scale in psychology (Gray-Little, Williams, & Hancock, 1997; Huang & Dong, 2012). The Single-Item Self-Esteem Scale (SISE, Robins, Hendin, & Trzesniewski, 2001) was used in this study, and consists of the following question were the participants rates their agreement with the following statement on a 7-point Likert-scale: *"I have high self-esteem".* The statement was translated to Norwegian by the author. SISE has been found both reliable and valid compared to RESES when used in an adult population (Robins et al., 2001).

PBMDA-use. To assess PBMDA-use 27 items were made by the author (see appendix). The questionnaire included six items where the participants described his or her actual PBMDA-use, which included: Total time spent, time spent each day, number of people met, number of people met for casual sex, number of people met with an interest for a long-term committed relationship and number of matches. The questionnaire also included 17 items where participants rated their agreement with statements on a 7-point Likert-scale. The items were created based on five themes we wanted to explore, which included the following: Activity ($\alpha = .76$, e.g., *"I am willing to meet people whom I have met through PBMDAs"*), self-worth validation ($\alpha = .77$, e.g., *"I feel good after I have used PBMDAs"*), desire for sex ($\alpha = .89$, e.g., *"I use PBMDAs more frequently when I desire sex"*), committed relationships

(α = .87, e.g., *"I use PBMDAs more frequently when I want a committed romantic relationship"*), and unpleasant episodes (α = .70), e.g., *"I have experienced sexual harassment in relation to PBMDA-use"*).

Data analyses

The collected data was analyzed with Statistical Package for the Social Sciences (SPSS), version 24. Measures which consisted of combination of items were used in the analyses (see appendix for details about the specific items). Items related to PBMDA-use were combined to an activity-measure (α = .70). This index included 4 items: Willingness to meet people (D81 in the questionnaire), willingness to accept people (D82), contacting people (D85), and responding to conversation initiatives (D86). Furthermore, a sex-measure (α = .90) was created by combining two items were participants reported that they used PBMDAs when they want sex (D89) and when they feel horny (D814). To measure self-worth validation and PBMDA-use, we combined the three following items to one self-worth measure (α = .77): Feeling good after using PBMDAs (D83), using PBMDAs to feel better (D810), and using PBMDAs more frequently when one wants approval (D813).

To investigate the structure of the MVI we conducted a principal axis factor analysis (PAF) on the 17 MVI items (n = 649, α = .75) with oblique rotation (direct oblim). The Kaiser-Meyer-Olkin (KMO) measure verified the sampling adequacy for the analysis, KMO = .76, which is well above the acceptable limit of .5 (Field, 2013). Bartlett's Test of Sphericity was also significant (p < .001). We wanted to see if the MVI items grouped themselves into short-term and long-term traits, and consequently asked for two factors. MVI item number 4 (desires children) and 7 (financially secure) had low communalities, low factor scores and higher alpha if deleted (α = .79). At face value, a desire for children and a secure economy are not necessarily that important for students in their early 20s. Consequently, item 4 and 7 were removed and a new factor analysis was conducted. The next analysis showed that item 17 (emotionally stable) and item 11 (independent) after rotation had a factor loading of < .3, and cross loadings < .15. For these reasons item 17 and 11 were removed and we conducted a third and final PAF-analysis on the remaining 13 items (n = 649, α = .77). For this analysis the KMO was still good (.73) and Bartlett's Test of Sphericity was significant (p < .001).

Results

Frequencies

Among our 651 participants (see table 1), 300 participants were former or current users of PBMDAs, and 351 participants reported to never have used PBMDAs. 178 of the PBMDA-users were former users, and 122 were current users. For those who reported to never have used PBMDAs and current users, the sex ratio were quite equal. Among former users there were 57 male participants and 121 female participants. Of the former or current users 94% reported Tinder to be their primary PBMDA.

On average the participants had used PBMDAs for about 9 months ($n = 298$, $M = 2.52$, $SD = 1.51$, see appendix) and used these apps for about 15-20 minutes each day ($n = 298$, $M = 1.74$, $SD = 1.03$). The participants had on average met two persons through PBMDAs ($n = 297$, $M = 2.04$, $SD = 4.06$), and 0.4 person for casual sex ($n = 296$, $M = 0.43$, $SD = 1.13$) and 0.5 person with interest for a long-term committed relationship ($n = 296$, $M = 0.46$, $SD = 1.02$). On Tinder (we collected no such data for other PBMDAs) the average number of matches was 144 ($n = 283$, $M = 144.96$, $SD = 225.58$).

Table 1: *Frequency of PBMDA-use.*

	N	Never used	Former users	Current users
Men	290 (44.5 %)	177 (27.2 %)	57 (8.8 %)	56 (8.6 %)
Women	361 (55.5 %)	174 (26.7 %)	121 (18.6 %)	66 (10.1 %)
Total	651 (100 %)	351 (53.9 %)	178 (27.3 %)	122 (18.74 %)

Male participants in our study reported higher SOI scores than females (see table 2). Looking specifically at the three different SOI components, female participants had higher scores on SOI behavior, while male participants scored higher on both SOI attitudes and SOI desire.

Table 2: *SOI scores among men and women.*

	M (SD)					
	Total	Men	Women	t(df)	p	d
SOI total (*n* = 646)	4.05 (1.48)	4.33 (1.53)	3.82 (1.41)	- 4.433 (644)	< .001	0.35
SOI behavior (*n* = 649)	2.74 (1.75)	2.51 (1.72)	2.92 (1.75)	2.980 (647)	< .01	- 0.24
SOI attitudes (*n* = 651)	5.61 (2.12)	5.88 (2.11)	5.38 (2.10)	- 2.998 (649)	< .01	0.24
SOI desire (*n* = 645)	3.80 (1.88)	4.60 (1.95)	3.14 (1.53)	- 10.388 (541.23)	< .001	0.83

Exploratory research question

This section looks at results related to the following exploratory research question: *What is the associations between PBMDA-use, sociosexuality, self-perceived mate-value, self-esteem and sex?*

SOI, self-perceived mate value and PBMDA-use

Among PBMDA-users SOI scores was moderately associated with how many people the participants had met and had sex with without an interest for å committed relationship. This association was slightly stronger for women than for men (see table 3). The participants SOI scores was also moderately associated with the sex-measure (see table 3), and this association was also stronger among female participants.

Table 3: *Associations among PBMDA-users.*

	SOI		
	Women	Men	Total
Met and had sex (D5)	r(185) = .32**	r(110) = 29**	r(295) = .30**
Sex-measure	r(184) = .42**	r(111) = 34**	r(295) = .44**

*Note: *p < .05, **p < .01*

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Among female participants who currently use PBMDAs, there was a strong association between activity on PBMDAs and the sex-measure ($r(66) = .58$). This association was weak to moderate for male participants ($r(55) = .28$).

SOI scores were not associated with the mate value inventory (MVI, all 17 items) scores ($r(644) = .06$, $p = .14$, ns), and this was the case for both sexes separately as well (males, $r(289) = .06$, $p = .28$, ns; females, $r(357) = .06$, $p = .25$, ns).

To investigate the structure of the MVI we conducted a principal axis factor analysis (see methods for details). Table 4 shows the two-factor solution which groups eight items in factor 1: Attractive face, attractive body, healthy, good sense of humor, intelligent, sociable, enthusiastic about sex and ambitious. Factor 2 included the five following items: Loyal, kind and understanding, responsible, faithful to partners and generous. Based on previous studies factor 1 can be described as "short-term partner-traits" and factor 2 can be described as "long-term partner traits" (e.g., Li et al., 2002; Regan et al., 2000).

After making an index of all the items in factor 1 and 2, SOI scores were moderately associated with short-term partner traits (factor 1, $r(646) = .28$, $p < .001$). Long-term partner traits (factor 2) showed a weak negative, but significant, association with SOI scores ($r(645) = -.13$, $p < .01$). When it comes to PBMDA-use, we found a moderate association between the activity-measure and short-term partner traits (factor 1) among male participants ($r(111) = .31$, $p < .01$). We found no such association among female participants ($r(186) = .03$, $p = .65$, ns). There was no significant association between MVI and how many people participants had met and had sex with when using PBMDAs ($r(296) = .07$, $p = .23$, ns), and no sex differences were found (males, $r(110) = .14$, $p = .15$, ns; females, $r(186) = .00$, $p = .95$, ns).

Table 4: *Summary of items and factor loadings for direct Oblimin two-factor solution of the mate value inventory (MVI)(n = 649).*

	Rotated Factor Loadings	
Item	**Factor 1 ("short-term partner traits):**	**Factor 2 ("long-term partner traits"):**
MVI 2: Attractive face	**.87**	.22
MVI 3: Attractive body	**.77**	.16
MVI 10: Healthy	**.40**	-.14
MVI 9: Good sense of humor	**.39**	-.05
MVI 12: Intelligent	**.36**	-.08
MVI 16: Sociable	**.35**	-.12
MVI 5: Enthusiastic about sex	**.31**	-.08
MVI 1: Ambitious	**.31**	-.12
MVI 14: Loyal	-.11	**-.89**
MVI 13: Kind and understanding	.14	**-.53**
MVI 15: Responsible	.03	**-.52**
MVI 6: Faithful to partners	-.01	**-.47**
MVI 8: Generous	.13	**-.43**
Eigenvalues	3.53	1.59
% of variance	22.22	8.23
α	.71	.71

Note: Factor loadings above .30 appear in bold.

Self-esteem and self-worth validation

In general, our results showed that measured with SISE male participants tend to score higher than females (males, $n = 289$, $M = 4.93$, $SD = 1.11$; females, $n = 359$, $M = 4.53$, $SD = 1.16$; $t(646) = - 4.53$, $p < .001$, $d = 0.35$). There was no difference in self-esteem levels between PBMDA-users and participants that never have used PBMDAs (current users, $n = 122$, $M = 4.62$, $SD = 1.22$; never used PBMDAs, $n = 349$, $M = 4.75$, $SD = 1.12$; $t(469) = -1.08$, $p = .28$, ns). The data didn't show any significant differences in self-esteem among male current PBMDA-users and males who had never used PBMDAs (male current users, $n = 56$, $M = 4.86$, $SD = 1.20$; male never used PBMDAs, $n = 176$, $M = 4.90$, $SD = 1.12$; $t(230) = -.23$, $p = .82$, ns), or among the same female groups (female current users, $n = 66$, $M = 4.42$,

$SD = 1.22$; female never used PBMDAs, $n = 173$, $M = 4.61$, $SD = 1.11$; $t(237) = -1.11$, $p = .27$, ns).

Looking at self-worth validation related to PBMDA-use (self-worth measure), the findings showed that women tend to use PBMDAs for self-worth validation reasons more than men (males, $n = 111$. $M = 3.52$, $SD = 1.32$; females, $n = 185$, $M = 3.95$, $SD = 1.38$; $t(294) = 2.61$, $p < .001$, $d = -0.32$). There was no association between self-esteem (SISE) and self-worth validation related to PBMDA-use ($r(296) = -.02$, $p = .78$, ns), but time spent on PBMDAs each day had a small to moderate association with self-worth validation reasons for using PBMDAs ($r(296) = .28$, $p < .001$). This association was almost similar for both sexes (males, $r(111) = .29$, $p = .002$; females, $r(185) = .26$, $p < .001$).

Finally, the data showed a medium association between self-perceived mate-value (17 items) and self-esteem ($r(646) = .44$, $p < .01.$). This association was small for long-term partner traits (factor 2), $r(648) = .11$, $p = .004$), and moderate too large for short-term partner traits (factor 1), $r(648) = .49$, $p < .001$).

Hypothesis 1

In support for our first hypothesis the data showed that PBMDA-users reported higher SOI scores compared to participants who had never used PBMDAs. There was a substantial difference between the two groups (never used PBMDAs, $n = 347$, $M = 3.44$, $SD = 1.34$; PBMDA-users, $n = 299$, $M = 4.75$, $SD = 1.33$; $t(644) = 12.37$, $p < .001$, $d = 0.98$). When comparing participants who currently use PBMDAs to participants who report to have never used PBMDAs, the effect was even larger (never used PBMDAs, $n = 347$, $M = 3.44$, $SD = 1.34$; current users of PBMDAs, $n = 121$, $M = 5.09$, $SD = 1.32$; $t(466) = 11.68$, $p < .001$, $d = 1.24$), and current PBMDA-users compared to singles who had never used PBMDAs yielded similar results ($p < .001$, $d = 1.09$). Lastly, this study showed that when comparing current PBMDA-users to single former users of PBMDAs the difference in SOI was smaller (current users of PBMDAs, $n = 121$, $M = 5.09$, $SD = 1.32$; single former users, $n = 83$, $M = 4.72$, $SD = 1.25$; $t(202) = 2.13$, $p = .034$, $d = 0.29$).

An ANOVA was conducted to investigate the size of the differences in SOI scores between users, former users and participants that have never used PBMDAs, and between males and females. There was a significant and strong main effect of PBMDA-use on SOI ($F(2, 640) = 97.06$, $p < .001$, $\eta_p^2 = .233$). There was also a weak to moderate effect of sex on

SOI ($F(1, 640) = 33.80$, $p < .001$, $\eta_p^2 = .050$). No interaction effect was found between PBMDA-use and sex ($F(2, 640) = .21$, $p = .81$, ns).

When looking at the different SOI components there was a strong effect of PBMDA-use on SOI behavior ($F(2, 643) = 81.56$, $p < .001$, $\eta_p^2 = .202$), and no effect of sex on SOI behavior ($F(1, 643) = 3.63$, $p = .06$, ns). PBMDA-use had a moderate effect on SOI attitudes ($F(2, 645) = 47.07$, $p < .001$, $\eta_p^2 = .127$), and sex had a weak effect on SOI attitudes ($F(1, 645) = 17.84$, $p < .001$, $\eta_p^2 = .027$). Finally, PBMDA-use had a moderate to strong effect on SOI desire ($F(2, 639) = 50.15$, $p < .001$, $\eta_p^2 = .137$), and sex had a strong effect on SOI desire ($F(1, 639) = 110.50$, $p < .001$, $\eta_p^2 = .147$). No interaction effects were found between PBMDA-use and sex for the different SOI components (SOI behavior, $F(2, 643) = .28$, $p = .74$, ns, $\eta_p^2 = .001$; SOI attitudes, $F(2, 645) = .55$, $p = .58$, ns, $\eta_p^2 = .002$; SOI desire, $F(2, 639) = .17$, $p = .85$, ns, $\eta_p^2 = .001$).

To sum up, our data showed that PBMDA-use was associated with higher SOI scores, and PBMDA-use was more strongly linked to SOI than sex. This difference was larger between current users and singles who have never used PMBDAs than between current users and single former users of PBMDAs.

Hypothesis 2

In line with the second hypothesis participant's SOI scores was significantly and moderately associated with PBMDA-activity ($r(296) = .31$, activity-measure, see methods), with a minor sex difference (males, $r(111) = .22$; females, $r(185) = .21$).

Hypothesis 3:

In support of hypothesis 3, this study found that among current PBMDA-users males reported to be significantly more interested in finding a short-term partner compared to females (males, $n = 56$, $M = 4.38$, $SD = 1.38$; females, $n = 66$, $M = 3.05$, $SD = 1.60$; $t(120) = -4.72$, $p < .001$, $d = 0.89$). We only included current PBMDA-users in this analysis because former PBMDA-users may misinterpret the question, and answer this question based on their current relationship status. Among single participants without experience with PBMDAs this effect was smaller, but still showed a moderate effect (males, $n = 106$, $M = 3.03$, $SD = 1.55$; females, $n = 72$, $M = 2.03$, $SD = 1.31$; $t(176) = -4.49$, $p < .001$, $d = 0.70$).

Among current PBMDA-users there was no significant sex difference in interest in finding a long-term partner (males, $n = 56$, $M = 4.88$, $SD = 1.44$; females, $n = 66$, $M = 5.27$,

$SD = 1.43$; $t(120) = 1.52$, $p = .13$, ns). There was no sex difference among all single participants either (males, $n = 191$, $M = 4.86$, $SD = 1.40$; females, $n = 183$, $M = 5.10$, $SD = 1.47$; $t(372.0) = 1.65$, $p = .10$, ns). At last, there was no sex differences in whether participants reported to use PBMDAs more often when they wanted a long-term partner (males, $n = 111$, $M = 3.12$, $SD = 1.60$; females, $n = 185$, $M = 2.98$, $SD = 1.72$; $t(294) = -.721$, $p = .47$, ns).

Discussion

Sociosexuality

This study hypothesized that SOI was positively associated with PBMDA-use. This first hypothesis was supported in this study. The data shows that PBMDA-use is positively associated with a mating strategy that is oriented toward uncommitted sex. The data also showed a strong main effect of PBMDA-use on SOI, and a weak to moderate effect of sex on SOI. Based on previous studies we expected a substantial effect of sex on SOI (Lippa, 2009; Penke & Asendorpf, 2008; Schmitt, 2005), but it was somewhat unexpected to see that the link between PBMDA-use and SOI was even larger. Sociosexuality is usually seen as a personality trait (Penke & Asendorpf, 2008), and traits are usually quite stable variables compared to an individual's behavior (Fleeson, 2004). Therefore, the interpretation of this finding is that sociosexuality affects a person's decision to download and use PBMDAs, and the data supports this interpretation. The findings show that the difference in SOI scores between current users and single former users was substantially smaller than between current users and singles who have never used PBMDAs. Nonetheless, because of the cross-sectional design it cannot be excluded that PBMDA-use is affecting SOI.

Looking more closely at the different SOI components, this study found that PBMDA-use had a strong effect on SOI behavior, a moderate effect on SOI attitudes and a moderate to strong effect on SOI desire. Sex had no effect on SOI behavior, a weak effect on SOI attitudes and a strong effect on SOI desire. Consequently, SOI desire was the only SOI component where sex had a stronger effect than PBMDA-use. This is in line with previous research on sex differences related to the different SOI components measured with SOI-R (see Kennair & Bendixen, 2012; Penke & Asendorpf, 2008).

In this study male participants reported higher SOI scores in general, but women scored higher on SOI behavior. There can be many different explanations for this, and self-selection could be one of them. It might be that female participants with low SOI were less likely to respond and complete the questionnaire. Another explanation might be cultural and demographic factors. For example, Norway has a gender-egalitarian culture (Ellingsæter & Leira, 2006), and gender equality has across cultures been found to be associated with both higher SOI scores among women and smaller sex differences (Schmitt, 2005). If this is the case in Norway, our finding supports strategic pluralism theory (Gangestad & Simpson, 2000), in that environmental factors affects mating strategies. The general finding that men have higher SOI than women supports predictions from SST (Buss & Schmitt, 1993) and

parental investment theory (Trivers, 1972), in that women despite different contextual factors will not match men's overall level of unrestricted sociosexuality.

Participants' SOI scores were also significantly and moderately associated with PBMDA-activity, which supports our second hypothesis. In this association the data showed no sex differences. The activity-measure was moderately associated with how many people the participants had met and had sex with without having an interest for a committed relationship. Interestingly, this association was strong for women, but non-significant for men. This can be related to evidence supporting that women are usually the "gatekeepers" when it comes to casual sex (e.g., Clark & Hatfield, 1989; Garcia et al., 2012). It might be the case that an effort to find and attract a short-term partner through PBMDAs is more likely to be successful for a woman than a man. This may partly explain that women's activity on PBMDAs is strongly associated with the actual number of sex-partners met through PBMDAs. On the other hand, PBMDA-activity was not associated with how many people the participants had met with an interest for a long-term partner. This may indicate that active use of PBMDAs does not necessarily lead users closer to a long-term partner, and as a result that PBMDAs may be a better tool for finding a short-term partner. However, we don't know of any studies that have looked at how many that end up in a long-term relationship through the use of PBMDAs. It may be that participants use a strategy where they "check out" different short-term partners, and if it's a good match they try to make that person a long-term partner (Campbell, 2008; Haselton & Buss, 2001).

Based on predictions from SST (Buss & Schmitt, 1993), this study expected to find sex differences in interest for short-term partners. As mentioned, in support of SST many studies show that men are more open to short-term partners in general (e.g., Clark & Hatfield, 1989; Kennair et al., 2009; Lippa, 2009; Schmitt, 2005). Our data shows that male PBMDA-users are no different, and that the sex-difference in this group was a bit larger than expected from a previous study with Norwegian participants (Kennair et al., 2009). In line with our third hypothesis, the data showed that male current PBMDA-users were more interested in finding a short-term partner than female current PBMDA-users. This was also the case when looking at single participants without experience with PBMDAs, although the difference here was smaller. It was also interesting to see that female current PBMADA-users were just as interested in finding a short-term partner as single males without experience with PBMDAs. This supports the importance of personality on behavior, and that participants with higher SOI in this study tend to both use PBMDAs more and be more active on PBMDAs.

Sager et al. (2016) found that contrary to their hypothesis female respondents scored higher than males on sexual-motives for using mobile dating apps (as assessed with items like "I use hook-up app(s) for sexual freedom" and "I use hook-up app(s) to be sexually adventurous"). Despite this difference in sexual motivation, Sager et al. (2016) still found that men were more interested in hooking-up than women when using mobile dating apps. Sumter et al. (2016) looked specifically at Tinder, and found that men were more interested in finding a short-term partner than women, which supports both this study and Sager et al. (2016).

Findings from this study also show that there were no reported sex differences in whether current PBMDA-users are interested in finding a long-term partner. This means that while both sexes report almost the same desire to find a long-term partner, male current PBMDA-users in the sample are at the same time substantially more interested in finding a short-term partner. This result is in line with Sumter et al. (2016) study, which found love in general to be to be a stronger motivation than casual sex when using Tinder. Male participants in Sumter et al. (2016) had almost equal motivation for love and casual sex, but females had a substantial lower motivation for casual sex compared to love. Our data supports this finding.

Self-perceived mate value and sociosexuality

The data showed no such association between MVI and SOI, and found no sex differences either. There is mixed evidence for how mate value affects short-term mating. Jackson and Kirkpatrick (2007) found a moderate association between SOI (as assessed with Simpson and Gangestad (1991)) and self-perceived mate value, in this case assessed with Self-Perceived Mating Success Scale (SPMSS)(Landolt et al., 1995). The failure to replicate Jackson and Kirkpatrick (2007) may partly be due to differences in measures of self-perceived mate value, and this difference may bias how participants responded. MVI asks the participant to describe himself/herself as accurately as possible, while SPMSS asks the participants to assess how the opposite sex perceives them.

Previous studies have found several sex differences in partner preferences, both in long-term and short-term settings (e.g., Buss, 1989; Li & Kenrick, 2006). Nonetheless, for a given trait within-sex variability is usually larger than the between sex variability (see Buss & Barnes, 1986). Simpson and Gangestad (1992) investigated romantic partner choice and sociosexuality. In their study participants rated the importance of 15 partner attributes, and two factors emerged. These factors were associated with SOI scores. Factor 1 was associated with a restricted sociosexuality, and corresponded to personal/parenting qualities. Among

other, this factor included traits like "responsibility", "kind and understanding", "desire for children", and "faithfulness and loyalty". Factor 2 corresponded to attractiveness/social status, and was associated with high SOI scores, and among others included the following: "Attractiveness", "social status" and "quality of health".

In this study we conducted a principal axis factor analysis on 14 MVI-items, and a two-factor solution showed a good fit to the data. Factor 1 ("short-term traits") included: Attractive face, attractive body, healthy, good sense of humor, intelligent, sociable, enthusiastic about sex and ambitious. Factor 2 ("long-term traits") included: Loyal, kind and understanding, responsible, faithful to partners and generous. Despite some different traits, our factor structure showed similarities to what Simpson and Gangestad (1992) found. Their factor 1 corresponded to factor 2 in this study, and are typical traits many people seem to particularly value in a long-term partner (e.g., Buss, 1989; Buss & Barnes, 1986; Li et al., 2002; Li & Kenrick, 2006; Regan et al., 2000). Simpson and Gangestad (1992) factor 2 corresponded to factor 1 in this study, and are typical traits people seem to value in a short-term partner (e.g., Buss, 1985; Li & Kenrick, 2006; Regan et al., 2000).

SOI scores were moderately associated with factor 1 ("short-term partner traits"). Factor 2 ("long-term partner traits"), showed a weak negative association with SOI. This indicates that sociosexuality among participants is associated with how participants actually perceive their own mate value. Similar to Simpson and Gangestad (1992) the data in this study showed that participants with an unrestricted sociosexuality were more likely to describe themselves with traits related to what people prefer in a short-term partner, and those with an restricted sociosexuality describe themselves with traits more favorable in a long-term partner. This may be partly explained by the reactive heritability concept (Tooby & Cosmides, 1990), and participants with traits that are advantageous in a short-term setting may use more mating effort on a strategy that fits ones traits and heritability.

In relation to PBMDA-use, this study found a moderate association between activity on PBMDA and factor 1 ("short-term traits") among male participants. There was no such association among our female participants. This suggests that in contrast to women, active male PBMDA-users tend to rate themselves higher on traits found attractive in a short-term partner. There was no objective rating of participant's attractiveness in this study, but this sex difference may be due to reinforcement. In other words, it might be that attractive men get more out of using PBMDAs (e.g., more matches, more conversations), and because of this choose to use PBMDAs more frequently. It is not clear why there is no corresponding association among females. One possible explanation might be differences in minimal

parental investment, which explains why men tend to be the less choosy sex (e.g., Kennair et al., 2009; Schmitt, 2003; Trivers, 1972). Sumter et al. (2016) shows that this seems to be the case on PBMDAs as well. As a result, all women may experience reinforcement when using PBMDAs, not just attractive women.

Self-esteem and self-worth validation

There was a small sex difference in self-esteem in the sample, were men tend to rate themselves higher. This finding is also in line with a previous meta-analysis by Kling et al. (1999). The data also shows a moderate association between self-perceived mate-value and self-esteem, and this has also been found in previous studies (e.g., Brase & Guy, 2004; Goodwin et al., 2012). This association was small for long-term partner traits and moderate to large for short-term partner traits. This indicates that participants who rate themselves higher on short-term partner traits have higher self-esteem compared to participants who rate themselves more favorably on long-term partner traits. A meta-analysis found that people with high self-esteem are more likely to rank themselves as more attractive, intelligent and popular (Langlois et al., 2000). These traits are linked to short-term partner traits in this study, and it may be that this explains some of the difference in self-esteem among participants with higher and lower self-perceived mate-value.

Related to PBMDA-use, the data showed no particular relationship between PBMDA-use and self-esteem within either male or female participants. Sumter et al. (2016) found self-worth validation to be an important motivation for using PBMDAs, and the data supports this finding. This study found that women more than men use PBMDAs for self-worth validation reasons. Using PBMDAs for self-worth validation was also associated with more time spent on PBMDAs per day. The data suggests that PBMDAs for some people, and women in particular, is used in an effort of psycho-social mood elevation through validation. With the cross-sectional design it is not possible to say whether PBMDA-use is an effective tool for this purpose.

Limitations and future research

One limitation in this study is the cross-sectional design, and thus inferences about causality cannot be made. Another obvious limitation is the use of self-report questionnaires, which may bias the data and should be used with other sources of data. Self-report data can be

influenced by for instance social desirability, memory problems and response bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The participants were all university students in their early 20s, and the findings from this study can therefore not be generalized to other age groups or the population at large. Future research should investigate whether our findings are replicable in other demographic groups. Further, it is of interest to study how PBMDA-use relates to SOI, self-perceived mate value and self-esteem in less gender-egalitarian societies.

Conclusion

To our knowledge this has been the first quantitative study to explore PBMDA-use in a Norwegian population. The findings show that PBMDA-users had higher SOI scores than participants who had never used PBMDAs, and that this group difference was stronger than that of sex. Looking at the different SOI components, PBMDA-use had the strongest effect on SOI behavior. In addition, this study found that participants SOI scores to be positively associated with PBMDA-use, and that men compared to women report to be more interested in finding a short-term partner when using PBMDAs. These findings support evolutionary theory on mating strategies, and in particular sexual strategies theory (SST, Buss & Schmitt, 1993).

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Appendix:

● ●

BRUK AV BILDEBASERTE DATINGAPPER

Formålet med denne spørreundersøkelsen er å studere sammenhenger mellom seksualitet, partnerverdi, selvfølelse og bruk av bildebaserte datingapper (f.eks. Tinder, Happn). Undersøkelsen er en del av undertegnedes hovedoppgave ved Psykologisk institutt, Norges teknisk-naturvitenskapelige universitet (NTNU).

Det er frivillig å delta i undersøkelsen, og alle som deltar er anonyme. Du samtykker i å delta ved å svare på spørsmålene og levere inn skjemaet. Forventet tidsbruk er ca. 10 minutter. Har du spørsmål, kan du kontakte Ernst O. Botnen, tlf. 901 93 951.

Takk for at du er villig til å delta i undersøkelsen!
Ernst O. Botnen, psykologstudent
Leif Edward Ottesen Kennair, professor, veileder

NTNU
Kunnskap for en bedre verden
Psykologisk institutt

LES DETTE FØR DU STARTER!	Skjemaet skal leses maskinelt. Vennligst følg disse reglene:
	• *Bruk svart/blå kulepenn. Skriv tydelig, og ikke utenfor feltene.* **Kryss av slik:** ☒.
	• *Feilkryssinger kan annulleres ved å fylle hele feltet med farge. Kryss så i rett felt.*
	• *Sett bare ett kryss på hvert spørsmål om ikke annet er oppgitt.*

A. BAKGRUNNSINFORMASJON

1. Kjønn:
Kvinne .. ☐₁   Annen oppfatning
Mann .... ☐₂   av kjønn.............. ☐₃

2. Fødselsår:
19 ☐

3. Sivil status:
Singel.... ☐₁   I et udefinert forhold........ ☐₂
I et forpliktende forhold ... ☐₃

4. Hvem er du seksuelt tiltrukket av? ⇨

Bare menn 1	Mest menn 2	Menn og kvinner like mye 3	Mest kvinner 4	Bare kvinner 5	Ingen 6	Vet ikke 7
☐	☐	☐	☐	☐	☐	☐

B. OM DEG SELV

Hvor enig eller uenig er du i følgende påstander om deg selv?

	Svært uenig 1	2	3	4	5	6	Svært enig 7
1. Jeg har høy selvfølelse	☐	☐	☐	☐	☐	☐	☐
2. Jeg søker en romantisk langtidspartner	☐	☐	☐	☐	☐	☐	☐
3. Jeg søker en seksuell korttidspartner («one-night stand», «hookup»)	☐	☐	☐	☐	☐	☐	☐
4. Jeg er komfortabel med å sjekke opp fremmede i ikke-digitale settinger	☐	☐	☐	☐	☐	☐	☐

● KS-16 18-4 **1** Undersøkelsen gjennomføres med bistand fra SVT-IT, NTNU ▣ ●

Før du fortsetter: Kontroller at du ikke har glemt noe på denne sida.	●

Husk: Bare ett kryss på hvert spørsmål.

Beskriv deg selv så godt som mulig ved hjelp av de 17 adjektivene/utsagnene nedenfor.

Ett kryss for hvert adjektiv/utsagn.

Beskriver meg svært dårlig — 1 2 3 4 5 6 7 — Beskriver meg svært godt

1. Ambisiøs .... ☐☐☐☐☐☐☐
2. Attraktivt ansikt .... ☐☐☐☐☐☐☐
3. Attraktiv kropp .... ☐☐☐☐☐☐☐
4. Ønsker barn .... ☐☐☐☐☐☐☐
5. Glad i / interessert i sex .... ☐☐☐☐☐☐☐
6. Trofast mot partner .... ☐☐☐☐☐☐☐
7. Har solid økonomi .... ☐☐☐☐☐☐☐
8. Sjenerøs .... ☐☐☐☐☐☐☐

Beskriver meg svært dårlig — 1 2 3 4 5 6 7 — Beskriver meg svært godt

9. Humoristisk sans .... ☐☐☐☐☐☐☐
10. God helse .... ☐☐☐☐☐☐☐
11. Uavhengig .... ☐☐☐☐☐☐☐
12. Intelligent .... ☐☐☐☐☐☐☐
13. Snill og forståelsesfull .... ☐☐☐☐☐☐☐
14. Lojal .... ☐☐☐☐☐☐☐
15. Ansvarlig .... ☐☐☐☐☐☐☐
16. Sosial .... ☐☐☐☐☐☐☐
17. Følelsesmessig stabil........ ☐☐☐☐☐☐☐

C. SEX OG SEKSUELL AKTIVITET

Vennligst svar så ærlig som mulig på de følgende spørsmålene:

		0	1	2	3	4	5-6	7-9	10-19	20+
1.	Hvor mange forskjellige partnere har du hatt sex (samleie) med *de siste 12 månedene?*	☐	☐	☐	☐	☐	☐	☐	☐	☐
2.	Hvor mange forskjellige partnere har du hatt samleie med én og kun én gang?	☐	☐	☐	☐	☐	☐	☐	☐	☐
3.	Hvor mange forskjellige partnere har du hatt samleie med uten at du har hatt interesse for et langvarig, forpliktende forhold med personen?	☐	☐	☐	☐	☐	☐	☐	☐	☐

Veldig uenig — 1 2 3 4 5 6 7 8 9 — Veldig enig

		1	2	3	4	5	6	7	8	9
4.	Sex uten kjærlighet er OK	☐	☐	☐	☐	☐	☐	☐	☐	☐
5.	Jeg er komfortabel med tanken på å ha tilfeldig sex med forskjellige partnere	☐	☐	☐	☐	☐	☐	☐	☐	☐
6.	Jeg vil ikke ha sex med en person før jeg er sikker på at forholdet kommer til å være seriøst og varig	☐	☐	☐	☐	☐	☐	☐	☐	☐

KS-16 18-4 | 2 | Undersøkelsen gjennomføres med bistand fra SVT-IT, NTNU

Før du fortsetter: Kontroller at du ikke har glemt noe på denne sida.

Husk: Bare ett kryss på hvert spørsmål.

	Aldri	Veldig sjelden	En gang hver 2-3 mnd.	Ca. en gang pr. mnd.	Ca. en gang hver 2. uke	Ca. en gang i uka	Flere ganger i uka	Nesten daglig	Minst en gang daglig
	1	2	3	4	5	6	7	8	9

7. Hvor ofte fantaserer du om å ha sex med noen du ikke er i et forpliktende kjærlighetsforhold til? .... ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

8. Hvor ofte opplever du seksuell opphisselse når du er i kontakt med noen du ikke har et forpliktende kjærlighetsforhold til? .... ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

9. I det daglige, hvor ofte opplever du spontane fantasier om sex med noen du nettopp har møtt? .... ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

D. BRUK AV BILDEBASERTE DATINGAPPER

1. Bruker du bildebaserte datingapper, f.eks. Tinder, Happn? ⇨

   Ja, jeg bruker bildebaserte datingapper .... ☐₁
   Nei, men jeg har brukt bildebaserte datingapper tidligere ... ☐₂
   Nei, jeg har aldri brukt bildebaserte datingapper .... ☐₃

> *Hvis du aldri har brukt slike apper, er du ferdig med skjemaet, og kan levere det inn. Takk for hjelpen!*
>
> *Resten av spørsmålene er til deg som har erfaring med bildebaserte datingapper.*

2. Hvor lenge har du brukt / brukte du bildebaserte datingapper? ⇨

   0 - 3 mnd....... ☐₁   6 - 12 mnd. .... ☐₃   1½ - 2 år .... ☐₅
   3 - 6 mnd....... ☐₂   1 - 1½ år........ ☐₄   Over 2 år....... ☐₆

3. Hvor mye tid vil du anslå at du i gjennomsnitt bruker eller brukte på bildebaserte datingapper totalt i løpet av en dag, inkludert chatting? ⇨

   0 - 10 min. ..... ☐₁   30 - 50 min.... ☐₄
   10 - 20 min. ... ☐₂   50 - 90 min.... ☐₅
   20 - 30 min. ... ☐₃   Over 90 min.. ☐₆

I de neste spørsmålene blir du bedt om å skrive antall. Her er det viktig at du i hvert felt bare skriver ett antall, f.eks. 4, 9, 20, 35 o.l., ikke to antall, som f.eks.15-20 o.l.

4. Hvor mange personer har du kommet i kontakt med via bildebaserte dating-apper, *og senere møtt*? *Skriv 0 hvis ingen. Er du i tvil, så prøv å gi et realistisk anslag.* ⇨ [____]

5. Av personene du har møtt gjennom bildebaserte datingapper, hvor mange har du hatt samleie med, uten interesse for et langvarig, forpliktende forhold med personen? *Skriv 0 hvis ingen. Er du i tvil, så prøv å gi et realistisk anslag.* ⇨ [____]

6. Av personene du har møtt gjennom bildebaserte datingapper, hvor mange har du hatt interesse for et langvarig, forpliktende forhold med? *Skriv 0 hvis ingen. Er du i tvil, så prøv å gi et realistisk anslag.* ⇨ [____]

7. *Hvis du bruker eller har brukt Tinder*: Hvor mange matcher har du fått totalt siden du begynte å bruke Tinder? *Antall nåværende matcher kan sjekkes på appen, forsøk å svare også om du har slettet matcher en eller flere ganger. Er du i tvil, så prøv å gi et realistisk anslag. NB: Kryss av i den lille boksen hvis du aldri har brukt Tinder.* ⇨ ☐ [____]

KS-16 18-4 | 3 | Undersøkelsen gjennomføres med bistand fra SVT-IT, NTNU

> *Før du fortsetter: Kontroller at du ikke har glemt noe på denne sida.*

Husk: Bare ett kryss på hvert spørsmål.

8. **Hvor enig eller uenig er du i følgende påstander om deg selv?**

	Svært uenig 1	2	3	4	5	6	Svært enig 7
1. Jeg møter gjerne personer jeg har kommet i kontakt med gjennom bildebaserte datingapper	☐	☐	☐	☐	☐	☐	☐
2. Jeg godkjenner personer (f.eks. «swiper» til høyre) når jeg bruker bildebaserte datingapper	☐	☐	☐	☐	☐	☐	☐
3. Jeg føler meg bra etter å ha brukt bildebaserte datingapper	☐	☐	☐	☐	☐	☐	☐
4. Jeg møter gjerne personer privat (dvs. f.eks. hjemme hos, ikke på et offentlig sted) ved første møtet etter kontakt på bildebaserte datingapper	☐	☐	☐	☐	☐	☐	☐
5. Jeg tar kontakt med «matchene» jeg får gjennom bildebaserte datingapper	☐	☐	☐	☐	☐	☐	☐
6. Jeg responderer på samtalene jeg mottar gjennom bildebaserte datingapper	☐	☐	☐	☐	☐	☐	☐
7. Jeg bruker bildebaserte datingapper hyppigere når jeg ønsker et forpliktende romantisk forhold	☐	☐	☐	☐	☐	☐	☐
8. Jeg bruker bildebaserte datingapper hyppigere når jeg vil «sjekke markedet»	☐	☐	☐	☐	☐	☐	☐
9. Jeg bruker bildebaserte datingapper hyppigere når jeg har lyst på sex	☐	☐	☐	☐	☐	☐	☐
10. Jeg bruker bildebaserte datingapper hyppigere når jeg vil føle meg bedre	☐	☐	☐	☐	☐	☐	☐
11. Jeg bruker bildebaserte datingapper hyppigere når jeg kjeder meg	☐	☐	☐	☐	☐	☐	☐
12. Jeg bruker bildebaserte datingapper hyppigere når jeg ønsker kjæreste	☐	☐	☐	☐	☐	☐	☐
13. Jeg bruker bildebaserte datingapper hyppigere når jeg ønsker bekreftelse	☐	☐	☐	☐	☐	☐	☐
14. Jeg bruker bildebaserte datingapper hyppigere når jeg er kåt	☐	☐	☐	☐	☐	☐	☐
15. Jeg har opplevd ubehagelige hendelser ved bruk av bildebaserte datingapper	☐	☐	☐	☐	☐	☐	☐
16. Jeg har opplevd seksuell trakassering ved bruk av bildebaserte datingapper	☐	☐	☐	☐	☐	☐	☐
17. Jeg har opplevd seksuell tvang ved bruk av bildebaserte datingapper	☐	☐	☐	☐	☐	☐	☐

Takk for at du ville svare på spørsmålene!

KS-16
18-4

4

Undersøkelsen gjennomføres
med bistand fra SVT-IT, NTNU