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ORIGINAL PAPER

Social capital and reported discrimination among people with depression in 15 European countries

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Abstract

Purpose Social capital is a protective factor for mental health. People with depression are vulnerable to discrimination and its damaging impact. No previous studies have explored the link between social capital and experienced or anticipated discrimination in people with depression. This study aims to test the hypothesis that levels of self-reported discrimination in people with depression are inversely associated with social capital levels.

Method A total of 434 people with major depression recruited in outpatient settings across 15 European countries participated in the study. Multivariable regression was used to analyse relationships between discrimination and interpersonal and institutional trust, social support and social network.

Results Significant inverse association was found between discrimination and social capital in people with major depression. Specifically, people with higher levels of social capital were less likely to have elevated or substantially elevated levels of experienced discrimination.

Conclusions Higher level of social capital may be closely associated with lower level of experienced discrimination among patients with major depression. It is important to explore these associations more deeply and to establish possible directions of causality in order to identify interventions that may promote social capital and reduce discrimination. This may permit greater integration in society and more access to important life opportunities for people with depression.

Keywords Depression · Social capital · Discrimination · Social support · Multisite study

Introduction

Over the last decades, social policies in many western countries have shifted significantly from segregation of

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Please see the “Appendix” section for the ASPEN Study Group.

The EU Public Health Agency had no further role in study design, in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the paper for publication.

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people with mental health problems towards one of promoting 'inclusion'. Social inclusion may be defined in terms of a virtuous circle of improved rights of access to the social and economic world, new opportunities, recovery and meaning and reduced impact of disability [1]. There is an overlap here with other concepts in which social relationships are central, most noticeably with social capital, a complex and contested concept, with multiple definitions [2]. At the core of all concepts is the idea that networks of social relationships are a potentially valuable resource that people can draw on and, as such, constitute a form of capital [3].

The concept of social capital includes different aspects, such as social networks, reciprocity and social participation. As Putnam [4] and McKenzie [5] pointed out, social capital can be divided into its structural and cognitive components that seem to influence health differently. The structural part is derived from social contacts and social participation and it is linked to survival [6, 7], self-rated health [8] and other health outcomes [9]. The cognitive part describes the perceived social support, trust and sense of belonging, and is strongly associated with mental health [10].

Social capital is further conceptualized as both an individual and a community-level attribute: the individual level reflects relationships of individuals and is measured by social networks and support [11, 12], whereas the collective level is conceptualized as social cohesion within the community as a collective property in a neighbourhood, community or region [4].

Social capital has been identified as a significant health resource [10] and has been found to be associated with various health outcomes, including physical [9] and mental health [13, 14].

Different studies have found that social capital is negatively correlated with severe mental disorders, such as schizophrenia, bipolar disorder [15] and depression [16–18]. Systematic reviews using cross-sectional or experimental data have found that social capital may act as a protective factor with regard to mental health problems [10, 19, 20], specifically depression. Despite some controversial results [21, 22], a number of studies have shown that lack of individual social capital may explain depressive symptoms in both older people [23–25] and the working age population [26]. Further, a study in the USA showed a significant negative correlation between interpersonal trust and the risk of developing depression in the general population [27].

Research suggests that social engagement plays an important role in recovery from severe mental illness, because it helps to build social capital [28, 29]. However, people with mental health problems are frequently stigmatized and commonly experience discrimination [30, 31] which can be a barrier to social engagement and enhancing social networks. Indeed, people with severe mental health problems who have experienced discrimination have access to less social capital [32].

People with depression commonly experience discrimination [33]. Moreover, a number of studies found that higher levels of depressive symptoms and depression severity are significantly related to greater perceived discrimination [34, 35]. People with depression are affected by feelings of stigma even if they had not experienced any overt discrimination [36], as they are commonly characterized by others as transgressing social norms and are thereby distinguished from other members of society [37]. It follows that discrimination due to mental health stigma may restrict the access of people with depression or other severe mental illnesses to resourceful social networks and the social capital held within them [32].

There is evidence of an association between access to social capital and discrimination among people with severe mental illness [32]. However, the association between social capital and discrimination in a specific population of people with severe depression has not yet been investigated. This paper contributes to this emerging body of evidence and addresses the hypothesis that people with depression who report high levels of social capital (individual perception of support and community) will experience and anticipate less discrimination than those with lower levels of social capital.

Methods

The study design is a multi-site cross-sectional survey. Data on individual social capital and discrimination related to depression were collected in the context of the EU-funded ASPEN study, a multi-site project aiming to address stigma and discrimination against people with depression [33]. From all 19 ASPEN sites, 16 sites located in 15 ASPEN European countries collected data on respondents' social capital [Belgium, Bulgaria, England, Finland, France, Germany, Greece, Hungary, Italy (Brescia and Verona), Lithuania, The Netherlands, Portugal, Slovakia, Slovenia and Turkey]. Participants were interviewed face-to-face by researchers, who were not involved in the care process.

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Participants

Within each study site (upon Ethical Committee approval), local research staff were asked to identify all patients attending specialist mental health services (either as out-patient or day care, operating for both the public and/or private sector) in the local area with a diagnosis of major depressive disorder who had an episode of MDD in the previous 12 months. This sampling method, also used in our previous schizophrenia study [31], was deliberately intended to allow local staff to take into account the specific local service configuration and to draw participants from the whole range of appropriate local services where people with MDD receive treatment from specialist mental health services. Each site was asked to assess a minimum of 25 people with MDD (this number was defined due to feasibility issues, especially in sites which received no grant support to participate). Staff in each site ensured that the sample had a spread across the adult age range [young people (18–25), working age people (26–65), older adults (66 and over)]. There also had to be a clear representation of female participants (at least 50 % or more) as MDD is twice as prevalent in women as in men. Study inclusion criteria were as follows: (1) clinical diagnosis of MDD (single episode or recurrent) according to DSM-IV-TR criteria [38] with an episode during the previous 12 months but not at the time of interview; (2) full written informed consent to participate; (3) ability to understand and speak the main local language; (4) aged 18 or older. Exclusion criterion was being a psychiatric inpatient at the time of recruitment. The study was approved by the appropriate ethical review board at each study site.

Measures

Cognitive social capital was assessed by collecting data on trust (interpersonal and institutional) and social support, while structural social capital was assessed by collecting data on social networks.

For interpersonal trust, responses on three questions from the European Social Survey (ESS) [39], on a 10-point Likert scale ranging from 0 (‘no trust’) to 10 (‘highest trust’), were retrieved; the mean score of these items was used as an indicator of interpersonal trust.

For institutional trust, seven questions from the ESS were included, addressing trust in country’s parliament, local system, police, politicians, political parties, European parliament and United Nations. Each item was measured on a 10-point Likert scale ranging from 0 (‘no trust’) to 10 (‘highest trust’); the mean score of these seven items was used as an indicator of institutional trust. Similar measures of interpersonal and institutional trust have been used elsewhere [40–42].

For social networks, two items from the ESS were included, exploring relationships, contacts in social life and level of participation in the community. Item ‘*How often do you meet socially with friends*?’ was measured on a 7-point Likert scale ranging from 1 (‘never’) to 7 (‘everyday’), and item ‘*How often would you say you take part in social activities?*’ was measured on a 5-point Likert scale ranging from 1 (‘much less than most’) to 5 (‘much more than most’).

Social support was evaluated using the three items of the Oslo Social Support Scale [43], which explores number of close confidants, sense of concern or interest from other people, and relationship to neighbours. The sum score of these three items gave the dimension social support ranging from 3 (‘no support’) to 14 (‘highest support’). The sum was then operationalized into three categories: from 3 to 8 indicating ‘poor weak support’, from 9 to 11 indicating ’moderate support’ and from 12 to 14 indicating ‘strong support’.

The social capital measures are presented in detail in the “Appendix”.

Participants were also assessed with the Discrimination and Stigma Scale (DISC) version 12 [44], a structured interview used to record qualitative and quantitative data about the degree to which discrimination has been experienced in various areas of life (work, relationships, parenting, housing, leisure and religious activities) by people with mental disorder. This scale was specifically structured to assess the degree and the extension to which people have been treated differently (or not) from other people, because of their diagnosis of mental illness.

Translation and cross-cultural adaptation of DISC-12 was completed to ensure that language-equivalent versions of the scale were readily understood by participants from all sites. Full details of the psychometric properties of the scale are given elsewhere [44]. The DISC-12 contains 32 questions on aspects of everyday life, including work, marriage, parenting, housing, leisure and religious activities. The instrument also considers how far participants limit their involvement in areas of social participation (applying for a job, looking for a close relationship, undertaking another personally important activity, concealing the diagnosis) due to the anticipation of discrimination. DISC-12 ratings are given on a 4-point Likert scale scoring (0 = ‘no difference’, 1 = ‘a little’, 2 = ‘moderately’ and 3 = ‘a lot’). The DISC-12 contains 4 subscales: ‘Experienced discrimination’ (items 1–21), ‘Anticipated discrimination’ (items 22–25), ‘Overcoming stigma’ (items 26–27) and ‘Positive treatment’ (items 28–32). This paper focused on the first two subscales only, which were generated by counting the number of items for which the participants scored 1, 2 or 3 [31, 33]. Socio-demographic and clinical information (age, gender, years since first contact with mental health services, work status, education, current mental health care, knowledge of clinical diagnosis and agreement with diagnosis) were also recorded.

Statistical analysis

Analyses were performed by SPSS 17.0 and Stata 11.0 for Windows. All *p* values were two-tailed with an accepted significance level of 0.05. Non-normality of continuous variables was checked by visual inspection of distribution and P–P plots and confirmed by Kolmogorov–Smirnov tests; nonparametric tests were chosen in order to account for skewed distributions. Comparisons of summary statistics among independent groups were performed by Chi-square in the case of categorical variables and by Mann–Whitney or Kruskal–Wallis in the case of continuous variables. Bivariate correlations between scores were explored by Spearman's Rho coefficient. A multivariate negative binomial regression model ('nbreg' Stata command with cluster option) was estimated with the total subscore of 'experienced discrimination' as the dependent variable, and a set of potential explanatory variables specifically selected in order to address the research questions. They included gender, age, interpersonal trust mean score, institutional trust mean score, social support and the item 'Participation in social activities' of the social network schedule. For pairs of highly correlated independent variables, only one was chosen: 'to meet socially with friends, relatives or work colleagues' was not included as it is significantly associated with 'to take part in social activities'. The same set of independent variables was introduced in the model with anticipated discrimination as the dependent variable. The two models were performed by the cluster option, which specified that the observations were independent across groups (16 sites), but not necessarily independent within groups. It affected the estimated standard errors, but not the estimated coefficients, by calculating the robust or Huber–White sandwich estimator of variance in place of the traditional calculation.

Results

Overall, 434 people with MDD were interviewed with the social capital schedule across the participating ASPEN sites. The characteristics of participants are shown in Table 1.

Participants' responses across the various social capital items are shown in Table 2.

Regarding interpersonal trust, nearly one-third of participants had reported low levels (scores '0'–'2') of social capital: specifically, 23.9 % of respondents reported low trust in people and 28.6 % declared that they do not believe that 'most people try to be helpful', whereas only 13.9 and 12.5 % of respondents believed (scores '8'–'10'), respectively, that 'most people can be trusted in' and that 'most people try to be helpful'.

A more negative picture emerged from the results regarding institutional trust. Respondents reported higher trust in the police (25.2 % of the sample rated '8'–'10') and the legal system (15 % of the sample rated '8'–'10'), whereas trust drastically diminished towards national institutions, such as parliament (6.1 % of the sample rated '8'–'10'), politicians (2.5 % of the sample rated '8'–'10') and political parties (1.6 % of the sample rated '8'–'10'). Trust raised again for international institutions, such as the European Parliament (9.1 % of the sample rated '8'–'10') and the United Nations (13.5 %). Half of the sample displayed high distrust towards national politicians (54.9 % of the sample rated '0'–'2') and political parties (54.6 % of the sample rated '0'–'2'), whereas 44.1 % expressed distrust for national parliaments.

With regard to social support, half of the sample felt that people near them are interested in what they are doing (53.5 %) and a little more than one-third declared to count on neighbours (38.5 %). Only a small percentage (7.8 %) reported to have nobody to rely on.

Regarding social network (see Table 3), 35 % declared to meet with friends, colleagues and parents several times a week or every day. However, 66 % said that they took part in social activities less than most people.

A multivariate negative binomial regression model was fitted with experienced and anticipated discrimination as the dependent variable (see Table 4).

As age, interpersonal trust, institutional trust and social support increase, experienced discrimination significantly decreases. Age and gender, instead, were the only variables found to be associated with anticipated discrimination.

Discussion

This study found that higher levels of trust and social support are associated with less experienced discrimination in persons with MDD. Because of the design of study, that provides cross-sectional data, it is not possible to establish causal relationship existing between these variables. For this reason, this finding can be interpreted in a double way.

On the one hand, we can suppose as a major sense of community belonging and trust in others may protect against discrimination experiences. Having positive relationships with family members or friends with whom the person can talk about experiences of illness and discrimination may be important factors in rebuilding the individual's self-esteem, preventing relapses and promoting recovery from depression.

Table 1 Socio-demographic and illness-related characteristics of the study sample ($n = 434$)

Variable	Category	
Age, *N* (%)	18–25	43 (9.9)
	26–65	332 (76.5)
	≥ 66	59 (13.6)
Gender, *N* (%)	Male	128 (29.5)
Educational level, *N* (%) Missing = 2	Low (no formal/primary/secondary up to age 15–16/vocational qualification)	190 (44.0)
	High (diploma/degree/postgraduate)	242 (56.0)
Living condition, *N* (%)	Alone	103 (23.9)
Missing = 3	With partner/partner and children	208 (48.3)
	With children but no partner	43 (10.0)
	With other relatives/unrelated/assisted	77 (17.9)
Marital status, *N* (%)	Married/cohabiting	210 (48.5)
Missing = 1	Single/non cohabiting partner	120 (27.7)
	Widowed/separated/divorced	103 (23.8)
Working condition, *N* (%)	Full time/part time	160 (37.3)
Missing = 6	Volunteer/sheltered/at home	22 (5.0)
	Looking for a job	48 (11.2)
	Unemployed/student	106 (24.7)
	Retired	92 (21.5)
Ethnic minority, *N* (%) Missing = 83	No	330 (94.0)
Years since first contact with MH services, mean (SD)		10.84 (11.62)
Lifetime numbers of depressive episodes, *N* (%) Missing = 9	≥ 6	179 (42.2)
Type of MH care, *N* (%) Missing = 7	Out-patient	359 (84.1)
Ever admitted for MH care, *N* (%) Missing = 6	Yes	183 (42.8)
Compulsory treatment ever, *N* (%) Missing = 9	Yes	22 (12.3)
Advantage of having this diagnosis, *N* (%) Missing = 1	No	75 (1,718.6)
Knowledge of diagnosis, *N* (%)	Yes	401 (92.4)
Agreement with diagnosis, *N* (%)	Agree	396 (96.8)
Missing = 25	Disagree	2 (0.5)
	Unsure/don't know	11 (2.7)

Furthermore, having trust, being understood and supported by others (e.g. family, friends and community) may increase motivation to seek professional help and adherence to specialist treatments. On the other hand, it should be important to consider the extent to which self-report on social capital can be affected by depressive symptoms and by their severity. A higher severity of depressive symptoms can hinder social capital, reduce trust in others and frequency of contacts with them. In this view, it can also possible suppose that depressed people who have experienced discrimination in the past, are less trusting of people or institutions today.

These findings highlight the need to promote, maintain and improve the quality of social contacts of people with depression in order to decrease discrimination and favour social inclusion. The concepts of social inclusion and social contacts concern different levels. They refer to an individual level and a general level. The first includes all the relations (new or not) that people can strike up, including family. Sometimes family members and friends may represent a

Table 2 Responses for interpersonal trust, institutional trust and social support (n = 434) [*N* (%)]

	‘Not at all’ … ‘A LOT’										
	0 *N* (%)	1 *N* (%)	2 *N* (%)	3 *N* (%)	4 *N* (%)	5 *N* (%)	6 *N* (%)	7 *N* (%)	8 *N* (%)	9 *N* (%)	10 *N* (%)
Interpersonal trust											
Most people can be trusted in (2)[a]	40 (9.3)	34 (7.9)	29 (6.7)	54 (12.5)	50 (11.6)	89 (20.6)	33 (7.6)	43 (10.0)	35 (8.1)	16 (3.7)	9 (2.1)
Most people would try to be fair (1)[a]	24 (5.5)	23 (5.3)	21 (4.8)	47 (10.9)	52 (12.0)	90 (20.8)	39 (9.0)	51 (11.8)	48 (11.1)	21 (4.8)	17 (3.9)
Most people try to be helpful (1)[a]	42 (9.7)	33 (7.6)	49 (11.3)	57 (13.2)	44 (10.2)	96 (22.2)	32 (7.4)	26 (6.0)	27 (6.2)	15 (3.5)	12 (2.8)
	‘No trust at all’ … ’COMPLETE TRUST’										
	0 *N* (%)	1 *N* (%)	2 *N* (%)	3 *N* (%)	4 *N* (%)	5 *N* (%)	6 *N* (%)	7 *N* (%)	8 *N* (%)	9 *N* (%)	10 *N* (%)
Institutional trust											
Trust in the police (1)[a]	29 (6.7)	16 (3.7)	34 (7.9)	38 (8.8)	41 (9.5)	87 (20.1)	48 (11.1)	31 (7.2)	54 (12.5)	27 (6.2)	28 (6.5)
Trust in the legal system (1)[a]	56 (12.9)	32 (7.4)	44 (10.2)	56 (12.9)	45 (10.4)	80 (18.5)	21 (4.8)	34 (7.9)	42 (9.7)	14 (3.2)	9 (2.1)
Trust in politicians (1)[a]	121 (27.9)	45 (10.4)	72 (16.6)	54 (12.5)	36 (8.3)	62 (14.3)	21 (4.8)	11 (2.5)	10 (2.3)	1 (0.2)	_
Trust in political parties (2)[a]	124 (28.7)	48 (11.1)	64 (14.8)	58 (13.4)	35 (8.1)	66 (15.3)	20 (4.6)	10 (2.3)	5 (1.2)	1 (0.2)	1 (0.2)
Trust in National Parliament (2)[a]	84 (19.4)	39 (9.0)	68 (15.7)	55 (12.7)	44 (10.2)	76 (17.6)	21 (4.9)	19 (4.4)	21 (4.9)	2 (0.5)	3 (0.7)
Trust in the European Parliament (4)[a]	57 (13.3)	28 (6.5)	40 (9.3)	60 (14.0)	45 (10.5)	94 (21.9)	41 (9.5)	26 (6.0)	22 (5.1)	9 (2.1)	8 (1.9)
Trust in the United Nations (6)[a]	49 (11.4)	16 (3.7)	30 (7.0)	51 (11.9)	38 (8.9)	88 (20.6)	55 (12.9)	43 (10.0)	37 (8.6)	12 (2.8)	9 (2.1)
Social support											
How much concern do people show in what you are doing?	No concern *N* (%) 33 (7.6)	Little concern *N* (%) 79 (18.2)	Uncertain *N* (%) 90 (20.7)	Some concern *N* (%) 151 (34.8)	A lot of concern *N* (%) 81 (18.7)						
How easy can you get practical help from neighbours?	Very difficult *N* (%) 57 (13.1)	Difficult *N* (%) 70 (16.1)	Possible *N* (%) 140 (32.3)	Easy *N* (%) 111 (25.6)	Very easy *N* (%) 56 (12.9)						
How many people you can count on?	None *N* (%) 34 (7.8)	1–2 *N* (%) 199 (45.9)	3–5 *N* (%) 148 (34.1)	6 or more *N* (%) 53 (12.2)							

[a] Missing value

Table 3 Responses for social network (n = 434) [N (%)]

Social network							
How often do you meet socially with friends, relatives or work colleagues? (7)[a]	Never *N* (%)	Less than once a month *N* (%)	Once a month *N*	Several times a month *N* (%)	Once a week *N* (%)	Several times a week *N* (%)	Every day *N* (%)
	14 (3.3)	57 (13.3)	46 (10.8)	79 (18.5)	81 (19.0)	103 (24.1)	47 (11.0)

How often would you say you take part in social activities? (10)[a]	Much less than most *N* (%)	Less than most *N* (%)	About the same *N* (%)	More than most *N* (%)	Much more than most *N* (%)
	142 (33.5)	138 (32.5)	103 (24.3)	33 (7.8)	8 (1.9)

[a] Missing value

Table 4 Negative binomial regression models for experienced and anticipated discrimination (16 sites; n = 434)

	Experienced discrimination			Anticipated discrimination		
	Coeff.	95 % CI	*p* value*	Coeff.	95 % CI	*p* value*
Male	−0.191	−0.389 to 0.007	0.058	−0.174	−0.329 to −0.019	0.028
Age (years)	−0.014	−0.022 to −0.007	0.000	−0.015	−0.019 to −0.011	0.000
Interpersonal trust mean score	−0.077	−0.126 to −0.028	0.002	−0.013	−0.049 to 0.023	0.483
Institutional trust mean score	−0.055	−0.086 to −0.025	0.000	−0.006	−0.046 to 0.035	0.783
Social support sum score	−0.068	−0.123 to −0.014	0.013	−0.028	−0.058 to 0.003	0.079
Social network (participation in social activities)	−0.006	−0.103 to 0.091	0.908	−0.067	−0.145 to 0.012	0.096

* Adjusted for clustering

source of discrimination for people with depression [32, 33]. It is therefore necessary for mental health services to take into account this aspect and to operate in this direction as well, e.g. through tailored interventions, aimed to increase trust and reduce negative attitudes and discrimination towards close relatives with mental health problems.

These results also suggest the importance of working on a wider, general level, in order to promote changes in society, in the way in which communities relate to, include and support individuals experiencing depression.

Previous studies exploring the associations between interpersonal and institutional trust and mental health [14, 45] reported that higher level of trust is associated with better mental health. In our study, trust seems to represent a key factor in experiencing discrimination by individuals with depression. Building social trust has to be taken into account both in clinical practice and in future anti-stigma interventions regarding people with depression.

Social support is considered to exert a positive impact on physical and mental health [46], and our data seem to be in line with this. Interventions improving support may have the potential to protect against experiences of discrimination. On the one hand, these types of interventions, focusing on wider society, should improve awareness and education of the general public on the nature of depression, to increase social acceptance of patients, improve employment opportunities for patients and their reintegration into society. On the other hand, it is important to develop and evaluate more effective interventions which increase social support for people with depression. This could include working to develop a network of support around an individual, involving friends, family and neighbours as appropriate.

Anticipated discrimination is based on both individual experience and on a social construct based on the collective experience and interpretation of the world by the social group to which the individual belongs [47, 48]. In our study, the negative association between experienced discrimination and social capital was not confirmed with anticipated discrimination. This may possibly be explained by the kind of questions used in the DISC-12: the scale investigates only a few aspects of anticipated discrimination (i.e. applying for a job, applying for education or training course, starting a close personal relationship and hide mental health problems), thus not allowing the exploration of other potential relevant life domains. This finding could also be a consequence of higher depressive symptomatology (such as pessimistic thinking, hopelessness and social withdrawal) that may lead the person to give up on a number of life opportunities and to actively avoid social interactions and other people's support. This condition may prevent a depressed person from being able to take full advantage of social capital benefits.

It is interesting to note that levels of both experienced and anticipated discrimination tend to reduce with increased age. It can be hypothesized that people with depression learn to adopt more effective coping strategies towards discriminatory behaviour as they grow older. Research has indeed confirmed a positive correlation between age and effectiveness in coping strategies among mental health patients [49–51]. An alternative explanation might be that as long as people grow older, they reduce their expectations and accept discriminatory behaviour in a more passive way, whereas younger people may be more aware of their rights and may identify discriminatory acts more easily.

This represents the first study to investigate reported experiences of discrimination in relation to social capital in a large sample of people with MDD across Europe. This is expected to provide the basis for future comparisons among countries. The present study could represent a starting point for studying the complex associations between discrimination and social capital in people with depression. This research area needs to be expanded upon using larger samples and more sophisticated methodologies. Higher levels of trust and civic participation may help people with depression to perceive lower levels of discrimination. This may facilitate their social integration and their access to important life opportunities which people with a mental illness, and especially with depression, often have given up.

This study has also some limitations. Participants were selected from treated patients rather than true prevalent cases in the community, thus reducing the generalizability of results to all people with major depressive disorder living in the participating sites. Selection bias could have occurred because participants were recruited on the basis of the judgment of local research staff and on their willingness to participate, and this may further restrain the generalizability of our findings. Disability and clinical severity measures, such as duration of depression and co-morbid states, were not assessed; since previous studies found an inverse correlation between trust and depression [52–54], it is not clear to what extent reported discrimination was more realistically attributable to negative appraisal of life influenced by levels of depressive symptoms (e.g. low trust may be also considered a proxy of depression). The cross-sectional nature of this study only allows us to infer associations and not causal relations between variables. The social capital indicators that were used are not fully validated even though, as already mentioned in the methods section, similar items have been used elsewhere. Finally, because of the large multidimensional nature of social capital, there is not a universal measurement method or a single underlined indicator commonly accepted by the literature. For this reason, it is important to highlight that these different measures are considered as proxies.

Conclusions

Higher level of social capital may be closely associated with lower levels of experienced discrimination. It is important to explore these associations more closely and to establish possible directions of causality in order to identify interventions that may promote social capital and reduce discrimination. This may permit greater integration in society and more access to important life opportunities for people with depression.

Our findings suggest that there is a need to focus on combating discrimination experienced by younger people with depression, because they seem to be more susceptible to particular experiences of discrimination that can bring them to avoid important life opportunities (e.g. work, searching for a new work). Other studies have focused on different forms of discrimination related to different stages of age [55].

More research (e.g. through longitudinal and multilevel designs) is, however, needed to gain a more thorough understanding of the possible impact that social capital may have on the perception of discrimination and to better understand the associations between these phenomena.

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Conflict of interest All authors declare that they have no conflicts of interest.

Appendix: The ASPEN Study Group

Staff at coordinating centres

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