Quality of life among patients with bipolar disorder in primary care versus community mental health settings

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Quality of life among patients with bipolar disorder in primary care versus community mental health settings

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\textsuperscript{d}Department of Psychiatry, University of Michigan Medical School, Ann Arbor, MI, United States
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Abstract

Introduction—Bipolar disorder is associated with functional impairment across a number of domains, including health-related quality of life (HRQOL). Many patients are treated exclusively in primary care (PC) settings, yet little is known how HRQOL outcomes compare between PC and community mental health (CMH) settings. This study aimed to explore the correlates of HRQOL across treatment settings using baseline data from a multisite, randomized controlled trial for adults with bipolar disorder.

Methods—HRQOL was measured using the SF-12 physical (PCS) and mental (MCS) health scales. Independent sample t-tests were calculated to compare differences in HRQOL between settings. Multivariate regression models then examined the effect of treatment setting on HRQOL, adjusting for covariate demographic factors, mood symptoms (Internal State Scale), hazardous drinking (AUDIT-C), and substance abuse.

Results—A total of 384 enrolled participants completed baseline surveys. MCS and PCS scores reflected similar impairment in HRQOL across PC and CMH settings ($p = .98$ and $p = .49$, respectively). Depressive symptoms were associated with lower MCS scores ($B = −.68$, $p < .001$) while arthritis/chronic pain was strongly related to lower PCS scores ($B = −5.23$, $p < .001$).

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Author Contributions
Dr. Miller took the lead in writing and editing the manuscript. Dr. Abraham, Dr. Bauer, and Dr. Kim assisted with the conceptualization, analysis, and interpretation of results. Dr. Bajor, Dr. Goodrich, and Ms. Nord provided important edits to the finalized manuscript. Mr. Lai took the lead in running statistical analyses. Dr. Kilbourne provided study oversight and also assisted with manuscript editing.

Conflicts of Interest
The authors do not have any Conflicts of Interest to disclose.

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Limitations—This study lacked a formal diagnostic interview, relied on cross-sectional self-report, and sampled from a small number of sites in two states.

Discussion—Participants reported similar impairments in both mental and physical HRQOL in PC and CMH treatment settings, emphasizing the need for integrated care for patients with bipolar disorder regardless of where they present for treatment.

Keywords
bipolar disorder; quality of life; primary care; community mental health

Introduction
Bipolar disorder represents a serious mental health problem in terms of morbidity, mortality, health care costs, and suicide (Andlin-Sobocki & Wittchen, 2005; Baldessarini & Tondo, 2003; Peele, Xu, & Kupfer, 2003). Mental health specialty care settings have long been viewed as the standard treatment arena for managing bipolar disorder (Druss & Rosenheck, 2000; Wang, Demler, & Kessler, 2002), but prescription data from patients with this condition suggest that a substantial proportion of both antipsychotic (Mark, Levit, & Buck, 2009) and mood stabilizer prescriptions (Beardsley, Gardocki, Larson, & Hidalgo, 1988) are written in primary care (PC) settings, and that this has in fact been the case for many years. Despite the importance of PC in the de facto management of bipolar disorder (Reilly, et al., 2012), little is known about potential differences between patients with bipolar disorder seen in mental health (where the bulk of treatment research has been conducted) and PC settings. This paper aims to fill this gap by comparing the level of functioning of people with bipolar disorder seen across treatment settings. Such an investigation requires a validated measure of overall functioning that is broadly applicable to patients with bipolar disorder. To fill this need, there is a growing body of literature on health-related quality of life (HRQOL), driven by a need to better understand and address the myriad areas of impaired functioning faced by this and other populations suffering from mental illness (IsHak, et al., 2012; Michalak & Murray, 2010). Bipolar disorder is broadly associated with reduced self-reported HRQOL across all phases of illness, including manic or hypomanic episodes, after covariates have been taken into account (Arnold, Witzeman, Swank, McElroy, & Keck, 2000; Michalak, Yatham, & Lam, 2005; Vojta, Kinosian, Glick, Altshuler, & Bauer, 2001; Zhang, Wisniewski, Bauer, Sachs, & Thase, 2006). These studies suggest that reduced HRQOL among people with bipolar disorder encompasses both mental and physical health domains. Furthermore, HRQOL is associated with mortality in people suffering from a variety of mental illnesses, including bipolar disorder (Haring, et al., 2011). Given the importance of HRQOL as a broad-spectrum measure of overall functioning (Wilson & Cleary, 1995), it is not surprising that the construct is receiving increasing attention as a pivotal health outcome measure.

Hypotheses
The overall goal of this paper was to investigate the characteristics and treatment needs of individuals with bipolar disorder encountered in PC versus community mental health (CMH) clinics. We used physical and mental HRQOL as common summary metrics for measuring overall well-being. Given the clinical and functional importance of HRQOL, a better understanding of its correlates can help inform interventions to improve functioning in this population.

A previous study of HRQOL in bipolar disorder in VA settings (Kilbourne, et al., 2010) found that mental HRQOL was higher, and physical HRQOL lower, for those patients seen
in PC alone as compared to those seen in multiple treatment settings. We therefore hypothesized a similar result for this study – that patients seen in PC would have higher mental HRQOL and lower physical HRQOL than those seen in CMH settings. Further exploratory analyses aimed to determine the correlates of mental and physical HRQOL both within and across treatment settings.

**Methods**

All study procedures were approved by the Institutional Review Boards of the University of Michigan and University of Colorado, Denver. All patients completed informed consent procedures; those who were unable to do so (e.g. those who were intoxicated) were excluded from the study. Participants at any stage of the study who indicated significant risk issues (e.g. suicidality) were referred to clinical services as appropriate.

**Study Overview and Participants**

Data for the present study were drawn from baseline patient assessments in the Recovery-Oriented Collaborative Care (ROCC) study, which investigated the implementation of the Life Goals Collaborative Care (LGCC) (Bauer, et al., 2006; Simon, Ludman, Bauer, Unutzer, & Operskalski, 2006) at five CMH clinics and one PC site in Michigan and Colorado. The PC site itself consisted of two separate clinic locations. ROCC included 384 patients age 18 or over with diagnoses of bipolar disorder (type I, type II, or NOS) identified from billing or outpatient visit data based on ICD-9 criteria. Patients were drawn from sites randomized to enhanced versus standard LGCC implementation support, and additional details on the design can be found elsewhere (Bajor, et al., 2012; Kilbourne, et al., 2012). The study recruitment included those with bipolar II and NOS disorders because those populations can experience high levels of functional impairment (Judd & Akiskal, 2003). Potential participants were excluded if they were living in a nursing home or other long-term care institution or if they were deemed ill enough (medically or psychiatrically) that they could not provide informed consent or undertake basic study procedures. This paper is focused solely on the baseline data collected for the study, rather than the LGCC implementation itself.

**Measures**

Baseline patient self-report surveys were administered via computer tablets or traditional paper-and-pencil questionnaires. For patients incapable of self-administration, verbal responses were recorded on their behalf. Brief descriptions of study measures follow.

**Health related quality of life – SF-12**—The SF-12 is a well-validated measure of HRQOL (Ware, Kosinski, & Keller, 1996), distilled from the longer SF-36 (Gandek, et al., 1998). It produces separate subscales for mental HRQOL (the Mental Component Summary or MCS) and physical HRQOL (the Physical Component Summary score or PCS). The MCS and PCS scores are calibrated so that 50 is the general population norm, with a standard deviation of 10, and higher scores correspond to better HRQOL.

**Internal State Scale (ISS)**—The ISS is a well-validated measure of bipolar symptoms (Bauer, et al., 1991; Glick, McBride, & Bauer, 2003) that features four subscales relevant to manic/hypomanic phases and depression, including Activation, Well-Being, Perceived Conflict, and the Depression Index. The Activation (range 0–500) and Depression Index (range 0–200) subscales serve as continuous measures of manic and depressive symptoms, respectively, with higher scores corresponding to higher levels of symptoms.
Alcohol Use Disorder Identification Test (AUDIT-C)—The 3-item AUDIT-C is a brief, widely-used self-report measure of hazardous drinking (Dawson, Grant, & Stinson, 2005; Dawson, Grant, Stinson, & Zhou, 2005). Consistent with published studies, hazardous drinking was defined as scoring at least a four (for men) or three (for women) on the AUDIT-C (Bush, Kivlahan, McDonell, Fihn, & Bradley, 1998). For this study, a supplementary item assessed drug use as well, which was defined as using any illicit substance within the past year.

Additional clinical and demographic information—Basic demographic and clinical data were gathered using a custom intake form. Covariates from this form were chosen based on their associations with HRQOL in previous studies. These variables included treatment setting (PC versus CMH, of particular interest for this paper), age, gender, race (White versus non-White), education level (college education versus high school education or less), living situation (living alone versus living with others), employment status (employed versus not employed), any history of being homeless, and medical comorbidities (details below).

Statistical Analyses
Health-related quality of life between PC and CMH settings was compared using an independent-sample t-test. We then used a multiple regression model for covariate adjusted comparison of HRQOL between treatment settings, adjusting for age, gender, race, education, living situation, employment status, history of homelessness, physical comorbidities, Activation and Depression Index subscales from the ISS, drug use, and hazardous drinking. All analyses were done separately for the MCS and PCS scores. Follow-up regression models were fit separately for PC and CMH settings to assess for any differential covariate effects across settings.

Results
Sample characteristics for PC (N = 55) and CMH settings (N = 329) can be found in Table 1. The two settings were generally similar to each other on basic demographic and clinical variables, p ≥ .10, including HRQOL, with two exceptions: those in CMH settings reported higher rates of arthritis or chronic pain conditions, p = .02, and those in PC settings reported higher rates of hazardous drinking, p = .03.

Regression with covariates
Separate multivariate regression models were fit for the SF-12 MCS and PCS scores, with a dummy variable for treatment setting (PC versus CMH; see Table 2) as the primary independent variable. These regression analyses revealed no significant differences in HRQOL between treatment settings after controlling for common covariates, p = 0.50 for MCS and p = 0.84 for PCS. The models did reveal significant effects for age, albeit in opposite directions, with older age associated with higher MCS, B = .09, p = .03, but lower PCS, B = −.07, p = .05. Higher depression scores from the ISS were associated with worse MCS scores, B = −.68, p < .001.

Presence of arthritis/chronic pain was associated with worse PCS scores, B = −5.23, p < .001. Furthermore, higher number of other medical comorbidities (including diabetes, hypertension, heart disease, myocardial infarction, and dyslipidemia) above and beyond arthritis/chronic pain was associated with worse PCS scores, B = −.99, p = .01. On the other hand, presence of arthritis/chronic pain was associated with better MCS scores, B = 2.13, p = .01, while total number of other medical comorbidities was not associated with MCS scores, B = .12, p = .78. Curiously, hazardous drinking was associated with higher PCS
scores, B = 2.92, p = .01. To explore this last finding, follow-up bivariate analyses revealed that hazardous drinking was negatively correlated with the number of medical comorbidities, r = -.12, p = .02.

Four additional follow-up exploratory multivariate regression models were conducted separately for MCS and PCS in PC and CMH settings. These models suggested that the effects of depression on MCS scores were significant across both PC, B = −1.01, p < .001, and CMH, B = −.65, p < .001. The association between arthritis/chronic pain and lower PCS scores also remained statistically significant in both PC, B = −9.5, p = .05 and CMH settings, B = −.51, p < .001. On the other hand, hazardous drinking was associated with lower MCS scores in PC settings, B = −6.6, p = .03, but higher MCS scores in CMH settings, B = 1.9, p = .05. Regarding PCS scores, hazardous drinking had no association in PC settings, B = −1.1, p = .74, but was associated with higher PCS scores in CMH settings, B = 1.9, p = .02. To further explore this last set of findings, additional regressions were run that included an interaction term of hazardous drinking by setting. This interaction term was non-significant in predicting MCS scores, B = 3.45, p = .28, and PCS scores, B = −3.07, p = .28.

Discussion

Results from this cross-sectional study suggest that health-related quality of life (HRQOL) is significantly impaired among people with bipolar disorder presenting for treatment in primary care (PC) or community mental health (CMH) settings. Contrary to expectations, the extent of impairment was similar across PC and CMH settings on both the mental and physical dimensions of HRQOL. Specifically, HRQOL for this population in both settings was between one and two standard deviations below population norms. Given the centrality of HRQOL as a measure of overall functioning, these findings suggest the importance of addressing both mental and physical health symptoms in this population, regardless of the setting in which patients seek treatment.

This study builds on the limited research on bipolar disorder in PC settings. One previous study investigated scores on the Global Assessment of Functioning (GAF) (Hall, 1995), a crude indicator of HRQOL. Those authors concluded that GAF scores among people with bipolar disorder treated in PC settings fell into a bimodal distribution, with one mode (GAF score = 79) indicating minimal symptoms and/or impairment, and the other mode (GAF score = 51) indicating moderate to serious symptoms and/or impairment (Hajek, et al., 2005). That study concluded that both psychiatric and medical comorbidities were independently associated with worse HRQOL. More interestingly, no differences were found in HRQOL between those with bipolar I and bipolar II diagnoses. Overall, then, that study emphasized the importance of comorbid conditions (both psychiatric and medical) among people with bipolar disorder presenting for treatment in primary care, dovetailing with findings from the current study.

Another more recent study (Kilbourne, et al., 2010) investigated HRQOL as measured by the SF-36 (Stewart, Hays, & Ware, 1988) in Veterans Affairs PC and mental health settings. Compared to those seen in specialty settings, people with bipolar disorder seen exclusively in PC generally had better mental HRQOL and lower physical HRQOL. Similarly, people seen in PC settings were more likely to report medical comorbidities, and less likely to receive guideline-concordant psychiatric care. Those authors concluded that effective, patient-centered care for bipolar disorder in PC settings requires attention to both mental and physical health domains. More broadly, the current study dovetails with these previous studies in emphasizing that (1) bipolar disorder is frequently treated in PC settings, and (2)
effective care for bipolar disorder requires attention to mental and physical health regardless of where treatment is initially sought.

In the current study, regression analyses suggested that depressive symptoms were a pivotal driver of lower HRQOL across treatment settings. This echoes similar findings in the literature emphasizing the role of depressive symptoms in bipolar disorder more generally (IsHak, et al., 2012). Researchers have concluded that people with bipolar disorder spend, on average, much more time depressed than manic, and a similar pattern may hold for subsyndromal symptoms (Judd, et al., 2002). The day-to-day grind of depression may prove much more damaging to mental HRQOL than devastating, but relatively rare, full-blown manic episodes.

The presence of arthritis or chronic pain was quite common in this sample, and regression analysis showed that this was associated with consistently lower physical HRQOL across treatment settings. Prior research has suggested that both physical pain and limitations in daily activities due to pain disorders can contribute to diminished HRQOL (Burckhardt, 1985). Given that narcotics may be contraindicated among patients with a substance abuse history based on the potential for addiction, and further given the high rates of substance abuse among those with bipolar disorder (Kessler, Rubinow, Holmes, Abelson, & Zhao, 1997), this suggests that identifying and providing evidence-based pain management strategies, other than potentially addictive narcotics, may be helpful in improving HRQOL for patients with bipolar disorder. The unexpected positive association between arthritis/chronic pain and MCS scores is puzzling. Rather than a meaningful clinical reality, this finding may reflect the use of orthogonal factor rotation for the MCS and PCS scales. Specifically, this orthogonal factor rotation means that items that are strongly correlated with the PCS (as was our arthritis/chronic pain variable) may automatically correlate in the opposite direction with the MCS (Simon, Revicki, Grothaus, & Vonkorff, 1998). It is also worth noting that arthritis/chronic pain was assessed via a single self-report item; further research with a validated pain questionnaire could shed additional light on this issue.

Hazardous drinking demonstrated unanticipated relationships to HRQOL in this study. Specifically, hazardous drinking was associated with higher HRQOL (both mental and physical) in CMH settings, but with lower mental HRQOL in PC, and had no association with physical HRQOL in PC. These may represent spurious findings, and indeed a pair of follow-up regressions revealed that the interaction of hazardous drinking and treatment setting did not achieve significance for either the MCS or PCS. The directionality of results is still somewhat puzzling, and comorbid substance abuse did not demonstrate a similar pattern of effects. These results may partially align, however, with previous research that has found comorbid substance abuse (including both alcohol and other substances) to be related to shorter length of inpatient stay compared to those without comorbid substance abuse (Bradley & Zarkin, 1996; Fogel, Bauer, Kendall, & Holden, 1994). This is in contrast to other research that has found comorbid substance abuse to be associated with more frequent hospitalizations and generally worse course (Cassidy, Ahearn, & Carroll, 2001). Taken together, these data suggest that more research is needed to determine the effects of comorbid alcohol and substance abuse on quality of life, service utilization, and other putative markers of illness severity for people with bipolar disorder. It is unclear to what extent those who reported low levels of drinking in this study drank heavily in the past (Polen, Green, Freeborn, Mullooly, & Lynch, 2001), but have had to cut down on their drinking as their bodies have deteriorated and functioning has become more impaired. Speculatively, it is possible that only people with a certain level of physical health are able to maintain hazardous levels of drinking. The finding from this study that participants with a higher number of medical comorbidities were less likely to report hazardous drinking could be consistent with this interpretation. An alternative (and not necessarily mutually exclusive)
explanation may be that low insight, common in both bipolar disorder (Ghaemi, Boiman, & Goodwin, 2000) and alcohol use disorders (Kim, Kim, Lee, Lee, & Oh, 1998), may contribute to an over-estimation of HRQOL in the dual-diagnosis population.

Limitations

These findings should be considered in the context of several limitations. First, the patients sampled in this study carried a diagnosis of bipolar disorder based on clinical chart review, but were not subjected to a formal diagnostic interview as part of the research protocol. Unfortunately, formal diagnostic interviews would have been prohibitively time-consuming for the purposes of the study. On a related note, our designation of hazardous drinking was based on relatively brief self-report measures (e.g. the AUDIT-C); while we used recommended cutoffs for the AUDIT-C, more intensive assessments would have been useful. Drug use was assessed by a single self-report item, inquiring as to use of any substances in the past year; this level of drug use should not be conflated with a substance use disorder diagnosis. In addition, the sampling at the site level was limited to a cross-sectional investigation of sites in two states, and only one of the sites (with two separate clinic locations) was designated as a PC site. It is possible that a wider selection of sites from different geographic areas would have produced different results. Finally, we did not have access to data indicating whether patients presenting in PC or CMH were seen exclusively in that treatment setting; more complete data would have allowed separate analyses for those seen in PC only, CMH only, or both types of treatment settings in the period prior to study participation.

Conclusions and Implications

Despite these limitations, results from this study suggest that people with bipolar disorder presenting for treatment in PC settings have deficits in HRQOL that are similar to those who present in CMH settings. The similar deficits in HRQOL across treatment settings (based on both the MCS and PCS) suggest that integrated care – care in which mental health and physical health symptoms are treated in a coordinated way – may be pivotal to improving the overall quality of life among people with bipolar disorder. Recent efforts have been made to integrate mental health treatment into primary care, including a major emphasis on Primary Care Mental Health Integration in Veterans Affairs hospitals (Pomerantz & Sayers, 2010; Post, Metzger, Dumas, & Lehmann, 2010). Parallel work has been done to develop treatment models that explicitly address both mood symptoms and cardiopulmonary issues (Cully, Paukert, Falco, & Stanley, 2009). Attention should also be given to the flipside of the coin – addressing physical health issues in mental health settings. Some strides have been made in this domain, suggesting that this type of integration can slow physical decline among people with bipolar disorder and cardiovascular risk factors (Kilbourne, et al., 2008). Ideally, further treatment development work in this domain will allow clinicians to better address the mental and physical domains among patients with bipolar disorder, regardless of the particular setting in which they present for treatment.

Acknowledgments

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References


Table 1

Sample characteristics

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<th>Entire Sample (N = 384)</th>
<th>Primary Care (N = 55)</th>
<th>Community Mental Health (N = 329)</th>
<th>p-value</th>
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<tr>
<td>Demographics</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Age in years</td>
<td>42.0 ± 11.3</td>
<td>40.3±12.7</td>
<td>42.3±11.1</td>
<td>.23</td>
</tr>
<tr>
<td>Female</td>
<td>256 (66.7)</td>
<td>38(69.1)</td>
<td>218(66.3)</td>
<td>.68</td>
</tr>
<tr>
<td>White (versus non-White)</td>
<td>261 (70.7)</td>
<td>40(74.1)</td>
<td>221(70.2)</td>
<td>.55</td>
</tr>
<tr>
<td>College education</td>
<td>71 (18.8)</td>
<td>13(24.1)</td>
<td>58(17.9)</td>
<td>.28</td>
</tr>
<tr>
<td>Employed</td>
<td>105(27.3)</td>
<td>20(36.4)</td>
<td>85(25.8)</td>
<td>.10</td>
</tr>
<tr>
<td>Living alone</td>
<td>126 (33.5)</td>
<td>16(30.8)</td>
<td>110(33.9)</td>
<td>.65</td>
</tr>
<tr>
<td>Ever homeless</td>
<td>216 (56.9)</td>
<td>34(64.2)</td>
<td>182(55.8)</td>
<td>.25</td>
</tr>
<tr>
<td>Clinical information</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF-12 MCS</td>
<td>31.8 ± 8.4</td>
<td>31.8±8.9</td>
<td>31.8±8.3</td>
<td>.98</td>
</tr>
<tr>
<td>SF-12 PCS</td>
<td>36.5 ± 7.5</td>
<td>37.2±7.8</td>
<td>36.4±7.5</td>
<td>.49</td>
</tr>
<tr>
<td>ISS Depression</td>
<td>7.7 ± 5.9</td>
<td>8.5±6.7</td>
<td>7.5±5.8</td>
<td>.28</td>
</tr>
<tr>
<td>ISS Activation</td>
<td>20.3 ± 12.7</td>
<td>18.8±13.5</td>
<td>20.6±12.5</td>
<td>.34</td>
</tr>
<tr>
<td>Hazardous Drinking</td>
<td>40 (10.7)</td>
<td>10(19.2)</td>
<td>30(9.3)</td>
<td>.03</td>
</tr>
<tr>
<td>Drug use in past year</td>
<td>123 (32.0)</td>
<td>17(30.9)</td>
<td>106(32.2)</td>
<td>.84</td>
</tr>
<tr>
<td>Current smoker</td>
<td>190 (57.6)</td>
<td>30(60.0)</td>
<td>160(57.1)</td>
<td>.70</td>
</tr>
<tr>
<td>Arthritis/chronic pain</td>
<td>188 (48.9)</td>
<td>19(34.6)</td>
<td>169(51.4)</td>
<td>.02</td>
</tr>
<tr>
<td>Hypertension</td>
<td>121 (31.5)</td>
<td>16(29.1)</td>
<td>105(31.9)</td>
<td>.67</td>
</tr>
<tr>
<td>Coronary artery disease</td>
<td>17 (4.4)</td>
<td>4(7.3)</td>
<td>13(3.9)</td>
<td>.26</td>
</tr>
<tr>
<td>Myocardial infarction</td>
<td>14 (3.7)</td>
<td>2(3.6)</td>
<td>12(3.7)</td>
<td>.99</td>
</tr>
<tr>
<td>Diabetes</td>
<td>59 (15.4)</td>
<td>9(16.4)</td>
<td>50(15.2)</td>
<td>.82</td>
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<td>Dyslipidemia/family history</td>
<td>217 (56.5)</td>
<td>32(58.2)</td>
<td>185(56.2)</td>
<td>.78</td>
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<td>Total number of medical comorbidities, excluding Arthritis/chronic pain</td>
<td>1.1±1.0</td>
<td>1.1±1.1</td>
<td>1.1±1.0</td>
<td>.81</td>
</tr>
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Note: all results are presented as Mean ± SD or N (% by column)
Table 2

Regression predicting MCS and PCS (N = 384)

<table>
<thead>
<tr>
<th>Variable</th>
<th>MCS</th>
<th>B</th>
<th>Std. Error</th>
<th>p-value</th>
<th>PCS</th>
<th>B</th>
<th>Std. Error</th>
<th>p-value</th>
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<tr>
<td>Age in years</td>
<td>0.09</td>
<td>0.04</td>
<td>0.03</td>
<td>0.05</td>
<td>−0.07</td>
<td>0.04</td>
<td>0.05</td>
<td></td>
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<tr>
<td>Female</td>
<td>−0.67</td>
<td>0.88</td>
<td>0.45</td>
<td>0.03</td>
<td>−1.31</td>
<td>0.78</td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>White (versus non-White)</td>
<td>0.74</td>
<td>0.92</td>
<td>0.21</td>
<td>0.01</td>
<td>0.82</td>
<td>0.78</td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>College education</td>
<td>1.26</td>
<td>1.13</td>
<td>0.35</td>
<td>0.01</td>
<td>1.01</td>
<td>0.73</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>0.38</td>
<td>0.96</td>
<td>0.22</td>
<td>0.01</td>
<td>0.85</td>
<td>0.79</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Living alone</td>
<td>0.37</td>
<td>0.93</td>
<td>0.15</td>
<td>0.01</td>
<td>0.82</td>
<td>0.85</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Ever homeless</td>
<td>0.55</td>
<td>0.85</td>
<td>0.45</td>
<td>0.01</td>
<td>0.76</td>
<td>0.55</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>ISS Activation subscale</td>
<td>0.05</td>
<td>0.04</td>
<td>0.13</td>
<td>0.01</td>
<td>−0.02</td>
<td>0.03</td>
<td>0.62</td>
<td></td>
</tr>
<tr>
<td>ISS Depression Index subscale</td>
<td>−0.68</td>
<td>0.07</td>
<td>&lt;0.001</td>
<td>0.01</td>
<td>−0.09</td>
<td>0.07</td>
<td>0.19</td>
<td></td>
</tr>
<tr>
<td>Drug use in past year</td>
<td>−0.19</td>
<td>0.94</td>
<td>0.83</td>
<td>0.01</td>
<td>−1.09</td>
<td>0.84</td>
<td>0.19</td>
<td></td>
</tr>
<tr>
<td>Hazardous drinking</td>
<td>−0.09</td>
<td>1.35</td>
<td>0.94</td>
<td>0.01</td>
<td>2.92</td>
<td>1.19</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Arthritis/chronic pain</td>
<td>2.13</td>
<td>0.89</td>
<td>0.01</td>
<td>0.01</td>
<td>−5.23</td>
<td>0.79</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>Total number of medical comorbidities, excluding Arthritis/chronic pain</td>
<td>0.12</td>
<td>0.44</td>
<td>0.78</td>
<td>0.01</td>
<td>−0.99</td>
<td>0.39</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>CMH setting (versus PC)</td>
<td>−0.82</td>
<td>1.24</td>
<td>0.21</td>
<td>0.01</td>
<td>1.09</td>
<td>0.84</td>
<td>0.01</td>
<td></td>
</tr>
</tbody>
</table>

Note: bold text indicates statistically significant results at the p = .05 level.