Predicting depression and anxiety with a single self-rated health item

David Östberg
Self-rated health (SRH) consists of a single question wherein individuals are asked to evaluate their general health status on a 5-point scale. This study investigated the relationship between SRH and depression/anxiety, with the purpose of getting a better understanding of how the two disorders are related to perceived general health, and to examine the possibility of using SRH as a clinical tool for identifying individuals with increased risk for onset and persistent states of depression and anxiety. The study used cross-sectional and longitudinal data from the Västerbotten Environmental Health Study, a large questionnaire-based population study in northern Sweden. 2336 individuals participated at baseline (T1) and 3-year follow-up (T2). The Hospital Anxiety and Depression Scale was used to measure symptoms of depression and anxiety. The results showed that those with poor SRH rated more severe symptoms of depression and anxiety, than those with good SRH. Those with poor SRH at T1 had more than twofold increased risk of falling into the depression and anxiety case groups at T2. Specifically, they more often experienced onset of symptoms at T2 as well as symptoms that persisted across the two occasions. The results correspond in large with those from previous studies and supports the utility of SRH as a clinical tool, with the reservation that it may not be strong enough predictor on its own.

Självskattad hälsa (SRH) består av en enkel fråga i vilken personen uppmanas skatta sin generella hälsa på en femgradig skala. Den här studien undersökte sambandet mellan SRH och depression/ångest, i syfte att fördjupa förståelsen för hur dessa tillstånd är relaterade till upplevd generell hälsa och att undersöka möjligheten att använda SRH som ett kliniskt instrument för att identifiera individer med förhöjd risk för framtida och ihärdiga tillstånd av depression och ångest. Studien använde tvärsektionella och longitudinella data från Västerbotten Environmental Health Study, som är en stor enkätbaserad studie genomförd i norra Sverige. 2336 individer deltog i studien vid baseline (T1) och den 3-åriga uppföljningen (T2). För att mäta symtom av depression och ångest användes Hospital Anxiety and Depression Scale. Resultaten visade att de med dålig SRH skattade svårare symtom av depression och ångest än de med bra SRH. De med dålig SRH vid T1 hade mer än dubbelt förhöjd risk för att hamna i grupperna för depression och ångest vid T2. Mer specifikt upplevde de oftare tillkomst av symtom vid T2 såväl som symtom vid båda tillfällena. Resultaten stämmer i stort överens med tidIGare forskning och stödjer användandet av SRH som ett kliniskt instrument, med reservationen att det kanske inte har ett tillräckligt stort predikitionsförde på egen hand.
Mental disorders are some of the largest contributors to the burden of disease worldwide, and combined with substance use disorders they are similar in size to that of cancer (Whiteford et al., 2013). While being a relatively small cause of premature death, they are major contributors to the total amount of years lived with disability. Depression stands out as the single disorder with the largest contribution, followed by anxiety disorders. Although with a lower burden of disease, anxiety disorders are the most common, and have 14% prevalence in the European population in a 12-month period, with the corresponding number for depression being 7% (Wittchen et al., 2011). Depression and anxiety are in other words major public health challenges, leading to personal suffering as well as having a huge negative impact on the economy as a consequence of work loss and medical expenditures (Andlin-Sobocki, Jönsson, Wittchen, & Olesen, 2005). Since the healthcare systems often are under high pressure, it is of importance for politicians and decision makers to know how to distribute the available resources. This is made easier by at an early stage identifying individuals with poor prognosis and subsequently a greater need for qualified treatment.

In the field of research in depression and anxiety, there have been attempts to cover the natural course of these disorders. Individuals who experience an episode of depression or anxiety tend to recover naturally over time. A majority of those experiencing a depressive episode has recovered at one-year follow-up, although it is common not to be completely free of symptoms (Richards, 2011). There seems to be a similar course for anxiety (Hendriks, Spijker, Licht, Beekman & Penninx, 2013), but some studies indicate that anxiety has a worse long term prognosis (Penninx et al., 2011). Those who do not have a remission of symptoms at a one-year follow-up or have recurrent episodes after recovery, have a more persistent course of disease.

Looking into predictors of more persistent course of disease, and starting with depression, previous mental history with more severe symptoms and longer and more frequent episodes are predictors (Mueller et al., 1999). The severity and duration of the current episode have been found to predict the course for both anxiety and depression (Penninx et al., 2011). For anxiety, the specific type of disorder has an impact on prognosis. For example, panic disorder without agoraphobia seems to have a more favorable outcome than social phobia (Hendriks et al., 2013). Age of onset is a predictor for both depression and anxiety (Penninx et al., 2011; Ramshaw, Weisberg, Dyck, Stout & Keller 2011). Social and occupational functioning has been found to predict worse course of anxiety (Sholten et al., 2013). Socioeconomic status has in some cases been found to be a predictor. Low educational level was found to predict long-term trajectory of depression (Melchior et al., 2013), while Penninx et al. (2011), on the other hand, did not find it to predict prognosis over a two-year period, neither for depression or anxiety. Comorbidity between anxiety and depression is a strong predictor of prognosis for both disorders (Penninx et al., 2011).

A common feature in health research is self-rated health (SRH). It typically consists of asking the individual to evaluate his/her health status on a 5-point scale, ranging from excellent to poor. Being part of research for a long time, SRH got a rise in interest when a number of studies in the late seventies and eighties showed an association between SRH and mortality (Jylhä, 2009). Since then a lot of studies have examined this association, and have in large come to the same conclusion: that there is an association and that it tends to remain, although weaker, when adjusting for other factors such as comorbidity and functional status (DeSalvo, Bloser, & Reynolds, 2004; Ganna & Ingelsson, 2015; Idler & Benyamini, 1997). This has led to the assumption that SRH gives valid and in some way important information about an individual’s general health status (Jylhä, 2009).
The question about how SRH is related to depression is complicated by the fact that psychological aspects may affect assessment of health in different ways. Potentially helpful conceptualizations have been used by other researchers: true health and response styles (Jurges, 2007) and latent health and reporting behavior (Layes, Asada, & Kephart, 2012). They all consider the purpose of SRH to be to measure an underlying objective health, and that this assessment can be affected by subjectivity, which they regard as a measurement error. From this point, two pathways for how psychology may relate to SRH can be suggested: (1) psychological aspects are part of or correlating with the objective health being assessed, and (2) psychological dispositions affect the assessment process itself. An example of the latter is that researchers have suggested that SRH, at least partly, reflects the attitude to one’s health, thus poor SRH can be related to psychological pessimism (Ferraro, Farmer, & Brynwaniec, 1997).

Psychological distress has on a general level been associated with poor SRH (Sing-Manoux et al., 2006). When it comes to specific mental disorders, most research has been conducted regarding depression, and shows that it is associated with poor SRH (Goldman, Glei, & Chang, 2004; Gunn et al., 2012; Han & Jylhä, 2006; Pinquart, 2001). The association to anxiety seems to have been less researched, but the available studies show a similar association (Cano et al., 2003; Kroenke, Jackson, & Chamberlin, 1997). A number of studies have investigated the predictive value of SRH on depression and anxiety. Chou, Mackenzie, Liang and Sareen (2011) found poor SRH to predict the onset of depression, but not anxiety. In elderly, it has been found to predict the onset of pure states of depression and anxiety, but not of a comorbid state (De Beurs et al., 2001). Ambresin, Chondros, Dowrick, Herrman and Gunn (2014) showed that poor SRH predicts poor prognosis of depression in a 5-year course, and concluded that SRH might be utilized in a clinical setting to identify individuals with a high risk for poor depression outcome.

The aim of this study was to seek greater understanding for how depression and anxiety is related to the experience of health, and whether SRH is a suitable clinical tool for identifying individuals with increased risk for poor prognosis. A population-based sample was used, to include individuals that did not have any health care contact, making the results more representative to the population in large.

It was investigated whether SRH was associated to current symptoms of depression and anxiety, and whether it also could predict future episodes of depression and anxiety. It was hypothesized that (1) depression and anxiety are more severe in those with poor than good SRH at both initial (T1) and 3-year follow-up (T2) assessment, (2) there is increased risk for depression and anxiety at T2 in those with poor SRH at T1, and (3) both persistent states and later onset of depression and anxiety are more frequent in those with poor than good SRH.

Method

Sample and population
I used cross-sectional and longitudinal data that were collected in the Västerbotten Environmental Health Study (VEHS) (Palmquist, Claeson, Neely, Stenberg, & Nordin, 2014), which main focus was on environmental hypersensitivities, but included a wide array of items concerning the general health status of the individual. A questionnaire was sent by mail to a sample of 8520 inhabitants of the Västerbotten County in Nothern Sweden, that were stratified for age and sex, and randomly selected from the population registry. The first data collection was done in the spring of 2010 and the second in the spring of 2013. Of the 3406 (40.0%) persons who responded to the first
questionnaire, 3181 were still alive and living in Västerbotten in 2013. Of these, 2336 (73.4%) responded at the follow-up data collection. Table 1 shows the gender and age characteristics of the sample. The study was approved by the Umeå Regional Ethics Board (Dnr 09-171M), and conducted in accordance with the Declaration of Helsinki.

Table 1. Numbers of respondents (and percentage of those responders among the invited) across age and sex strata at the first (T1) and second (T2) time point.

<table>
<thead>
<tr>
<th></th>
<th>T1</th>
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<th>T2</th>
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<tbody>
<tr>
<td></td>
<td>Age (years)</td>
<td>Women</td>
<td>Men</td>
<td>Age (years)</td>
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<tr>
<td></td>
<td></td>
<td>(and) % (n)</td>
<td>(and) % (n)</td>
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<tr>
<td>18-29</td>
<td>307 (32.1)</td>
<td>179 (17.3)</td>
<td></td>
<td>21-32</td>
</tr>
<tr>
<td>30-39</td>
<td>266 (40.3)</td>
<td>177 (24.7)</td>
<td></td>
<td>33-42</td>
</tr>
<tr>
<td>40-49</td>
<td>288 (40.5)</td>
<td>230 (31.0)</td>
<td></td>
<td>43-52</td>
</tr>
<tr>
<td>50-59</td>
<td>367 (50.9)</td>
<td>295 (39.5)</td>
<td></td>
<td>53-62</td>
</tr>
<tr>
<td>60-69</td>
<td>405 (58.4)</td>
<td>356 (50.7)</td>
<td></td>
<td>63-72</td>
</tr>
<tr>
<td>70-79</td>
<td>265 (53.8)</td>
<td>271 (63.9)</td>
<td></td>
<td>73-82</td>
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<tr>
<td>Total sample</td>
<td>1898 (45.2)</td>
<td>1508 (34.9)</td>
<td>Total sample</td>
<td>1306 (74.5)</td>
</tr>
</tbody>
</table>

**Questionnaire instruments**

A Swedish translation of the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983) was used to assess caseness of anxiety and depression disorders. It is a widely used instrument that has proven to have high validity when used in both psychiatric and non-psychiatric environments (Bjelland, Dahl, Haug, & Neckelmann, 2002). It is made up of two subscales, one for anxious symptoms (HADS-A), and one for depressive symptoms (HADS-D). The Swedish translation of the scale has shown Chronbachs alpha of 0.84 for HADS-A, and 0.82 for HADS-D (Lissper, Nygren, & Söderman, 1997). Each sub-scale consists of seven items, asking the person to rate a specific symptom on a 4-point Likert scale. The maximal score for each symptom category is 21. Bjelland et al. (2002) recommends a cut-off score of ≥ 8 for identifying possible cases of depression and anxiety. In order to single out individuals with severe symptoms, thus making the results more clinically relevant, I used the slightly higher cut-off score of ≥ 10 for inclusion into the case groups. Each case group was compared with a referent group, consisting of participants with a HADS score below 10.

SRH was measured with the single item “In general, how would you describe your health?”, in which the test person is asked to rate his/her general health on a 5-point Likert scale with the choices poor, fair, good, very good and excellent. For the purpose of statistical analyses, the answers were separated into two groups, where ”poor” and ”fair” were regarded as the group with poor SRH, and ”good”, ”very good” and ”excellent” were selected into the group with good SRH.
Data analysis

The data went through multiple imputation to handle missing values and increase the statistical power of the analysis (Rubin, 1987). Of the items in HADS-D, 1.2% in T1 and 1.4% in T2 were imputed. The corresponding percentages for HADS-A were 1.3% at T1 and 1.6% at T2. I used IBM SPSS Statistics 23 to perform the statistical analyses. \( \chi^2 \)-test was used to examine if there was any significant differences in the background variables, between the case and referent groups. I conducted six-factorial analyses of variance (ANOVAs; age, sex, education, married/cohabitant and exercise as controlled factors) with GLM procedure to compare the good and poor SRH groups on depression and anxiety at T1 and T2. Next, I used binary logistic regression analysis to determine the predictive value of SRH on depression and anxiety at T2. The results are presented as odds ratios. For the adjusted model, I used age, sex, education, married/cohabitant and exercise as covariates. Finally, I used \( \chi^2 \)-test to determine if SRH could predict the course of depression and anxiety. Data from both T1 and T2 were used to divide the sample into four groups, which represented all the possible courses from T1 to T2: low/low, high/low, low/high and high/high on depression and anxiety. Post-hoc \( \chi^2 \)-tests were conducted to identify what particular courses contributed to the difference.

Results

The characteristics of the sample at baseline (T1) and at the 3-year follow-up (T2) are shown in Table 2. About twice as many were included in the anxiety group (n = 200/201) than in the depression group (n = 93/105). Significant age differences were found between case groups and referents for anxiety, but not for depression. All other background variables (sex, education, marriage/cohabitant and physical exercise) showed significant difference with referents for both disorders, at least at one occasion. Physician-based diagnoses were all more frequent in the case groups, except for chronic fatigue syndrome in depression at baseline.

At T1, 238 participants rated their health as excellent, 679 as very good, 789 as good, 545 as fair, 61 as poor, and 24 did not respond to the question. At T2, 200 participants rated their health as excellent, 704 as very good, 821 as good, 595 as fair, 72 as poor, and 16 did not respond to the question. Those who responded excellent, very good or good were referred to as the group with good SRH (T1: n = 1706; T2: n = 1725) and those who responded fair or poor were referred to as the group with poor SRH (T1: n = 606; T2: n = 667). The mean scores on depression and anxiety (adjusted for age, sex, marriage/cohabitant and physical exercise) are shown in Figure 1. The group with poor SRH scored significantly higher than the group with good SRH on depression \[ T1: F(6) = 38.76 \ p < .001; \ T2: F(6) = 43.67 \ p < .001 \] and anxiety \[ T1: F(6) = 48.53 \ p < .001; \ T2 F(6) = 54.76 \ p < .001 \]. The mean scores were consistent across T1 and T2. For comparison, normative data (Lissper, Nygren, & Söderman, 1997), for HADS, are M = 4.55, SD = 3.73 for HADS-A, and M = 3.98, SD = 3.46 for HADS-D.
Table 2. Background variables at baseline and at 3-year follow-up (T1/T2).

<table>
<thead>
<tr>
<th>Referent</th>
<th>Depression</th>
<th>Referent</th>
<th>Anxiety</th>
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<tr>
<td>(n = 2243/2231)</td>
<td>(n = 93/105)</td>
<td>(n = 2136/2135)</td>
<td>(n = 200/201)</td>
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</table>

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<thead>
<tr>
<th>Age, mean years (+SD)</th>
<th>54.15 (15.53) / 57.23 (15.44)</th>
<th>52.65 (15.82) / 54.08 (17.27)</th>
<th>54.60 (15.45)*** / 57.69 (15.31)***</th>
<th>48.58 (15.49)*** / 50.72 (16.50)***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women, % (n)</td>
<td>56 (1247) / 56 (1242)</td>
<td>63 (59) / 61 (64)</td>
<td>55 (1167)*** / 55 (1168)***</td>
<td>69 (139)*** / 69 (138)***</td>
</tr>
<tr>
<td>Education, % (n)</td>
<td></td>
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<tr>
<td>Primary school</td>
<td>26 (569) / 26 (579)*</td>
<td>27 (25) / 26 (27)*</td>
<td>26 (559)* / 27 (570)*</td>
<td>17 (35)* / 18 (36)*</td>
</tr>
<tr>
<td>High school</td>
<td>33 (724) / 31 (686)*</td>
<td>38 (36) / 42 (43)*</td>
<td>32 (683)* / 31 (656)*</td>
<td>39 (77)* / 37 (73)*</td>
</tr>
<tr>
<td>University</td>
<td>41 (926) / 43 (947)*</td>
<td>35 (33) / 32 (32)*</td>
<td>41 (872)* / 42 (890)*</td>
<td>43 (87)* / 45 (89)*</td>
</tr>
<tr>
<td>Marriage/cohabitant, % (n)</td>
<td>78 (1738)** / 63 (1382)</td>
<td>64 (59)** / 56 (57)</td>
<td>78 (1654)* / 63 (1338)***</td>
<td>72 (143)* / 51 (101)***</td>
</tr>
<tr>
<td>Physical exercise ≥ 2 times/week, % (n)</td>
<td>69 (1532) / 70 (1550)*</td>
<td>62 (57) / 59 (59)*</td>
<td>69 (1460) / 69 (1459)</td>
<td>66 (129) / 65 (130)</td>
</tr>
<tr>
<td>HADS, mean score (+SD)</td>
<td>2.55 (2.25)*** / 2.56 (2.32)***</td>
<td>12.38 (2.42)*** / 12.01 (2.26)***</td>
<td>3.41 (2.59)*** / 3.30 (2.59)***</td>
<td>12.21 (2.41)*** / 12.39 (2.50)***</td>
</tr>
<tr>
<td>Comorbid anxiety/depression (HADS), % (n)</td>
<td>6.0 (135)*** / 5.7 (128)***</td>
<td>70 (65)*** / 70 (73)***</td>
<td>1.3 (28)*** / 1.4 (32)***</td>
<td>33 (65)*** / 36 (73)***</td>
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<td>Physicians-based diagnosis, % (n)</td>
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<tr>
<td>Post-traumatic stress disorder</td>
<td>0.6 (13)* / 0.4 (10)**</td>
<td>3.2 (3)* / 3.0 (3)***</td>
<td>0.5 (11)** / 0.4 (9)**</td>
<td>2.5 (5)** / 2.2 (4)**</td>
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<tr>
<td>Generalized anxiety disorder</td>
<td>0.4 (9)*** / 0.3 (6)***</td>
<td>10 (9)*** / 9.7 (10)***</td>
<td>0.3 (6)*** / 0.2 (5)***</td>
<td>6.0 (12)*** / 5.7 (11)***</td>
</tr>
<tr>
<td>Panic disorder</td>
<td>0.7 (16)*** / 0.9 (19)***</td>
<td>7.5 (7)*** / 6.6 (7)***</td>
<td>0.6 (12)*** / 0.7 (15)***</td>
<td>5.5 (11)*** / 5.4 (11)***</td>
</tr>
<tr>
<td>Depression</td>
<td>3.2 (73)*** / 3.0 (67)***</td>
<td>28 (26)*** / 23 (24)***</td>
<td>2.7 (58)*** / 2.4 (52)***</td>
<td>20 (41)*** / 19 (39)***</td>
</tr>
<tr>
<td>Chronic fatigue syndrome</td>
<td>0.5 (13) / 0.3 (7)*</td>
<td>2.1 (2) / 1.9 (2)*</td>
<td>0.5 (10)*** / 0.2 (5)***</td>
<td>2.5 (5)** / 2.0 (4)**</td>
</tr>
<tr>
<td>Burnout syndrome</td>
<td>4.1 (93)*** / 4.0 (91)***</td>
<td>9.7 (9)* / 14 (14)***</td>
<td>3.2 (70)*** / 3.7 (79)***</td>
<td>16 (32)*** / 13 (26)***</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01, *** p < .001
Figure 1. Mean (+SE) score on the Hospital Anxiety and Depression Scale (HADS) in groups with poor and good SRH, at baseline (T1) and at 3-year follow-up (T2).

The results from the logistic regression analyses are summarized in Figure 2. The prevalence of anxiety at T2 in those with poor SRH at T1 (14.9 %) was higher than the prevalence of depression (8.3 %). When unadjusted the group with poor SRH at T1 showed more than a twofold higher risk (p < .001) of falling into the group of anxiety or depression at T2, compared with the referent group. In the model that was adjusted for age, sex, marriage/cohabitant and physical exercise, the risk was increased (p < .001) for both anxiety and depression.

Figure 2. Prevalence of depression and anxiety at 3-year follow-up (T2) in those with poor SRH at baseline (T1). Odds ratios and confidence intervals (CI) for the conditions are given when unadjusted (crude) and adjusted for age, sex, education, marriage/cohabitant and physical exercise.
The frequencies for the different courses of depression and anxiety are presented in Figure 3, separately for the groups with poor and good SRH. The percentage of the different courses differed between the groups in depression \( \chi^2 (3, N = 2312) = 55.03, p < .001 \) and anxiety \( \chi^2 (3, N = 2312) = 81.09, p < .001 \). Post-hoc test showed a significant difference between the groups in all four courses for both depression and anxiety \( \chi^2 (1) > 12.06, p < .001 \).

**Figure 3.** Distribution (percentage) of courses of depression and anxiety, in those with good and poor SRH from baseline (T1) to 3-year follow-up (T2).

**Discussion**

With the aim of investigating how SRH is related to depression/anxiety, this study gives support to the hypothesis that poor SRH is associated with more severe symptoms of depression and anxiety. The results also support the hypothesis that those with poor SRH have increased risk of future episodes of depression/anxiety, as well as the hypothesis that those with poor SRH more frequently experience persistent states and later onset of depression and anxiety.

The group with poor SRH had significantly higher mean scores on both HADS-D and HADS-A, compared to corresponding referent groups. This gives further support for the already sound evidence of an association between poor SRH and depression (Goldman et al., 2004; Gunn et al., 2012; Han & Jylhä, 2006; Pinquart, 2001). It also adds up to the evidence for the association between poor SRH and anxiety (Cano et al., 2003; Kroenke et al., 1997). Poor SRH also predicted higher scores on HADS-D and HADS-A at 3-year follow-up. Those with poor SRH were significantly more represented in the low/high (T1/T2) course group for both disorders. This corresponds with earlier studies that showed that poor SRH predicts later onset of depression (Chou et al., 2011; De Beurs et al., 2001). It also supports poor SRH as a predictor of onset of anxiety, on which there previously have been mixed results (Chou et al., 2011; De Beurs et al., 2001). The group with poor SRH was significantly more represented in the high/high course group. This
corresponds with the results of Ambresin et al. (2014), showing that poor SRH may predict a more persistent course of depression. Furthermore, the results suggest that poor SRH has a similar predictability for anxiety as for depression, on which there, to my knowledge, has been done no explicit studies.

The results from this study make it less plausible that the found associations were a result of a psychological disposition affecting the assessment process, which has been proposed earlier (Ferraro et al., 1997). If poor SRH was to reflect a pessimistic attitude that in part can be understood as a depressive symptom, it is difficult to explain the longitudinal association for individuals who do not show symptoms at baseline. It is also likely that depression would have shown a stronger association than anxiety, since depression is more related to pessimism.

The higher prevalence of physician-based diagnoses of depression and anxiety disorders, in the case groups compared with the referent groups, gives support to the used categorization regarding depression and anxiety. In addition, the case groups’ mean scores on HADS (~12), in reference to normative data (Lissper, Nygren, & Söderman, 1997), indicate that their symptoms were severe compared with normal group, and that the severity of symptoms in the anxiety case group was slightly higher than for depression. As predicted in the sample, cases of anxiety were more prevalent than depression. In addition there was a large comorbidity between depression and anxiety. This corresponds with what is known about the disorders epidemiologically (Wittchen et al., 2011). Because of the known higher burden of disease in depression, one could maybe have expected a larger association with poor SRH and depression compared to that with anxiety. This could not be found; the association seems to be similar in size, both cross-sectionally and longitudinally. One explanation for the overall small differences between the groups with depression and anxiety is, of course, the high comorbidity. When there are many individuals who fall into both groups, it makes the comparisons less valid as differences are blurred out. Another way to view the results is simply that the two conditions have a similar relationship to SRH. Both views are perhaps true. Since it is so common with co-occurring anxiety and depression, one can argue that they share certain dimensions. This view can be exemplified by the tripartite model (Clark & Watson, 1991). Pure forms of either depression or anxiety can be seen as specific types of a more general psychological disorder. In this way, both similarities and potential differences can be understood.

SRH consists of a single item which raises questions about its psychometric properties. Studies that have assessed the reliability of a 5-response category SRH item, found the test-retest reliability ranging from moderate to good (Crossley & Kennedy, 2002; Martikainen et al., 1999; Zajacova & Dowd, 2011). When using a 3-response category question the test-retest reliability increases (Lundberg, 1996). Factors that has been linked to worse reliability in SRH is low socioeconomic status (Crossley & Kennedy, 2002; Zajacova & Dowd, 2011), and high age (Crossley & Kennedy, 2002; Martikainen et al., 1999; Zajacova & Dowd, 2011), although Lundberg (1996), on the contrary, found elder men to show the greatest reliability. In this study, I choose to dichotomize the 5 response categories into poor and good SRH, in order to increase the statistical power and to make the results easier to interpret. Another benefit of this procedure is that the reliability of SRH seems to increase. Zajacova and Dowd (2011) found, when using a dichotomized model, that 11% switched category in a one-month period, whereas the corresponding number for the 5-category model is nearly 40%. If the results of this study were to be transferred
into a clinical setting, this procedure should be noted, hence in practice, SRH should be used as a two category item.

The issue of validity in SRH is more complex than its reliability since there is no documented knowledge about exactly what dimensions it is supposed to measure. Its status as a valid instrument has mainly come from its predictive value in mortality (DeSalvo et al., 2006; Ganna & Ingelsson, 2015; Idler & Benyamini, 1997) and health care utilization (DeSalvo, Fan, McDonell, & Fihn, 2005), as well as its association to morbidity (Latham & Peek, 2013; Manor, Matthews, & Power, 2001) and objective health data (Christian et al., 2011; Jylhä, Volpato & Guralnik, 2006). How individuals understand SRH seem to differ between cultures (Baron-Epel et al., 2005) and socioeconomic groups (Dowd & Zajacova, 2010). This indicates that the understanding of SRH depends on the cultural context in which it is taken place. As the ideas and definitions of mental suffering are also culturally dependent and has changed throughout history, it is likely that the way individuals incorporate psychological dimensions into the assessment of health will change as well. Schnittker and Bacak (2014) showed that the predictive value of SRH on mortality did increase greatly in the period 1980 to 2002. With an increasing awareness of mental problems influence on health, it is possible that the validity of SRH in predicting depression/anxiety will increase in a similar manner.

A strength of this study is that it was population-based. As opposed to using a clinical sample, it included individuals that were not necessarily getting treatment for their problems. This makes the results more relevant when investigating how poor SRH relates to the natural course of depression and anxiety. A disadvantage, on the other hand, is that it makes claims about the clinical utility of SRH less valid. A further strength of this study is that it investigated how SRH was related to anxiety. Anxiety disorders seems to be less researched, both in their natural courses and how they are related to SRH.

A limitation of this study is that data were collected at only two occasions. With the aim of investigating how poor SRH predicts the course of depression/anxiety, it would have been preferable two have at least an annual data collection. Also, knowledge about the participants’ previous psychiatric history would have been of interest, foremost to distinguish the observed onset of depression/anxiety, between first onset and recurrence after earlier recovery. Another potential limitation of this study was the relatively low response rates, 40% at T1 and 73% at T2. This may have led to selection bias, which in turn made the sample less representative to the whole population. While this is plausible, methodological studies has indicated that higher response rates (at least to some degree) do not automatically result in more representative sample (Galea & Tracy, 2007). There is possibly reason to believe that the response rates in this study were in such range that it did not affect the overall validity of the study. A third limitation of this study may be that there was no control for possible physical diseases that could have mediated the relationship between SRH and depression/anxiety. This could have given further insight to what specific dimensions of SRH that are important in predicting depression and anxiety. At last, a limitation is the already noted high comorbidity between the two disorders, which made the comparisons between them more difficult. The VEHS was approved by the Umeå Regional Ethics Board (Dnr 09-171M), and the analysis of this study was made on a group level. I therefore do not see any ethical issues that need attending.

The results of this study add to the evidence that SRH is a predictor of later onset and persistent states of depression and anxiety. I suggest that SRH can be used in general practice to
identify individuals at risk for poor prognosis. Yet, one can argue that it is not strong enough predictor to use on its own. In addition there is the potential problem with reliability, especially in low socioeconomic groups and elderly. A solution may be to use it together with other instruments that seek to identify risk individuals. However, as Ambresin et al. (2014) conclude, there is a tradeoff when combining SRH with other instruments, gaining accuracy, but losing simplicity. In either way, SRH should be part of a larger assessment process and understood in a context. This way it can provide valuable information in psychological assessment. With health care personnel often working under high pressure and with limited resources, SRH might be a simple yet helpful tool to identify individuals with higher risk for onset or persistent states of depression and anxiety. With a large number of people seeking treatment for depression and anxiety, poor SRH can function as a pointer to those who are in a greater need for qualified treatment.

Future research may more closely examine in what different ways individuals understand their states of depression/anxiety, and how this, in turn, influences how they rate their health. In other words, how does the meaning people attribute to their psychological status affect their SRH? In a study about dementia (Campbell et al., 2008) the researchers found an association between being able to recall the physician telling about memory problems and poor SRH, but not an association with simply acknowledging memory problems themselves. This implies that the contextual framework (Jyhlä, 2009) of one’s psychological state is of importance for how it is incorporated into SRH. It also implies that aspects of one’s health lies in what meaning we give to our experiences, and thus a need to move beyond viewing these subjective interpretations as mere measurements errors. This could, in turn, open up for a less medicalized view of depression/anxiety, as it would be more clear that their relationships to health are culturally dependent. To investigate this, a qualitative approach combined with quantitative measures would perhaps be a way to go. Furthermore, it would be interesting to examine if there are cultural differences in the association between SRH and depression/anxiety. One can suspect a weaker association in societies in which ideas of mental health are less spread.

The results from this study gives evidence that poor SRH is an indicator of current, as well as a predictor of future, symptoms of depression and anxiety. Those with poor SRH have an increased risk both for later onset and persistent states of depression and anxiety. These findings can be taken into account in research and for use in general practice. Consisting of only one item, it may in an affordable way help clinicians to identify individuals that are in greater need for qualified psychological or psychiatric treatment.

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References


