Acceptance of the German e-mental health portal www.psychenet.de: an online survey

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Background. Taking into account the high prevalence of mental disorders and the multiple barriers to the use of mental health services, new forms of fostering patient information, involvement, and self-management are needed to complement existing mental health services. The study aimed at investigating acceptance regarding design and content of the e-mental health portal www.psychenet.de. **Methods**. An online cross-sectional survey was conducted between May 2013 and May 2015 using a self-administered questionnaire including items on perceived ease of use, perceived usefulness, attitude towards using, and perceived trust. Effects of different participants' characteristics on the portals' acceptance were analyzed. **Results**. The majority of the N=252 respondents suffered from mental disorders (n=139) or were relatives from persons with mental disorders (n=65). The portal was assessed as "good" or "very good" by 71% of the respondents. High levels of agreement (89-96%) were shown for statements on the perceived ease of use, the behavioral intention to use the portal, and the trustworthiness of the portal. Lower levels of agreement were shown for some statements on the perceived usefulness of the portals' content. There were no effects of different participants' characteristics on the perceived ease of use, the perceived usefulness, the attitude towards using the website and the perceived trust. **Discussion**. This survey provides preliminary evidence that the e-mental health portal www.psychenet.de appears to be a usable, useful and trustworthy information resource for a broad target group. The behavioral usefulness of the portals' content might be improved by integrating more activating patient decision aids.

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25 ## Abstract

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27 barriers to the use of mental health services, new forms of fostering patient information,

28 involvement, and self-management are needed to complement existing mental health services.

29 The study aimed at investigating acceptance regarding design and content of the e-mental health

30 portal www.psychenet.de.

31 **Methods.** An online cross-sectional survey was conducted between May 2013 and May 2015

32 using a self-administered questionnaire including items on perceived ease of use, perceived

33 usefulness, attitude towards using, and perceived trust. Effects of different participants'

34 characteristics on the portals' acceptance were analyzed.

35 **Results.** The majority of the N=252 respondents suffered from mental disorders (n=139) or were

36 relatives from persons with mental disorders (n=65). The portal was assessed as "good" or "very

37 good" by 71% of the respondents. High levels of agreement (89-96%) were shown for statements

38 on the perceived ease of use, the behavioral intention to use the portal, and the trustworthiness of

39 the portal. Lower levels of agreement were shown for some statements on the perceived

40 usefulness of the portals' content. There were no effects of different participants' characteristics

41 on the perceived ease of use, the perceived usefulness, the attitude towards using the website and

42 the perceived trust.

43 **Discussion.** This survey provides preliminary evidence that the e-mental health portal

44 www.psychenet.de appears to be a usable, useful and trustworthy information resource for a

45 broad target group. The behavioral usefulness of the portals' content might be improved by

46 integrating more activating patient decision aids.

Introduction

48 Over a third of the total EU population suffers from mental disorders with anxiety and mood

49 disorders being the most frequent mental disorders (Wittchen et al. 2011). However, mental

50 disorders are often not detected; only about one third of patients receives adequate treatment, and

51 access to treatment is complicated by system-related barriers (Mack et al. 2014). In most

52 epidemiological studies, service use of mentally ill people ranges between 2% to 18% (Wang et

53 al. 2007). Given the structural problems of the mental health care system, new forms of fostering

54 patient information, involvement, and self-management are needed to complement existing

55 mental health services. Therefore the development of innovative treatment approaches that are

56 available to a large population is recommended (Christensen & Petrie 2013).

Bridging the Gap through Web-based Health Applications

58 The Internet is widely seen as an effective complementary source for addressing these issues. As

59 it reaches a large number of people, a reduction of barriers to the use of health services is

60 facilitated by anonymity and high accessibility. It holds the opportunity to deliver interactive

61 content that is tailored to the needs of the target group at comparatively low cost to a large

62 number of users at the time, place and learning speed the individual user prefers (Arnberg et al.

63 2014). Internationally, health services have increasingly expanded into online environments

64 leading to the development of e-mental health services that are designed to complement, rather

65 than replace existing mental health services. They hold the opportunity to reach people who live

66 in remote areas or those with disabilities and without easy access to health care services

67 (Anderson et al. 2013; Benavides-Vaello et al. 2013; Carrard et al. 2006). Furthermore, people

68   who refuse to seek out traditional services, especially those who wish to remain anonymous, may

69   utilize e-mental health services (Townsend et al. 2012). E-health services may empower patients

70   to participate in treatment choices and to take control and responsibility about their own health

71   and care by improving access to services and information (Alpay et al. 2010; Alpay et al. 2011;

72   Xie et al. 2013). A German national survey found that people increasingly take advantage of

73   these opportunities (Eichenberg et al. 2013).

74   However, the quality and usability of mental health information on the World Wide Web is

75   limited (Reavley & Jorm 2011) and the effectiveness of e-health interventions is limited by high

76   attrition rates (Geraghty et al. 2013); most users visit health intervention websites only once

77   (Brouwer et al. 2010; Verheijden et al. 2007). Additionally, reading levels of web-based patient

78   materials are partially too high for the average user, not taking into account the large variance of

79   health literacy in the population (Stossel et al. 2012). As persons with lower educational levels

80   and respective persons with lower literacy levels might show less beneficial effect by using

81   patient education materials (Goossens et al. 2014; Murphy et al. 2000), effects of educational

82   levels on the acceptance – among other participants' characteristics – should be accounted for in

83   the interpretation of evaluation results.

The German E-mental Health Portal www.psychenet.de

85   A current project being part of the public-funded intersectoral research network *psychenet - the*

86   *Hamburg Network for Mental Health* is aimed at developing and evaluating an e-mental health

87   portal. With psychenet, the Federal Ministry of Education and Research contributes to

88   strengthening healthcare regions in Germany by establishing new trans-sectoral cooperations and

89   by implementing and evaluating selected health care innovations (Härter et al. 2012). The portal

90 www.psychenet.de is intended to increase the users´ knowledge and to empower them to be

91 active partners in medical decisions and the management of their mental strain.

92 In a first step, a basic version of the portal (comprising evidence-based patient information on a

93 wide range of mental disorders and information about local treatment services) was developed to

94 complement a region-wide awareness campaign on mental health in the metropolitan area of

95 Hamburg that includes an award-winning media campaign (placards, cinema ads, radio ads) and

96 specific educational projects (Härter et al. 2012). In order to obtain first evidence about the

97 usability of the website, common web metrics were obtained via open source web analysis tools

98 (e.g. Google Analytics). As a following project step, various modules have been developed for

99 six of the most common mental disorders - depression, somatoform disorders, eating disorders,

100 alcohol use disorders, psychotic disorders and anxiety disorders (Wittchen et al. 2011); e.g.

101 patient decision aids (PtDAs), self-help tools, and screening tools. According to the International

102 Patient Decision Aid Standard (IPDAS) collaboration criteria (Elwyn et al. 2006), the

103 development of the modules has been based on a comprehensive mixed-methods needs

104 assessment (focus groups, online-survey) among patients, relatives, and health care

105 professionals. The technical development of the website has been commissioned by a

106 professional web-design agency. The design and content of the portal and the results of the

107 website using web metrics are described in detail elsewhere (Dirmaier et al. 2015). While the

108 information about treatment services refer to the metropolitan area of Hamburg and the media

109 campaign and specific health education projects were restricted to this region, the other tools

110 (e.g. evidence based patient information (including fact sheets on several mental disorders and

111 other basic facts concerning mental health as well as PtDAs) and screening tools) are not

112 targeted specifically to this region.

113   The present study aimed at investigating acceptance regarding design and content of the basic

114   version of the e-mental health portal www.psychenet.de addressed at individuals with mental

115   disorders, their relatives, service providers, and the interested public. The portal should be

116   assessed through the following aspects of acceptance: 1) perceived ease of use, 2) perceived

117   usefulness, 3) attitude towards using the website, 4) perceived trust, and 5) overall evaluation. A

118   further aim was to explore effects of different participants' characteristics (sex, age, educational

119   level, place of residence, experience with mental disorders, first time/multiple portal users,

120   participation before or after the integration of the first PtDA) on the portals' acceptance.

Methods

121

Design and participants

122

123   The research team employed an online cross-sectional study using a self-administered survey.

124   Online convenience sampling was conducted on our e-mental health portal www.psychenet.de.

125   On each page of the portal, teasers were sited linking to a short invitation to participate in the

126   survey. Users being interested were referenced to the survey that was arranged following detailed

127   information about the studies' aim, procedure, and data security. Adult users (18 years or over)

128   who gave written informed consent to participate (asked at the beginning of the questionnaire) as

129   well as consent to data use (asked when participants had finished the questionnaire) were

130   included in the analyses. There were no additional inclusion or exclusion criteria.

131 **Ethics Statement**

132 Approval for the study was obtained from the ethics committee of the Hamburg Medical

133 Association (Process number: PV4157).

134 **Data collection**

135 The data were collected between May 2013 and May 2015 (24 months). A short, face-validated

136 questionnaire comprising 33 items was developed for the study. The questionnaire comprised 3

137 main sections: (1) baseline characteristics, (2) acceptance and usability, and (3) overall

138 evaluation.

139 **Baseline characteristics**

140 Baseline characteristics were elicited using 4 items on sociodemographic variables (age, gender,

141 education, postal code). Furthermore, 3 items were used to explore respondents' experience with

142 mental disorders (4 options), how they accessed the website (3 options), and how they learned

143 about the website (8 options including the option for a free answer). Previous internet use was

144 explored on a 3-point scale ("(almost) every day", "at least once a week", "at least once a

145 month") and frequency of use of the portal was elicited on a 4-point scale ("first time", "< 5

146 times", "> 5 times", "> 10 times").

147 **Acceptance and usability**

148 In order to assess the acceptance and the usability of the portal, respondents rated up to 22 items

149 on a 4-point Likert scale (1=disagree, 2=somewhat disagree, 3=somewhat agree, 4=agree).

150 Number of scale points and wording of the Likert scale were defined based on Chang (1994).

151 According to a previous study on the acceptance of an e-health application (de Graaf et al. 2013),

152 participants were asked to rate statements covering 3 dimensions of the Technology Acceptance

153 Model (TAM); see Davis (1989) and Chau & Hu (2002): *perceived ease of use* (8 items),

154 *perceived usefulness* (10 items including 2 filter items for respondents being affected by mental

155 disorders and 1 filter item for respondents being a relative of a person with mental disorders),

156 and *attitude towards using* (2 items). The TAM dimensions were added by the dimension

157 *perceived trust* (2 items) as it was shown to be a relevant quality criterion as seen by patients

158 with long-term conditions and caregivers (Kerr et al. 2006) and it affects consumers acceptance

159 of health technologies (Lemire et al. 2008; Wu et al. 2008).

160 **Overall evaluation**

161 In order to elicit an overall rating of the portal, respondents were asked to rate the portal on a 6-

162 point scale based on the grading system used in German schools (1=very good, 2=good,

163 3=satisfactory, 4=sufficient, 5=deficient, 6=insufficient). Finally, a facultative open field for

164 comments and suggestions for improvements was provided. Before the questionnaire was used, it

165 was pilot tested among 10 student assistants and research assistants not participating in this

166 study.

167 # Data Analysis

168 **Quantitative data analysis**

169 The professional web-based online survey software EFS Survey (Questback GmbH) was used

170 for the electronic data collection. The statistical software package PASW Statistics 18 (SPSS

171 Inc., Chicago IL) was used to analyze the data. Data were primarily evaluated by quantitative

172 descriptive data analysis. In order to quantify responses, means, standard deviations, and

173   frequency distributions were calculated for each item on acceptance. Moreover, median, range,

174   and frequency distribution were calculated for the overall rating.

175   To explore effects of different participants' characteristics (sex, age, educational level, place of

176   residence, experience with mental disorders, first time/multiple portal users, participation before

177   or after the integration of the first PtDA) on the acceptance and usability of the website, one-way

178   analyses of variance (ANOVAs) were conducted for interval scaled variables (four dimensions

179   of acceptance and usability) and Kruskal–Wallis H test for ordinal scaled variables (overall

180   evaluation).. $P<0.05$ was considered to be significant for all analyses. The significance level was

181   not adjusted as the tests served to generate hypotheses.

182   **Qualitative data analysis**

183   Qualitative data analysis was used to analyze the open field question using an inductive

184   approach. Responses were categorized into five main categories: 1) negative appraisals, 2)

185   positive appraisals, 3) suggestions for improvement, 4) not related to the website 5) no comment.

186   Responses that included a number of themes were subdivided into various units and separately

187   categorized. The coding was carried out by three members of the research team (LT, JT, SL).

188   # Results

189   During the investigation period   of 24 months, 14.000 to 36.000 visitors per month were

190   registered through web analysis software. 1030 visitors of the portal started the web-based user

191   survey. Of these, 314 completed the questionnaire (38.3% of those who agreed to participate).

192   Finally, 252 participants gave their consent for the use of data (see Figure 1).

Participants

194   Of the 252 respondents, 55.2% (n=139) were affected from mental disorders. The respondents

195   were predominantly female (64.3%, n=162), well-educated (middle or high educational level:

196   75.8%, n=191) and had a mean age of 42.2 years (SD=15.0). The majority of the participants

197   (90.5%, n=228) are using the internet (almost) every day. 57.5% of respondents (n=145) stated

198   that they learned about the portal through online search for mental illnesses. 14.3% (n=36)

199   learned about the portal through the projects' media campaign (cinema adverts, poster, YouTube

200   channel, postcards). Of the total sample, 73.4% (n=185) reported that they were visiting the

201   portal for the first time. For detailed baseline characteristics and frequency distributions of access

202   paths and website use see Table 1.

Acceptance of the portal

204   Table 2 shows the percentage of users who agreed/disagreed to statements covering several

205   aspects of acceptance, ordered separately for each dimension by the percentage of participants

206   who agreed.

Perceived ease of use

208   89 to 96% of participants agreed with the particular statements concerning the perceived ease of

209   use.

210   ANOVAs yielded no significant main effects of participants' characteristics for items associated

211   with perceived ease of use.

212 **Perceived usefulness**

213 Concerning the perceived usefulness, the items concerning the usefulness of the content

214 (interesting, new, appropriate amount of information, helpful, useful) gained the highest level of

215 approval (79-93%). Lower levels of agreement from the perspective of the respondents living

216 with mental disorders were shown for statements concerning the improvement of the

217 communication with relatives or health care providers (51 respectively 60%). Concerning the

218 affected peoples' relatives, 72% confirmed that they were now able to talk better about mental

219 disorders with their relative being affected.

220 ANOVAs yielded no significant main effects of participants' characteristics for items associated

221 with perceived usefulness.

222 **Attitude towards using the website**

223 Concerning the attitude towards using the website, more than 90% of the respondents agreed that

224 they would recommend the website to others respectively would revisit the website if needed.

225 ANOVAs yielded no significant main effects of participants' characteristics for items associated

226 with the attitude towards using the website.

227 **Perceived trust**

228 The majority of respondents (94-96%) agreed that the information on the website was

229 trustworthy and that the information on the website was up to date.

230 For items associated perceived trust, ANOVAs yielded no significant main effects of

231 participants' characteristics.

232   **Overall evaluation**

233   Almost three thirds of the respondents (71.4%, n=180) assessed the website as "very good"

234   (n=60) or "good" (n=120). 21.0% of the participants (n=53) rated the website as "satisfactory"

235   (n=39) or "sufficient" (n=14). Only 7.5% (n=19) marked the website as "deficient" (n=13) or

236   "insufficient" (n=6). Overall, the ratings of the whole sample displayed a median of 2.0 (IQR=1-

237   6).

238   Kruskal-Wallis H test revealed no significant effect of age, educational level, place of residence,

239   frequency of portal use and the date of participation (before/after the integration of the first

240   PtDA) on overall evaluation.

241   Women were more satisfied with the portal than men (p = 0.019). The experience with mental

242   disorders was also significantly associated with the overall evaluation (p = 0.037) with the best

243   rating in experts and the worst rating in people without experiences with mental disorders.

244   # Qualitative analysis

245   The open field question was responded by 58 participants. The answers were subdivided into 64

246   different statements. Seven participants explicitly mentioned that they had no comment. Five

247   statements addressed the online survey and one statement addressed the general attitude towards

248   people with mental disorders. All other statements refer directly to the e-health portal. There

249   were 31 suggestions for improvement (e.g. the need for additional tools or topics, more in-depth

250   information or regional expansion). Fifteen positive appraisals addressed knowledge and

251   empowerment, the appropriate depth of information and the usefulness for newly diagnosed

252   people among other topics. There were five negative appraisals concerning, for example,

253 incomprehensible information (too many technical terms) or the insufficient suitability for adults

254 with bipolar disorders.

Discussion

255

256 As a consequence of multiple barriers in mental health service provision and access, a

257 considerable proportion of persons living with mental disorders do not receive adequate

258 treatment (Wang et al. 2007). Internationally, but not yet in Germany, mental health services

259 have increasingly expanded into online environments leading to the development of e-mental

260 health services. Within the framework of an intersectoral research network the e-health portal

261 www.psychenet.de addressed at individuals with mental disorders, their relatives and service

262 providers has been developed recently. In this online study, acceptance regarding design and

263 content of the portal was investigated.

264 In the present study, 252 users of the e-mental health portal www.psychenet.de were included.

265 Overall, the portal was assessed as "good" or "very good" by a substantial percentage of

266 respondents . Moreover, high degrees of approval were found for statements on perceived ease

267 of use. Comparable rates of agreement were found in an evaluation study on the usability of a

268 web-based patient information system for individuals with severe mental health problems

269 (Kuosmanen et al. 2010). Likewise, high levels of agreement were shown for statements on the

270 behavioral intention to use the portal or to recommend it to others and regarding the

271 trustworthiness of the portal. Lower levels of agreement were partly shown for some statements

272 on the perceived usefulness. Concerning the usefulness of the portal in improving

273 communication, relatives show higher levels of agreement than the respondents living with

274   mental disorders. In a recent study, Berk et al. (2013) reported comparatively higher levels of

275   agreement regarding the usefulness of a website containing guidelines for caregivers of adults

276   with bipolar disorder. Likewise, a study on the acceptance of a web-based e-health intervention

277   for parents of children with infantile hemangiomas showed higher agreement rates (de Graaf et

278   al. 2013). It is assumed, that the higher acceptance was due to the fact that the respective website

279   was aimed at one target group (caregivers) and one narrowly defined topic (bipolar disorders,

280   infantile hemangiomas). However, in an evaluation study on the user acceptance of a website for

281   cancer patients with a more broad range of topics, higher levels of agreements were reported for

282   ease of use compared to usefulness as it was also shown for the current study (Wallwiener et al.

283   2010). Additionally, it should be noted that such comparisons are difficult to interpret as the

284   studies probably varied substantially with respect to relevant characteristics such as ways of

285   recruitment, response rates and users' experience with the respective portal.

286   Facing the fact that there were no effects of different participants' characteristics on the

287   perceived ease of use, the perceived usefulness, the attitude towards using the website and the

288   perceived trust, it can be assumed that the e-mental health portal is suitable for a broad range of

289   users. Concerning the overall evaluation, there are some differences depending on users'

290   characteristics: Women are more satisfied with the portal than men. As there are no sex

291   differences regarding the other items, the difference results maybe from a differing answering

292   behaviour regarding overall ratings. Additionally, the overall evaluation depends on the

293   experience with mental disorders, indicating that experts are more pleased with the portal than

294   affected people and relatives and all these three groups are more pleased than people without

295   experiences with mental disorders. As the portal is targeted to experts, affected people and

296   relatives, the last-mentioned result is not surprising.

297 Fortunately, the educational level had no influence on the acceptance and usability of the portal,

298 suggesting that respondents with lower educational level are also able to benefit from the

299 information presented at the portal. However, most respondents are well-educated and we do not

300 know if this reflects the typical users' characteristics or if well-educated users are more likely to

301 participate in the survey.

302 This analysis of acceptance offers preliminary evidence that the e-mental health portal

303 www.psychenet.de appears to be a usable, useful and trustworthy publically available

304 information resource for adults living with mental illness, their relatives and experts working

305 with mental disorders. The acceptance of the portal is further resembled by the high percentage

306 of respondents that agreed their intention to recommend and to revisit the portal in case of

307 necessity. The results of the web-analysis reported by Dirmaier et al. (2015) confirmed that the

308 website is usable and highly accessed. Nonetheless, lower agreement levels concerning the

309 usefulness of the portal on a behavioral level were observed. Thus, integrating content that

310 supports active patient behavior regarding communication with relatives and with health care

311 providers as provided by high quality patient decision aids (PtDAs) might improve the

312 usefulness of the e-health portal. Previous analyses do not show an influence of the availability

313 of the first decision aid on the acceptance of the portal. However, three of the four PtDAs were

314 only available during the last weeks of the survey period. In order to further improve acceptance

315 of the portal by targeting the offers of the portal to the users' needs, qualitative studies are

316 requested to identify topics that are of high relevance to the users but have not been addressed

317 until now.

318

319   **Limitations**

320   Due to methodological limitations the results of the study need to be interpreted with caution.

321   First of all, convenience sampling was used by informing users about the survey without

322   attracting attention and not actively recruiting. This resulted in a relatively small number of

323   respondents – compared with the number of website users and the number of people who started

324   the survey. - It is assumed, that respondents might have had an incentive to participate in the

325   study as a consequence of being either particularly satisfied or dissatisfied with the offers

326   presented at the portal. However, the positive ratings of the respondents suggest that they might

327   have been motivated rather by their satisfaction than dissatisfaction with the system. However,

328   high attrition rates are a common problem in online-surveys (Thielsch & Weltzin 2012).

329   As we do not know if the investigated sample was representative the results presented here might

330   overestimate the acceptance of the portal. Future evaluations should be conducted using

331   probability sampling methods to confirm the present findings.

332   As we used hardly any standardised instrument, the comparability of our results is limited.

333   However, the questionnaire was developed based on widespread theories and evidence on

334   acceptance of information technologies (Chau & Hu 2002; Davis 1989; Kerr et al. 2006; Lemire

335   et al. 2008; Wu et al. 2008) and pilot tested among 10 participants. Furthermore, in order to

336   provoke a definitive choice, no mid-point was provided. Due to the forced choice, the use of a 4-

337   point scale might have led to a biased rating. However, Weijters, Cabooter & Schillewaert

338   (2010) assumed that ambivalent or neutral respondents tend to rate negatively in the absence of a

339   midpoint.

340 Moreover, as we used self-reported information on the respondents' experience with mental

341 disorders, the validity of this information is limited.

Conclusions

343 Despite the methodological limitations, this study provides first evidence on the acceptance of

344 the e-mental health portal www.psychenet.de. The results on the usefulness of the portal showed

345 that there is still room for improvement. It is assumed that the portal empowers people with

346 mental disorders and their relatives by facilitating to gather high-quality evidenced-based

347 information about their illness, to rapidly find the right treatment services without great effort,

348 and to prepare for health care provider contacts. Within the framework of this project, PtDAs for

349 common mental disorders (i.e. depression, anxiety disorders, psychosis) supporting active user

350 behavior were developed and implemented on the e-health portal www.psychenet.de based on a

351 comprehensive mixed-methods needs assessment study. In addition to the PtDAs, self-

352 management tools are currently being evaluated.

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355 Research in the region of Hamburg which consists of more than 100 scientific and medical

356 institutions, counselling centers, the Senate and the Chamber of Commerce of the Free and

357 Hanseatic City of Hamburg, companies, as well as patients' and relatives' associations (2011–

358 2015). The vision of the project is to promote mental health today and in the future, concerning

359   early diagnosis and effective treatment of mental illnesses. For more information and a list of all

360   partners please visit www.psychenet.de.

361

362

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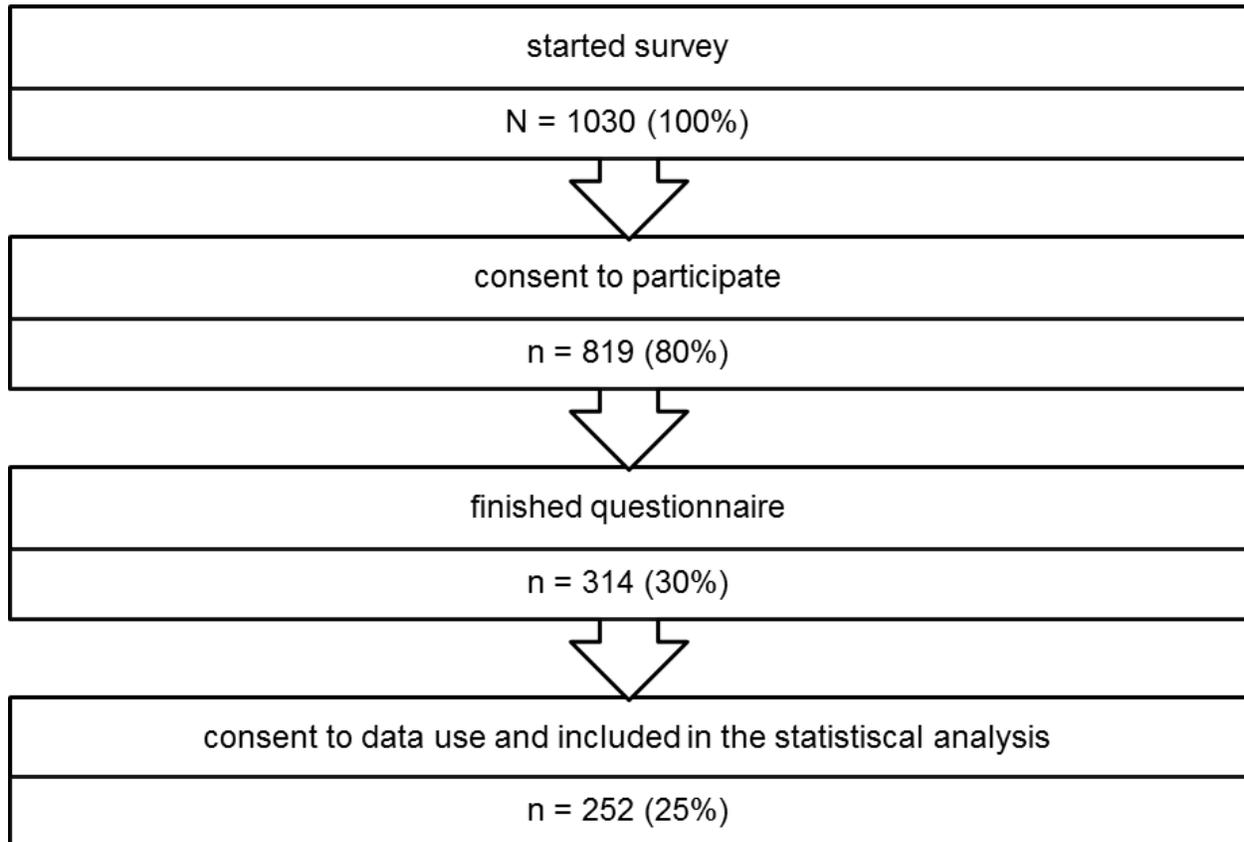
486 **Figure**

487 **Figure 1.** Participant flow chart.

488 **Tables**

489 **Table 1.** Descriptive characteristics and frequency distributions of access paths and website use
490 (N=252).

Variables		**n**	**%**
Gender	Female	162	64.3
Age (M=42.2, SD=15.0)	≤ 45	135	53.6
	> 45	117	46.4
Education	Low	61	24.2
	Middle	66	26.2
	High	125	49.6
Experience with mental disorders	Affected people	139	55.2
	Relatives	65	25.8
	Experts	25	9.9
	None	23	9.1
Residential area	Region of Hamburg	62	24.6
	Other regions	190	75.4
Internet usage	(Almost) every day	228	90.5
	At least once a week	21	8.3
	At least once a month	2	0.8
Access to the portal	Directly	122	48.4
	Via search engine	102	40.5
	Via referring website	28	11.1
Awareness of the portal through	Online searches for mental illnesses	145	57.5
	Personal recommendation	27	10.7
	Newspaper article	19	7.5
	Cinema advert	19	7.5
	Poster	7	2.8
	YouTube	6	2.4
	Postcard	4	1.6
	Other	60	23.8
Frequency of use	First time	185	73.4
	< 5 times	42	16.7
	> 5 times	12	4.8
	> 10 times	13	5.2
Date of attendance	Before the integration of the first PtDA	156	61.9
	After the integration of the first PtDA	96	38.1

491 **Table 2.** User ratings on perceived ease of use, perceived usefulness, attitude towards using the portal, and perceived trust (N=252).

Variables	agree	somewhat agree	somewhat disagree	disagree
Perceived ease of use	**% (n)**	**% (n)**	**% (n)**	**% (n)**
The font of the website is easy to read	71.0 (179)	25.0 (63)	1.6 (4)	2.4 (6)
The website is easy to use	58.7 (148)	33.7 (85)	5.2 (13)	2.4 (6)
The presentation of the information is clearly arranged	52.0 (131)	39.7 (100)	4.4 (11)	4.0 (10)
The design of the website is appealing	52.8 (133)	39.3 (99)	4.8 (12)	3.2 (8)
The information on the website is easy to understand	63.5 (160)	30.2 (76)	3.2 (8)	3.2 (8)
The colors of the website are pleasant	54.0 (136)	38.5 (97)	5.6 (14)	2.0 (5)
The pictures on the website are appropriate	44.0 (111)	46.8 (118)	6.3 (16)	2.8 (7)
I can quickly find the information that is important to me	48.0 (121)	40.5 (102)	6.3 (16)	5.2 (13)
Perceived usefulness	**% (n)**	**% (n)**	**% (n)**	**% (n)**
The content of the website is interesting	61.1 (154)	31.7 (80)	4.4 (11)	2.8 (7)
All in all, the website is useful for me	48.8 (123)	40.1 (101)	8.3 (21)	2.8 (7)
The amount of information presented on the website is appropriate	44.8 (113)	43.3 (109)	8.7 (22)	3.2 (8)
The website contains information that I need	47.2 (119)	40.1 (101)	9.5 (24)	3.2 (8)
The information on the website has helped me with my concerns	40.1 (101)	42.9 (108)	12.7 (32)	4.4 (11)
Through the website, I received references to other sources	39.7 (100)	44.8 (113)	11.9 (30)	3.6 (9)
By using this website I have learned something new	37.3 (94)	41.3 (104)	15.5 (39)	6.0 (15)
Now I'm able to talk better about mental disorders with my relative being affected[a]	21.5 (14)	50.8 (33)	21.5 (14)	6.2 (4)
Now I'm able to talk better about mental disorders with my health professional[b]	20.9 (29)	38.8 (54)	19.4 (27)	20.9 (29)
Now I'm able to talk better about mental disorders with my relative[b]	23.7 (33)	27.3 (38)	26.6 (37)	22.3 (31)
Attitude towards using	**% (n)**	**% (n)**	**% (n)**	**% (n)**
I would recommend the website to others	55.6 (140)	34.5 (87)	6.0 (15)	4.0 (10)
I will revisit the website if needed	64.3 (162)	28.6 (72)	4.4 (11)	2.8 (7)
Perceived trust	**% (n)**	**% (n)**	**% (n)**	**% (n)**
The information on the website is trustworthy	59.1 (149)	36.9 (93)	2.0 (5)	2.0 (5)
The information on the website is up to date	48.0 (121)	45.6 (115)	4.0 (10)	2.4 (6)

492 [a] Sample size was reduced to n=65 respondents that reported being relative of a person with mental disorders

493 [b] Sample size was reduced to n=139 respondents that reported being affected by a mental disorder