



Partner search in the digital age. Psychological characteristics of Online-Dating- Service-Users and its contribution to the explana- tion of different patterns of utilization.

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ABSTRACT

In search of a romantic partnership nearly half of all German singles are using internet-dating-services (Schultz & Zillmann, 2009). Although there is much reported about this phenomenon in the media, scientific studies on this subject are rare. The present investigation pursues three objectives: (1) the psychological traits (self-esteem, extraversion, openness, shyness, physical attraction, sociability) as well as socio-demographic characteristics (age, gender, education) in comparison to people who have not used online single services before; (2) to determine psychological characteristics which predict the intensity of using Internet dating platforms; (3) to identify different user types according to motives of utilization, differential characteristics and their behaviour of utilization. In a random sample of $N = 437$ Internet dating service users hardly differ from non-users in psychological, but merely in socio-demographic variables. The results make clear that the intensity of using Internet dating platforms can be predicted on the basis of factors such as sociability, self-esteem and subjective importance of a partnership. Interaction effects show that among the people who are sociable and exhibit a low self-esteem Internet dating is pursued more intensely if romantic relations take a high value. In the first instance results of a cluster analysis yield that the user's population is heterogeneous. Three different users types could be determined – shy, compensatory contact seekers, self confident partner seekers and pastime flirts – which differ in their basic motivation, their behaviour of utilization, their personality and concerning socio-demographic characteristics. The results are discussed in the light of previous findings and their utility is represented for the practice.

1 Internet Dating in Germany

Searching for a partner through the Internet has become fashionable. While various industries and companies registered significant loss of business in recent years, the online dating industry experienced a boom in 2009 and 2010. More than 2000 dating services and dating agencies are available to partner seeking Germans on the Internet and membership in 2008 estimated at 54.4 million users (Pflitsch & Wiechers, 2009). The proliferation of single-portals is not surprising. Since it is a convenient and inexpensive way to look for a potential partner at home a membership can be achieved by a few mouse clicks. Moreover, the speed of getting to know somebody is controllable and the anonymity can be maintained, which can reduce inhibitions and increase self-confidence (Wolf, Spinath & Fuchs, 2001).

1.1 Special features on online-dating

There are different kinds of services, which differ mainly in the initiation of contact and the target group (such as single mothers, academics, homosexuals; for a detailed overview see Pflitsch & Wiechers, 2009). Advantages in finding a partner via the Internet are mainly in contextual features, that can be described with reference to Skopek, Schulz and Blossfeld (2009) as: (1) independence of

space and time: online dating in general works round the clock, and any place where access to the Internet exists, (2) heterogeneity of the user population: people with different socio-demographic and socio-cultural backgrounds can easily get in touch, (3) increased number of potential partners: compared to the numerical limitation of dating possibilities in everyday life, it is possible to access a large number of users in dating services - to the hundreds of thousands depending on the provider, (4) anonymity of the situation and the actors: dating users can decide which details they reveal about themselves in the Internet based interaction and how they want to represent themselves. The true identity is protected. In Consequence of the text-based communication paraverbal and nonverbal elements, which increases the anonymity disappears as well, (5) unboundedness of initial contact: users can write to one another without being able or needing to pay attention to whether the contact partner is converging another person or indicating their interest.

1.2 Image of dating users

Dating-service-users are exposed to a variety of prejudices. They are described as shy, lonely, less physically attractive and socially anxious (McKenna, Green & Gleason, 2002; Valkenburg & Peter, 2007). The basis for this

stereotype is the association that the Internet is a safer, less threatening social environment. For contact shy and timid people, the presumption is this environment facilitates and eases initiation of interpersonal relationships (McKenna & Bargh, 2000). Empirical studies, at least from recent years, cannot confirm this stereotype (Kraut, Kiesler, Boneva, Cummings, Helgeson & Crawford, 2002; McKenna & Barth, 2000). Findings indicate that users of dating services are sociable, engage in many social activities (Brym & Lenton, 2001) and have a high self confidence (Kim, Kwon & Lee, 2009).

Thus, common stereotypes on the one hand and the opposite empirical findings on the other hand, picture two competing hypotheses, which are also represented in the literature: the Social Enhancement ("Rich Get Richer") theory and the Social Compensation ("Poor Get Richer") hypothesis (see Valkenburg & Peter, 2007). The theory of social enhancement indicates that people, who are generally gregarious and popular, derive a greater social benefit from the Internet - and in this case, dating services. The theory of social compensation ("The poor get richer") assumes in the complementary sense that introverted, less sociable people benefit most from using the Internet (McKenna & Bargh, 1998) and that they can compensate their deficits through the medium. These opposing theories and findings lead to the first research question of this study.

Research Question 1: Are online daters shyer, more timid, less social, more introverted, and do they consider themselves as less attractive and lower in self-esteem than the comparison group of people, not using online dating (in short, non-users)?

1.3 Psychological variables of users

Why different groups of people choose certain media is often explained by the uses-and-gratifications-approach (UGA) by Blumler and Katz (1974). Media are therefore used specifically and functionally to supply certain needs or to achieve a specific effect (see Aretz, 2010; Schweiger, 2007). Considering the variety of dating websites it can be assumed that different motives prevail on the users' side (e.g., amusement, entertainment, loneliness) which affect the selection of certain dating portals (e.g., free versus fee-based portals) and the intensity of use. Since the motives of dating-use in empirical studies is unknown so far the confirmation of these assumptions remains to be done.

It can be assumed that the success of Internet dating depends to a large extent on the self-presentation and the impression management of a person. However, only little is known about the psychological characteristics that influence the self-presentation in the context of Internet dating services (e.g. Whitty, 2007). Kim et al. (2009) argue that the search for a romantic relationship is a major motivation for using online dating portals, and therefore the subjective importance of a partnership affects the intensity of using single-portals. The role of sociability is

also discussed. The findings of Brym and Lenton (2001) point out that sociability has a positive effect on the use of online dating services, users are more involved in social activities than non users.

Furthermore, the influence of self-esteem was discussed. It is sufficiently known that people with high self-esteem tend to attribute their own abilities and achievements rather internal, failures more external variables (Campbell, 1990). In the context of Internet use may be evidenced that people having a lower self-esteem prefer text-based communication over face-to-face communication (Joinson, 2004) and also spend more time on the Internet (Ehrenberg, Juckes, White & Walsh, 2008). The pathological findings on Internet use indicate that low self-esteem turns out to be a risk factor (Armstrong, Phillips & Saling, 2000; Hahn & Jerusalem, 2001; Niemz, Griffiths & Banyard, 2005). In the light of these findings it can now be assumed that low self-esteem is associated with a more intensive use of dating portal. However, the results of the research group around Kim (2009) point in a different direction. They investigated the influence of self-esteem, sociability and the importance of a romantic relationship on the use of Internet dating services. The core finding of this study is an interaction effect between the three above named variables. Among people who describe themselves as very sociable, those individuals with high self-esteem use internet dating services to a greater extent than persons with low self-esteem if they also attach importance to a romantic relationship. If the volunteers assess the perceived importance of a romantic relationship to be low, people with low self-esteem use Internet dating services in stronger dimensions.

That the importance of a relationship affects the use of dating portals is obvious. However it seems questionable, why of all people, those with high self-esteem, and very sociable, are using dating portals in higher dimensions. Kim et al. (2009) propose that social people consider romantic relationships as source of their self worth and people with high self-esteem, in principle, are more interested in making new acquaintances with strangers: "(...) when sociable people consider romantic relationships to be an important domain for self-worth, those with high self-esteem will be more likely than those with low self-esteem to use Internet dating services. The reason is that when sociable people consider romantic relationships to be an important domain for self worth those with high self-esteem will find it comfortable to present themselves to a multitude of anonymous people. Whereas those with low self-esteem will be more likely to experience higher levels of stress just thinking about disclosing and promoting themselves on the Internet." (Kim et al., 2009, p. 448).

The present study aims to test whether results of Kim et al. (2009) can be replicated in a German sample. Indeed it is expected that in German culture people with low self-esteem use internet dating portals to a greater extent. This hypothesis is based on results of peer Joinson (2004), Ehrenberg et al. (2008) and Hahn and Jerusalem (2001), which showed a correlation between low self-esteem and the preference for text-based communications as well as pathological Internet use.

H1: People with lower self-esteem use dating portals more intensely than people with higher self-esteem.

Also, according to Kim et al. (2009), it is assumed that the sociability of a person and the subjective importance of a romantic relationship affect the intensity of using single portals. It is expected that persons with high sociability who pursue more social activities, have a higher need for communication than those with low sociability. If the subjective importance of a romantic relationship to these persons is high and their self-esteem rather low, such persons should, however, prefer the exchange over the Internet. In contrast to the findings of Kim et al. (2009) it once again is expected that people with low self-esteem are prone to greater Internet use.

H2: If the subjective importance of a partnership is high, then people with low self-esteem use dating websites to a larger extent, if they show high rates of sociability at the same time.

1.4 Psychological types of online-dating-users

In psychological studies typological investigations in media psychological studies test have proven (see, for example, Aretz, 2007, 2010; Aretz & Gansen, 2010). Based on the uses-and-gratifications approach, it can be assumed that the present sample of dating service users can be identified different types, which differ in their use patterns and their motives. These motives should influence the choice of certain dating services and the intensity of use. Moreover differences in differential characteristics (e.g. age, sex, education level, extraversion, neuroticism, self-esteem) between the user types can be assumed.

Research Question 2: Can users be clustered along motives of use, their usage patterns, socio-demographic characteristics and psychological characteristics?

2 Method

2.1 Questionnaire

Use motives: To assess use of motives online dating users - on the basis of exploratory interviews - 22 items were generated. A factor analysis (Principal Components Analysis (PCA), Varimax method, Eigenvalues > 1) yields four factors which explains 54.13% of the variance in the present sample. They can be labelled as the communication factor (five items, Cronbach's $\alpha = .77$, example item: "I use online dating services to communicate with others"), the factor presentation and confirmation (six items, Cronbach's $\alpha = .72$, Example item: "I use online dating services exchanges to get confirmation"), the factor of longing and loneliness (four items, Cronbach's $\alpha = .69$, sample item: "I use online-dating-services to feel someone is there" ; "... from longing for closeness to a human"), the amusement factor (three items, Cronbach's $\alpha = .64$, Example item: "I use online-dating-services to pass the time"). The total scale reached a Cronbach's alpha of .85.

Personality: To capture the personality facets of extraversion, neuroticism and openness (see Digman, 1990) the German version of the NEO Five-Factor Inventory of Bork-

enau and Ostendorf (1993) was used. The six items with the highest factor loadings for each scale were used as a short version. An example item for the dimension of extraversion is: "I like having many people around me", an example item for the dimension of neuroticism says, "Sometimes I feel completely worthless" and for the dimension of openness, "I often have fun playing with theories or abstract ideas". The items could be answered on a five-point Likert-scale ranging from "strongly agree" to "strongly disagree". The internal consistencies for neuroticism were Cronbach's $\alpha = .81$. for extraversion Cronbach's $\alpha = .80$. and openness Cronbach $\alpha = .81$.

To capture general *self-esteem* seven items from the Rosenberg Self-esteem-Scale (1965) were translated into German and pretested for understanding. The short-scale achieved an internal consistency of $\alpha = .83$ (sample item: "I feel valuable as a person, at least equal with others", "I believe I have some good qualities").

To capture the subjective attitude of a person to their *attractiveness*, the subscale self-esteem physical attractiveness of the multidimensional self-esteem scale by Schütz and Sellin (2006) was used. The five items were presented in statement form (example items: "I have a feeling that most of my friends are more attractive than me" (reversed), "I often feel attractive") could be answered on a five-point Likert-scale ranging from "strongly agree" to "strongly disagree". The internal consistency of the scale achieved Cronbach's $\alpha = .83$.

To measure *general timidity*, seven items of the Revised Cheek and Buss Shyness Scale (RCBS) (1983) were translated into German and pretested for understanding. The short-scale achieved an internal consistency of $\alpha = .80$ (sample item: "In presence of strangers, I am often tense", "I often feel uncomfortable at parties and social activities").

Importance of a relationship: the subjective importance of a partnership was measured via five self-generated items (example item: „I'm only happy, if I'm in a relationship"). The reliability values of the scale with $\alpha = .84$ can be evaluated satisfactory.

Sociability: Sociability was operationalized by the extent of people's commitment in various social activities and also use them to find partners (example item: "I often visit places where large numbers of people congregate, because there is a greater opportunity to get to know a partner", "I'm more at parties, to look or search for a partner"), and integration with friends (example items: "I am fully integrated in my circle of friends", "In my circle of friends everyone is there for each other at any time"). An exploratory factor analysis (Principal Component Analysis, Varimax method, Eigenvalues > 1) explained 57.30% of the variance by two factors. In above-named factors *integration in the circle of friends* (four items, Cronbach's $\alpha = .84$) and *goal-oriented sociability* (five items, Cronbach $\alpha = .75$) could be identified. The overall scale achieved a Cronbach's α value of .78 for seven items.

Use of online dating services: The dependent variable, dating service use was measured by the basic use of sin-

gles portals (yes/no), the number of singles portals, the duration of membership in singles portals in months and the average usage time per day in minutes. For further analysis, a use score was calculated, which measures the intensity of use as a product of the length of membership of single portals in months and the average usage time per day.

Socio-demographic questions: at the end of the questionnaire the subjects were asked for age, highest educational level, relationship status, possibly for duration of the relationship (in months) and their employment status.

2.2 Sample reach

To achieve a sufficient number of online dating users, the online questionnaire was placed on two dating portals and forwarded to friends and acquaintances of the authors for the period 10.05.2010 to 23.06.2010. Thus, a total of $N = 437$ complete data sets were collected. As a comparison between online dating users and non-users was sought, both groups were separated by a filter question. The sample consists of $n = 223$ online dating users and $n = 224$ non-users, aged between 17 and 69 years ($M = 32.13$, $SD = 11.56$). The proportion of women in the total sample is dominant with $n = 280$ (64.1%) compared to men $n = 157$ (35.9%). Within the sample of users the number of single portals, in which the subjects are registered, varied from one to eight sites. The majority of the participants $n = 114$ (25.6%) indicated to use fee requiring as well as free portals, $n = 87$ (19%) use - claims to be - only free and $n = 57$ (13%) only paid services. The average usage time per day is $M = 46.11$ minutes ($SD = 24.78$) and the average membership in months at $M = 14.37$ ($SD = 7.32$).

3 Results

3.1 Descriptive statistics

To investigate the first research question, the group of online dating users was compared to the group of non-users concerning their age, sex, education, and the assessed personality traits (see Table 1). The significance tests show that the two groups neither differ in their self-esteem, their self rated physical attractiveness, their emotional stability and openness nor in their shyness. Only in respect to extraversion, group differences were revealed. Internet daters are characterized by higher values of introversion. This means that they describe themselves as more restrained, more independent and autonomous to a greater degree (Borkenau & Ostendorf, 1993).

Regarding socio-demographic characteristics, differences between the groups could be identified. So the group of users in this sample is on average slightly older, has on average more children and has a slightly lower education. Overall, the stereotypical image of the shy, timid, unsociable, unattractive and low self-esteem Internet daters can not be supported by the present data.

Tab. 1: Different features of online dating users and non-users (due to incomplete information by the subjects the calculations underlying sample size can vary)

	User <i>M (SD)</i>	Non-User <i>M (SD)</i>	Significance test
Age (average)	37.63 (10.5)	26.43 (9.74)	$F(1, 435) = 45.46$, $p < .001$
Extraversion	3.54 (0.80)	3.75 (0.81)	$F(1, 435) = 0.95$, $p < .01$
Neuroticism	2.41 (0.84)	2.40 (0.82)	$F(1, 435) = 0.04$, <i>ns</i>
Openness	3.37 (0.96)	3.21 (0.90)	$F(1, 435) = 3.55$, <i>ns</i>
Shyness	2.51(0.85)	2.39 (0.75)	$F(1, 435) = 2.67$, <i>ns</i>
Self-esteem	4.10 (0.76)	4.09 (0.75)	$F(1, 435) = 0.53$, <i>ns</i>
Attractiveness	3.36 (0.89)	3.36 (0.86)	$F(1, 435) = 0.95$, <i>ns</i>
Children (average)	1.00 (1.12)	0.34 (0.90)	$F(1, 435) = 45.88$, $p < .001$
Sex			$\chi^2(1, N = 435) =$ 0.13 , <i>ns</i>
female	144	136	
male	78	79	
Education			$\chi^2(5, N = 435) =$ 37.78 , $p < .001$
Hauptschule	27	8	
Middle school	65	28	
Fachabitur	43	41	
High school graduation	81	130	
Relationship			$\chi^2(5, N = 435) =$ 67.45 , $p < .001$
married	5	15	
widowed	7	2	
divorced	61	14	
partnership	29	82	
single	120	99	

3.2 Correlations

Correlations analyses examined to what extent the personality traits are related to the motives of use and overall intensity of use (see Table 2, Appendix). As expected, it was found that self-esteem is negatively related to intensity of use of dating portals; shyness and neuroticism show a positive correlation to the intensity of use. Therefore, the higher the self-esteem of a person the less the use singles portals. In addition, the shy and emotionally unstable people are, the more they use dating websites. A detailed overview on the relation of other variables can be found in Table 2 of the attachment.

3.3 Self-esteem and use intensity

To test the influence of self-esteem on the intensity of use of singles portals (see H1), the average values of subjects with high respectively low self-esteem (median split) were compared. As expected, there was a significant difference between groups $t(207) = 5.01$, $p < .05$. People with low self-esteem ($M = 17.02$, $SD = 1.65$) therefore use dating websites more often and longer than people with high self-esteem ($M = 12.03$, $SD = 1.66$).

3.4 Self-esteem, sociability, the importance of partnership and intensity of use

An additional analysis of variance examined whether there is an interaction between self-esteem, sociability, and the subjective importance of a partnership (see H2). The analysis based on the median split (self-importance of a

partnership, sociability) neither showed significant main effects nor the interaction effects concerning the intensity of use of dating services. Indeed interesting results were obtained by the three independent variables by an extreme group education (25% percentile). The first main effect of the influence of subjective importance of partnership in the use of online dating services was also significant $F(1, 100) = 10.67, p < .01, \eta^2 = .30$, as the main effect of the variable sociability, $F(1, 100) = 21.27, p < .001, \eta^2 = .46$, and the variable self-esteem $F(1, 100) = 5.70, p < .01, \eta^2 = .19$. Similarly, the triple interaction was found as significant on the variable importance of a partnership, sociability, self-esteem $F(1, 100) = 12.43, p < .001, \eta^2 = .33$ (see Figure 1).

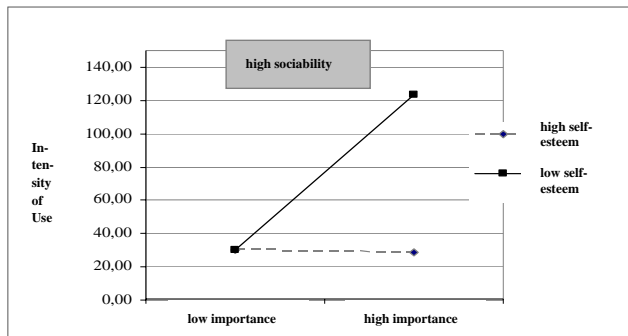


Figure 1: Interaction effect for high sociable persons between self-esteem, importance of partnership and the intensity of use

The main effects show that people who assess themselves as sociable ($M = 51.00$), use singles dating services more intensely than those with low rates of sociability ($M = 15.58$). Also, people with low self-esteem ($M = 42.45$) take advantage of dating services more often and longer than people with high self-esteem ($M = 24.12$). Moreover, the subjective importance of a partnership has an effect on the intensity of use: people, whose satisfaction to a strong degree depends on a partnership ($M = 45.82$) use the internet to find partners significantly more intensely than the comparison group ($M = 20.74$).

Looking at the interaction effect on the sociability factor the following is clear: the effect of interaction between the subjective meaning of a relationship and self-esteem is only significant for people with high rates of sociability at the same time. For highly sociable persons is that if they have low self-esteem ($M = 120.00$) use dating portals more intensely than people with high self-esteem ($M = 12.89$), if the subjective importance of a partnership is assessed to be high. If the subjective importance of a partnership, however, is estimated to be low, persons with high respectively low self-worth do not differ in the intensity of using online dating services. For low sociable persons, no significant interaction effect could be detected.

3.5 Cluster Analysis

To examine different types of dating users, the dimensions (a) communication, (b) presentation and confirmation, (c) longing and loneliness, (d) amusement were subjected to a Cluster Analysis. Based on the uses-and-gratifications

approach it is argued that different motives should influence the way of using single dating services. Figure 2 shows the characteristics of the use of motives for the three clusters.

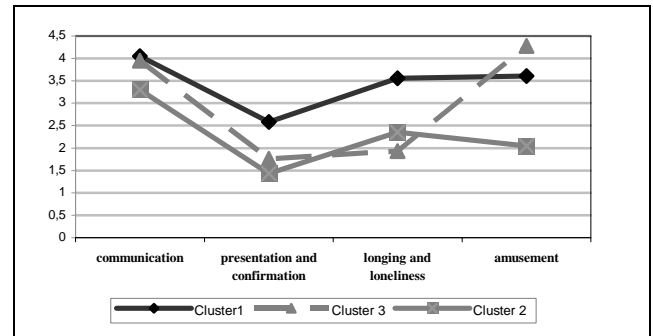


Figure 2: Cluster Analysis

According to the Cluster Analysis, differential description of online dating user types - depending on the scale level of each variable - different significance tests on the differential characteristics in the questionnaire as well as aspects of user behaviour were calculated (see Table 3, Appendix). The findings point to three different user types that differ in their use of motifs, their usage patterns and differential characteristics. *The shy-compensatory contact seeker* (Cluster 1, $n = 62$) uses single-portals primarily from the feeling of loneliness and longing for a partner. They are accompanied by a strong need for communication, as well as pastime. With regard to differential characteristics he can be described as weak, timid and being of low self-esteem. In addition, test subjects in this group have high neuroticism rates indicating that they tend to be nervous, anxious, sad, uncertain and embarrassed (Borkenau & Ostendorf, 1993). People in this group measure a romantic relationship with a particularly high status and feel less integrated in their circle of friends. Apparently they use dating websites to compensate for their feelings of loneliness and are not just looking for a partner, but also looking for friends. In comparison they use online dating services more intensely than the comparison group (daily average usage time). Subsequent post hoc Scheffé tests showed that the group of compensatory users differs significantly from the other two types of users (with regard to features attraction, neuroticism and shyness).

The self-confident partner seekers (Cluster 2, $n = 77$) are significantly older in group comparison to those who, use dating websites exclusively for partner search and have the lowest average daily use. Compared to the other two types their motives of use are low. Most likely they use dating portals to exchange with other people (communication). They have a higher educational level than individuals of the first cluster and value their own physical attractiveness as particularly high. In other features, such as extraversion, neuroticism, self-esteem, shyness, they are in the middle in the type comparison. Post hoc Scheffé tests showed that the biggest differences are to the shy-compensatory contact seekers (Cluster 1) specifically with regard to the self ascribed attractiveness, neuroticism, as well as concerning rates of shyness.

The third user group, *the pastime flirter* (Cluster 3, $n = 83$) use dating portals primarily in order to pass the time and they mainly apply to free portals. People of this type are significantly younger than the other two groups and are characterized by the highest values in extraversion. They can therefore be described as sociable, active, talkative, optimistic and cheerful (Borkenau & Ostendorf, 1993). Furthermore, they identify themselves as being self-confident and strongly integrated in their circle of friends. Being in a partnership is least important for those people. They also look less for partner, but primarily for flirts. However, all in all they use the dating websites the longest (in terms of duration of membership in months). The education level of these persons is higher than that of the comparison groups. The most significant differences are found - on post hoc Scheffé tests - to the shy-compensatory type. The pastime flirters are much more extroverted, confident, and emotionally stable and feel well without a partner.

4 Discussion

The study had three objectives: (1) Comparison of online dating users and non users as regards differential characteristics, (2) exploration of psychological characteristics, from which the intensity of use of online dating portals can be predicted, (3) typological analysis of online dating users.

For the purposes of the first objective, the results show that the stereotypical image of dating users can be considered obsolete. There are few socio-demographic and personality specific characteristics the group of users differ in the group of non-users. The only differential feature is the extraversion: Users of online dating, a total introvert, which means that they describe themselves as conservative and balanced and to a higher extent have a desire to once be alone - than the comparison group of extroverted non-users (Borkenau & Ostendorf, 1993). It is clear, however, that online dating portals are used to a greater extent by older people, some of whom have already had a child. This can be explained by the little time available and confinement to the apartment in this age group. For these individuals online-dating- services provide the opportunity to contact other people from home and find a potential partner.

Within the group of singles dating user could be shown that psychological variables self-esteem, sociability and subjective importance of a partnership affect the intensity of use of online dating services. First, it could to be shown that people, who assess themselves as gregarious, often use internet dating services. The same applies to people for whom a partnership is important. This can be interpreted in such a way that social people look at Web services as another way to meet a partner. This finding is also supported by previous studies that describe the Internet Dater as very sociable people (Brym & Lenton, 2001; Kim et al. 2009; Valkenburg & Peter, 2007). The findings also show that people with low self-esteem are using dating websites more intensely than people with high self-esteem. People with low self-esteem often feel uncomfortable, are less self-satisfied and generally more vulnerable. These people seem to have better control over

the initial contact by the text-based and asynchronous communication and achieve more security in interpersonal contact through the medium.

The study also could show an interaction between self-esteem, the subjective importance of partnership and sociability. The interaction effect between the importance of partnership and self-esteem, however, occurred only for high sociable people. It could be shown: out of the people who are very sociable, those individuals with low self-esteem take advantage of Internet dating services more intensively than those with high self-esteem if they consider romantic relationships important. If they deem romantic relationships less important, people of high and low self-esteem do not differ in their intensity of use of singles dating services.

This interaction effect can be explained by including by the contextual features of singles dating services. High sociable persons should have a strong need to communicate that they can satisfy not only in face-to-face communication, but also through an asynchronous, text-based exchange. If these people consider a romantic relationship important for their own happiness and their own satisfaction, they are strongly motivated to find a partner. Besides the possibility, at parties, in bars or at friends to keep on the lookout for a potential partner, there is also the possibility to start a search on the Internet. People of low self-esteem use this possibility to a greater degree than persons of high self-esteem. It is conceivable that the text-based communication by the Internet and the anonymity of the situation and the players give people more security and control over the situation. It can be a conscious decision to come in contact with whom - based on profile information of the actors. The nature of one's own self representation can then be controlled as well as the number of information and details that are revealed.

By the typological analysis, it became clear that online-dating service users are a heterogeneous population. People differ in their motives for use, their usage patterns and differential characteristics. While the shy compensatory generic contact viewfinder correspond most closely to the stereotyped image and support the so-called social-compensation hypothesis, the young pastime flirter use the medium more "just for fun", without having to look seriously for a partner. The aspect of the serious dating agency is of great importance for the group of self-confident partner searchers, which are a bit older and seem to use dating websites because of the possibility of operating on a partner search "in between", without having to invest a lot of time.

Future studies should try to replicate our results in a larger sample. It would be advisable to establish if the scales used to measure the constructs are valid. It must be noted critically that the construct of sociability collected here covers not only the general need for social activities, but also the extent to which social activities are specifically used for while looking for a partner. Furthermore, the translation of measuring instruments, as was done in this study, without testing for equivalence, is strictly speaking, unacceptable (Schmitt & Eid, 2007). The data are therefore - despite satisfactory internal consistency - to be

interpreted cautiously. Likewise, it should be noted that the analysis of variance results were achieved only through an extreme group formation.

The understanding of the motives for the use of online dating services is not only important for advertisers, but also for the development of functional aspects of user profiles. The results of this study show that high social people use internet dating services more than less sociable people. This suggests making profiles in a way that a deep and largely synchronous form of communication is possible (e.g. through chat rooms, video calls via Web cams, etc.). In addition, efforts must be made to ensure that the security of users' contact is guaranteed, especially for persons of low self-esteem (for example, a personalized registration, infringement and warnings for dubious contacts). This also explains the fact that portals charging a fee are currently experiencing a boom. They are perceived as being serious, and people have the feeling that the real purpose of an online dating service will not be abused (Teichert, 2010). Future studies should focus should also be addressed in future studies on factors that on factor that affect the nature of self-presentation in single markets and s also examine the success of these contacts. Scientific research is just beginning, the many communicative aspects of the selection, use and impact of online dating portals remain to be analyzed.

5 References

- Aretz, W. (2010). Was vom Aussehen hängen bleibt. Eine experimentelle Studie zur Wirkung von Model-Casting-Shows bei jungen Rezipientinnen. In W. Aretz & K. Mierke. (Hrsg.). *Aktuelle Themen der Wirtschaftspsychologie. Beiträge und Studien* (Bd. 2., S. 111 - 158). Köln: Kölner Wissenschaftsverlag.
- Aretz, W. (2007). *Subjektive Führungstheorien und die Umsetzung von Führungsgrundsätzen im Unternehmen. Eine Analyse bisheriger Forschungsansätze, Modellentwicklung und Ergebnisse einer empirischen Untersuchung*. Köln: Kölner Wissenschaftsverlag.
- Aretz, W. & Gansen, D. (2010). Wer twitter (tweetet) und warum? Eine explorative Studie zur Erfassung von Motiven und Nutzungsverhalten. In W. Aretz & K. Mierke. (Hrsg.). *Aktuelle Themen der Wirtschaftspsychologie. Beiträge und Studien* (Bd. 2., S. 179 - 214). Köln: Kölner Wissenschaftsverlag.
- Armstrong, L., Phillips, J. G. & Saling, L. L. (2000). Potential determinants of heavier internet usage. *International Journal of Human- Computer Studies*, 53, 537-550.
- Blumler, J. G. & Katz, E. (1974). *The Uses of Mass Communication*. Newbury Park, CA: Sage.
- Borkenau, P. & Ostendorf, F. (1993). NEO-Fünf-Faktoren-Inventar (NEO-FFI) nach Costa & McCrae. Handanweisung. Göttingen: Hogrefe.
- Brym, R. J. & Lenton, R. L. (2001). *Love Online: A Report on Digital Dating in Canada*. Verfügbar unter: <http://www.nelson.com/nelson/harcourt/sociology/newsociety3e/loveonline.pdf>.
- Buss, D. M., Larsen, R. J., Westen, D. & Semmelroth, J. (1992). Sex differences in jealousy: Evolution, physiology, and psychology. *Psychological Science*, 3, 251-255.
- Buunk, B. P., Angleitner, A., Oubaid, V. & Buss, D. M. (1996). Sex differences in jealousy in evolutionary perspective: Tests from the Netherlands, Germany, and the United States. *Psychological Science*, 7, 359-363.
- Campell, J. D. (1990). Self- esteem and clarity of self-concept. *Social Psychology*, 59, 538-549.
- Chak, K. & Leung, L. (2004). Shyness and locus of control as predictors of Internet addiction and Internet use. *CyberPsychology & Behavior*, 7, 559-570.
- Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. In M. R. Rosenzweig & L. W. Porter (Eds.). *Annual Review of Psychology*, 41 (pp. 471-440). Palo Alto: Annal Reviews.
- Dowling, N.A. & Quirk, K.L. (2008) Screening for Internet Dependence: Do the Proposed Diagnostic Criteria Differentiate Normal from Dependent Internet Use? *CyberPsychology & Behavior*, 7, 559-570.
- Ehrenberg, A., Juckes, S. White, K. & Walsh, S.P. (2008). Personality and Self- Esteem as Predictors of Young People's Technology Use. *CyberPsychology & Behavior*, 11 (6), 739-741.
- Hahn, A. & Jerusalem, M. (2001). *Internetsucht-Befunde aus vier Online-Studien*. Verfügbar unter: <http://www.internetsucht.de/publikationen/GOR2001-Internetsucht.pdf>.
- Joinson, A.N. (2004). Self-Esteem, Interpersonal Risk and Preference for E-Mail to Face-To-Face Communication. *CyberPsychology and Behaviour*, 7, 472-478.
- Kim, M., Kwon, K.-N. & Lee, M. (2009). Psychological Characteristics of Internet Dating Services Users: The Effect Of Self-Esteem, Involvement, and Sociability on the Use of Internet Dating Services. *CyberPsychology & Behavior*, 12, 445-449.
- Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V. & Crawford, A. (2002). Internet paradox revisited. *Journal of Social Issues*, 58, 49-74.
- McKenna, K.Y.A., & Bargh, J.A. (2000). Plan 9 from Cyberspace: The implications of the Internet for personality and social psychology. *Personality and Social Psychology Review*, 4, 57-75.
- McKenna, K.Y.A., Green, A. & Gleason, M. (2002). Relationship formation on the Internet: What's the big attraction? *Journal of Social Issues*, 58, 9-31.
- Niemz, K., Griffiths, M. & Banyard, B. (2005). Prevalence of Pathological Internet Use among University Students and Correlates with Self- Esteem,

- the General Health Questionnaire (GHQ), and Disinhibition. *CyberPsychology & Behavior*, 8 (6), 562-569.
- Pflitsch, D. & Wiechers, H. (2009). *Der Online-Dating-Markt 2008-2009*. Verfügbar unter: <http://www.singleboersen-vergleich.de/presse/online-dating-markt-2008-2009.pdf> (05.07.2010).
- Pietrzak, R. H., Laird, J. D., Stevens, D. A. & Thompson, N. S. (2002). Sex differences in human jealousy: A coordinated study of forced-choice, continuous rating-scale, and physiological responses on the same subjects. *Evolution and Human Behavior*, 23, 83-94.
- Pines, A. M. & Friedman A. (1998). Gender differences in romantic jealousy. *Journal of Social Psychology*, 138, 54-71.
- Revised Cheek & Buss Shyness Scale. Verfügbar unter: <http://www.wellesley.edu/Psychology/Cheek/research.html> (03.04.2010).
- Rosenberg, M. (1965). *Society and Adolescent Self-Image*. Princeton: Princeton University Press.
- Schmitt, M. & Eid, M. (2007). Richtlinien für die Übersetzung fremdsprachlicher Messinstrumente. *Diagnostica*, 53, 1-2.
- Schulz, F. & Zillmann, D. (2009). *Das Internet als Heiratsmarkt. Ausgewählte Aspekte aus Sicht der Partnerwahlforschung*. Verfügbar unter: www.ifb.bayern.de/imperia/md/content/stmas/.../mat_2009_4.pdf (05.07.2010).
- Schütz, A. & Sellin, I. (2004). *Die Multidimensionale Selbstwertkala (MSWS)*. Göttingen: Hogrefe.
- Schweiger, W. (2007). *Theorien der Mediennutzung. Eine Einführung*. Wiesbaden: VS Verlag für Sozialwissenschaften.
- Skopek, J., Schulz, F. & Blossfeld, H.-P. (2009). Partnersuche im Internet. Bildungsspezifische Mechanismen bei der Wahl von Kontaktpartnern. *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, 69, 183-210.
- Teichert, D. (2010). *Online Dating: Singles und ihre Chance im Web*. Verfügbar unter: <http://frau.germanblogs.de/archive/2010/02/12/online-dating-singles-und-ihre-chance-im-web.htm>.
- Valkenburg P.M. & Peter, J. (2007). Who visits online dating sites? Exploring some characteristics of online daters. *CyberPsychology & Behavior*, 10 (6), 849-852.
- Whitty, T. W. (2007). The art of selling one's 'self' on an online dating site: the BAR approach. In M. T. Whitty, A. J. Baker & J. A. Inman (Eds.). *Online matchmaking* (pp. 57-69). London: Palgrave Macmillan.
- Wolf, H., Spinath, F. M. & Fuchs, C. (2001). Kontaktsuche im Internet: Erfolgsfaktoren und die Rolle der Persönlichkeit. In K.-H. Renner, A. Schütz & F. Machilek (Hrsg.). *Internet und Persönlichkeit. Differenziell-psychologische und diagnostische Aspekte der Internetnutzung* (S. 205 - 219). Göttingen: Hogrefe.

6 Appendix

Table 2: Correlation matrix of mean values of the variables collected for the sub-sample of single-dating-service users

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. Attractiveness	1.00														
2. Neuroticism	-.42**	1.00													
3. Extraversion	.27**	-.31**	1.00												
4. Openness	.25**	.07	.30**	1.00											
5. Self-Esteem	.59*	-.59**	.51**	.33**	1.00										
6. Shyness	-.32**	-.54**	-.53**	-.23**	-.47**	1.00									
7. Importance relationship	-.10	.20**	-.03	-.05	-.16*	-.15**	1.00								
8. Sociability	.14*	-.03	.27**	.04	.12	-.08	.24**	1.00							
9. Integration with friends	.20**	-.35**	.34**	.12	.32**	-.27**	.00	.29**	1.00						
10. Age	.09	-.14*	-.13	.15**	.09	-.22*	-.04	-.22**	-.17**	1.00					
11. Motive: communication	-.02	.01	.00	.11	.15*	-.04	-.03	.07	.14*	.01	1.00				
12. Motive: Presentation and confirmation	-.15*	.35**	-.04	.01	-.11	.20**	.26**	.23**	-.10	-.08	.34**	1.00			
13. Motive: Longing and loneliness	-.20**	.46**	-.27**	-.11	-.27**	.50**	.43**	-.02	-.29**	-.01	.11	.48**	1.00		
14. Motive: Pasttime	-.08	.04	.09	-.01	.07	-.03	-.13	.14*	.16*	-.16*	.25**	.21**	-.04	1.00	
15. Use score	-.20**	.15**	-.06	-.06	-.18**	.11**	.03	.13	-.07	.06	.10	.13	.06	.06	1.00

Comment: * $p \leq .05$ (double-sided), ** $p \leq .01$ (double-sided)

Table 3: Significance test of differential characteristics and use aspects of the three types of single-dating-service users

	Cluster 1 <i>n</i> = 62	Cluster 2 <i>n</i> = 77	Cluster 3 <i>n</i> = 83	Signifikanztest
Age	37.85 (10.30)	39.57(9.12)	35.65 (11.54)	$F(2, 222) = 2.86, p < .06$
Attractiveness	3.05 (0.86)	3.51 (0.86)	3.46 (0.89)	$F(2, 222) = 5.83, p < .01$
Neuroticism	2.97 (0.78)	2.78 (0.81)	2.12 (0.71)	$F(2, 222) = 23.18, p < .001$
Extraversion	2.27 (0.84)	3.57 (0.28)	3.76 (0.66)	$F(2, 222) = 7.32, p < .01$
Self-esteem	3.87 (0.79)	4.09 (0.76)	4.28 (0.68)	$F(2, 222) = 5.14, p < .001$
Shyness	3.00 (0.81)	2.43 (0.76)	2.23 (0.82)	$F(2, 222) = 16.67, p < .001$
Importance of relationship	3.17 (0.86)	2.90 (0.98)	2.51 (0.90)	$F(2, 222) = 9.45, p < .001$
Integration with friends	3.49 (0.68)	3.78 (0.95)	4.11 (0.79)	$F(2, 222) = 9.19, p < .001$
Daily duration of use in h	1.07 (0.79)	0.54 (0.32)	0.77 (0.65)	$F(2, 222) = 2.22, p < .10$
Membership in months	14.07 (10.77)	10.62 (7.65)	16.20 (11.54)	$F(2, 222) = 4.60, p < .01$
Looking for partner	4.19 (1.18)	4.42 (0.91)	3.95 (1.23)	$F(2, 222) = 3.46, p < .01$
Looking for flirts	2.90 (1.55)	2.36 (1.57)	3.07 (1.60)	$F(2, 222) = 4.30, p < .01$
Looking for friendships	3.39 (1.26)	2.57 (1.61)	3.14 (1.73)	$F(2, 222) = 5.48, p < .01$
Education				$\chi^2(10, N = 222) = 22.53, p < .01$
Hauptschulabschluss	12	6	9	
Mittlere Reife	25	25	15	
(Fach-)Abitur	24	44	56	
Type of online-services				$\chi^2(4, N = 100) = 11.28, p < .05$
only chageable	14	17	7	
only free costs	18	21	39	
both	29	35	35	

