Mental health is an essential component of social cohesion, productivity, peace and stability in the living environment, contributing to social capital and economic development in societies (World Health Organization, 2008). In 2005, the World Health Organization established the promotion of mental health as a public health priority, and recognized the importance of intervening primarily in young people (World Health Organization, 2005).

Different reasons support the need to focus on this target group including: youngsters’ natural risk of developing a mental disorder (Patel et al., 2007); early stage of life is a period when attitudes are developing and can still be changed (Corrigan and Watson, 2002; Livingstone et al., 2013).

Considering the current scenario of economic and social crisis in Europe, promotion of mental health has become even more urgent, since vulnerabilities associated with early development are being even more threatened by external factors, such as financial difficulties or unemployment of parents, which may lead adolescents to develop mental health problems [e.g., depression (European Parliament, 2012)].

Improving mental health literacy in young people, in order to increase their capacity to deal with expected and unexpected challenges, is an unquestionable priority. The concept of mental health literacy refers to the “knowledge and beliefs about mental disorders which aid their recognition, management or prevention” (Jorm et al., 1997, p. 182). Mental health literacy is not limited to having knowledge, since knowledge is linked to beliefs that together determine attitudes (e.g. resistance to seek professional help). Early recognition of mental health problems and the appropriate help-seeking behaviours will only occur if young people are appropriately “literate” in this field (Jorm et al., 1997).

The last decades have witnessed the development of effective programmes to promote mental health (WHO, 2005, 2010); school setting is considered the privileged context to develop such initiatives (Kelly et al., 2007).

Based on the lack of systematic health education initiatives concerned with mental health in Portugal, the “Finding Space to Mental Health” project was carried out, in order to develop a school-based intervention to promote mental health literacy in young people (12-14 year olds). It comprises three major phases: pilot study, intervention and follow-up.

The pilot study included two major steps:

1. A qualitative study, using focus groups, aimed at developing the “Mental Health Literacy questionnaire” and
2. The “mental health promotion intervention”

The implementation of a pilot intervention in order to study its appropriateness and to study the psychometric properties of the questionnaire. This allowed to guarantee the adequacy of the intervention’s message to the specific target group (methodological accuracy - contents, format, and “wording”); to conduct a preliminary evaluation of the intervention; and to improve the programme’s contents and methods.

Luísa Campos, Pedro Dias and Filipa Palha
Finding Space to Mental Health - Promoting mental health in adolescents: Pilot study

1“Finding Space to Mental Health - Promoting mental health in adolescents (12 – 14 years old): development and evaluation of an intervention” (PTDC/PSI-PCL/112526/2009) - is developed by the Faculty of Education and Psychology of the Catholic University of Portugal (Oporto Regional Center), and funded by Science and Technology Foundation, in partnership with ENCONTRAR+SE – Association for the promotion of mental health.

2For more detailed information regarding the methodology developed in the pilot study see: project website (www.porto.ucp.pt/fep/abirrespacosaudamental/); Campos, et al (in press)
Considering the challenge of engaging young people in a subject not “appealing” and usually associated with stigmatised beliefs, the need to consider age-related issues (e.g., language, group dynamics, and age-related life events), and the importance to use attractive materials (e.g., music, videos) were considered when developing the intervention.

This article presents the results concerning the impact of the mental health promotion intervention, developed and tested during the pilot study.

Method

Participants

Seventy students from three classes attending a private secondary school (38.6% in 7th grade, 41.8% in 8th grade and 20% in 9th grade) were included in this study. Students were aged between 12 to 14 year-olds (M=13.11; SD=0.81), and 41.8% were female. Concerning caregivers’ professional status, 91.4% were employed.

Measure

Mental Health Literacy questionnaire

The version3 of the Mental Health Literacy questionnaire that was used in this study comprised 4 sections: 1) social-demographic information. 2) knowledge about mental health problems. 3) First Aid skills & help seeking. 4) self-help strategies. Sections 2 to 4 include 48 items organized in a 5-point Likert scale (1=strongly disagree; 5=strongly agree) and a multiple-choice item.

The social-demographic form includes students’ age, gender, school year, and caregivers’ professional status.

A preliminary analysis of the psychometric properties of the questionnaire – construct validity and internal consistency – was conducted with a sample of 239 students aged between 12 to 14 years old (M=12.95; SD=0.88), 46.4% female. An exploratory factor analysis (EFA) suggested a 3-factor structure: 1) knowledge, 2) First Aid skills & help seeking, and 3) self-help strategies. Internal consistency, assessed with Cronbach’s alpha, revealed good reliability scores for the three dimensions: knowledge = 0.76; First Aid skills & help seeking = 0.78; self-help strategies = 0.73 (Campos et al., 2012).

Further study of the questionnaire, based on the results of the pilot study, allowed the development of the final version of the MHLq (Campos and Dias, in prep).

The Knowledge section comprised 32 items regarding prevalence and general characteristics of mental health problems, risk factors, symptoms of five mental disorders (Depression, Generalized anxiety disorder, Anorexia, Schizophrenia and Substance-related disorder), impact and stereotypes related to mental health problems. This section also includes one multiple-choice item, asking students to identify mental health problems from a list of eleven health problems.

The First Aid skills & help seeking section comprised 10 items, including issues regarding informal help seeking, formal help seeking, and First Aid skills.

The self-help strategies section included 6 items related to behaviours that can promote mental health.

Based on the psychometric analysis of the questionnaire (EFA and Cronbach’s alpha), 11 items were removed from the following analyses.

Mental health promotion intervention

The intervention was developed based on a literature review on mental health literacy and promotion, school based interventions and stigma towards mental health problems; a discourse content from four focus group sessions held with 34 students; the material produced during an anti-stigma campaign (www.encontrarse.pt/upa08); and the UPA Makes the Difference (Campos et al., 2012) project’s material.

The mental health promotion intervention is organized in two sessions (90 minutes each), implemented with one-week interval. The intervention was conducted by a graduate psychologist and one master’s level psychology student. The first session includes:

- the presentation of the project and establishment of group rules
- the exploration of students’ knowledge and beliefs about physical and mental health and illness
- the exploration of mental health problems’ signs, their impact and risk factors
- the identification of symptoms and signs of five mental disorders – Depression, Generalized anxiety disorder, Anorexia, Schizophrenia and Substance-related disorder
• the promotion of non-stigmatized behaviours towards mental disorders.

The second session aims:
• to explore beliefs related to mental disorders
• to raise students’ awareness of mental health problems and their impact
• to identify formal and informal help-seeking options
• to promote First Aid skills towards people with mental health problems, and address self-help strategies (mental health promoting behaviours).

Both sessions follow an interactive methodology (e.g. group dynamics, videos, and music), using materials, language, and strategies specifically developed taking into account this target-group.

Procedures
The Portuguese Ministry of Education and the Portuguese Data Protection Authority authorized data collection. Informed consent was given by students’ caregivers and by students prior to their inclusion in the project.

Pre-intervention assessment was conducted one week prior to the implementation of the first session, and post-intervention assessment occurred one week after the second one. School teachers collaborated in this task.

The sessions were scheduled to fit students’ timetable, and delivered in their classrooms.

Data analysis
Data was analyzed with IBM SPSS 21.0. Descriptive statistics were used for socio-demographic characterization, knowledge, First Aid skills and help seeking, and self-help strategies; Paired Samples t Tests and Wilcoxon Signed Rank Tests were performed in order to assess pre-post intervention differences.

A mean score was obtained for each section of the questionnaire (total scores per section/number of items). The values obtained range from 1-5, and higher scores refer to higher mental health literacy. Seven knowledge items and one First Aid skills & help-seeking item were reverse-coded for calculating factor scores, since they are negatively phrased items.

A McNemar test was used to test pre-post differences in mental health problems identified on the multiple-choice item.

An alpha of 0.05 was used for statistical significance.

Results
Knowledge
There were significant differences between the mean value before (M=3.92; SD=0.30) and after (M=4.29; SD=0.23) the mental health promotion intervention (t(45)=-8.67; p<0.001). A detailed analysis shows significant differences in 12 items of the knowledge section (see Table 1).

Concerning stereotypes, on post-intervention, significant differences were associated to those items with higher levels on pre-intervention, namely item 8 (M=2.17; SD=0.99 – pre-test; M=1.48; SD=0.80 – post-test; Z=-4.52; p<0.001), item 9 (M=2.23; SD=0.90 – pre-test; M=1.61; SD=0.95; Z=-3.89; p<0.001), and item 38 (M=2.67; SD=1.15 – pre-test; M=1.70; SD=1.03 – post-test; Z=-4.65; p<0.001).

Table 2 presents the percentage of students that, from a list of 11 health conditions, considered them mental health problems. There was a significant decrease of physical problems and disabilities identified by participants, from pre to post-intervention, as mental health problems (Down’s syndrome, Parkinson’s disease and Cerebral palsy). On the other hand, there was a significant increase in mental disorders adequately recognized (Depressive disorder and Generalized anxiety).

First Aid skills and help seeking
There was a significant increase from pre (M=4.19; SD=0.58) to post-intervention (M=4.44; SD=0.49) students’ scores on First Aid skills & help seeking [t(61)=-3.26; p<0.001]. A detailed analysis shows significant differences in five items of the First Aid skills and help-seeking section, two of which were the lowest in the pretest [items 17 and 43 (see Table 3)].

Self-help strategies
Results showed a significant increase of self-help strategies (M=4.19; SD=0.48 – pre-test; M=4.65; SD=0.41 – post-test; t(62)=-5.79; p<0.001).

A detailed analysis shows significant differences in almost all items of the self-help strategies section except on item 25 (see Table 4).

Discussion
This article presented results from the pilot study of a larger project aimed to promote mental health in adolescents. At pre-test, participants showed high-level scores in the
three sections of the Mental Health Literacy questionnaire. Participants of this study attended a private school and 91.4% of their caregivers were employed. School setting, combined with a very high rate of employment of caregivers, are indicative of a higher socio-economic background. Both of these features may partially explain the results in the pre-test. Literature suggests a significant impact of socio-economic background in knowledge related to mental health (von dem Knesebeck et al., 2012; Campos et al., 2013).

Results from the pre-intervention assessment are also in line with international data suggesting that higher levels of knowledge related to mental disorders are associated with reduced stereotypes (Addington et al., 2012; Jorm, 2012). These levels of knowledge and stereotypes are related to:

a) an increased capacity of young people to seek help and to know where to get this support (Jorm, 2012; WHO, 2010)
b) the development of more appropriate mental health promoting behaviours
c) an increased capacity to seek information about mental health (Jorm; 2012; Bourget Management Consulting, 2007)
d) a greater motivation to help (Pinfold et al., 2005; Jorm, 2012; Loureiro et al., 2013; WHO, 2010).

Furthermore, these results confirm that stereotypes in young people are still not completely consolidated and seem to be less negative when compared to adults (Corrigan and Watson, 2002; Farrer et al., 2008).

Despite the fact that these students showed high overall scores in the mental health literacy questionnaire, the item analysis highlights relevant information gaps on the items related to the prevalence of mental health problems and the identification of Down’s Syndrome, Cerebral Palsy and Parkinson’s Disease as mental health problems. This difficulty in differentiating mental disorders from physical disabilities has also been referred in other studies (Jorm et al, 1997).

Focusing on the impact of the intervention, results from the post-intervention assessment showed a significant increase on knowledge, First Aid skills and help seeking, and self-help strategies.

A detailed analysis of the knowledge section showed increased results in items presenting lower levels at the pre-intervention assessment (in particular item 1 in 5 people will develop a mental disorder at some point in their lives – in which participants scored the lowest in the pre-test and the highest in the post-test assessment). Regarding the stereotypes, there was a significant decrease on items presenting the highest values in the pre-test.

Concerning the multiple-choice items, there was a significant increase in the percentage of participants who identified depression and anxiety as mental disorders, and a significant decrease in the identification of Down’s syndrome, Cerebral Palsy and Parkinson’s disease as mental disorders. An unexpected result relates to the significant decrease in the identification of mental retardation as a mental disorder. This result shows the complexity related to this issue and highlights the need for a different approach when discussing this disorder during the intervention.

Regarding First Aid skills and help-seeking, results showed a significant increase, from pre- to post-intervention, particularly in items presenting lower levels at pre-intervention.

Finally, regarding self-help strategies, even though results at pre-intervention were already high, participants showed a significant increase in this dimension.

Although the intervention showed itself to be adequate to reach the purposed goals, improvements will be made and contextual specificities will be taken into account, such as the socio-economic background of students.

In conclusion, the present study showed the key importance of conducting a pilot study with the target groups when developing an intervention tailored to increase mental health literacy in young people (Campos, 2013).

Acknowledgment
The authors would like to thank the support from Ana Duarte (research assistant), Elisa Veiga (research team member) and the school where data collection took place – its board, teachers, and students.

References


Tables 1-4 are on pages 28-29
Table 1. Significant differences between pre-test and post-test on Knowledge’s items.

<table>
<thead>
<tr>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td>1. 1 in 5 people will develop a mental disorder at some point in their lives</td>
<td>69</td>
</tr>
<tr>
<td>6. A person with depression feels very sad</td>
<td>70</td>
</tr>
<tr>
<td>7. A person dependent on alcohol feels bad when not using</td>
<td>70</td>
</tr>
<tr>
<td>10. People with schizophrenia usually have delusions (i.e., may believe they are being persecuted and observed)</td>
<td>70</td>
</tr>
<tr>
<td>15. Mental disorders don’t affect people’s behavioursa</td>
<td>70</td>
</tr>
<tr>
<td>20. A person with anxiety disorder may panic in situations that she/he fears</td>
<td>70</td>
</tr>
<tr>
<td>23. Alcohol use may cause mental disorder</td>
<td>70</td>
</tr>
<tr>
<td>24. Mental disorders don’t affect people’s feelingsa</td>
<td>70</td>
</tr>
<tr>
<td>33. One of the symptoms of depression is the loss of interest or pleasure in normally enjoyable activities</td>
<td>70</td>
</tr>
<tr>
<td>34. A person with anxiety disorder avoids situations that may cause her/him distress</td>
<td>70</td>
</tr>
<tr>
<td>35. People dependent on drugs feel bad when they don’t use it</td>
<td>70</td>
</tr>
<tr>
<td>39. Drugs use may cause mental disorders</td>
<td>70</td>
</tr>
<tr>
<td>40. Mental disorders affect people’s thoughts</td>
<td>70</td>
</tr>
<tr>
<td>41. Anorexia involves great weight loss</td>
<td>70</td>
</tr>
<tr>
<td>45. A person with schizophrenia may see and/or hear things that nobody else sees/hears</td>
<td>70</td>
</tr>
<tr>
<td>48. Highly stressful situations may cause mental disorders</td>
<td>70</td>
</tr>
</tbody>
</table>

**Stereotypes**

8. People with mental disorders are less intelligentb | 70 | 2.17 (0.99) | 64 | 1.48 (0.80) | -4.52** |
9. Only some people may be affected by mental disorderb | 70 | 2.23 (0.90) | 64 | 1.61 (0.95) | -3.85** |
21. People with mental disorders come from families with little moneyb | 70 | 1.37 (0.78) | 64 | 1.33 (0.59) | -0.21 |
26. Only adults have mental disorderb | 70 | 1.47 (0.61) | 64 | 1.31 (0.69) | -1.48 |
38. Depression is not a true mental disorderb | 70 | 2.67 (1.15) | 64 | 1.70 (1.03) | -4.65** |

* p<.05  
**p<.001  
a reverse-coded item  
b item coded on its original form  
1 Taking into account stereotypes as a result of misconceptions regarding to mental health issues, this analysis consider items on their original form (not recoded), whereupon higher mean values correspond to higher level of stereotypes.

Table 2. Differences between pre-test and post-test related to health problems considered, by participants, as mental health problems.

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
<th>P*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Depressive disorder</td>
<td>55</td>
<td>78.6</td>
<td>61</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>60</td>
<td>85.7</td>
<td>55</td>
</tr>
<tr>
<td>Anorexia</td>
<td>54</td>
<td>77.1</td>
<td>55</td>
</tr>
<tr>
<td>Generalized anxiety</td>
<td>37</td>
<td>52.9</td>
<td>53</td>
</tr>
<tr>
<td>Substance-related disorder</td>
<td>46</td>
<td>65.7</td>
<td>44</td>
</tr>
<tr>
<td>Trauma</td>
<td>46</td>
<td>65.7</td>
<td>35</td>
</tr>
<tr>
<td>Trisomy 21 (Down’s Syndrome)</td>
<td>42</td>
<td>60.0</td>
<td>24</td>
</tr>
<tr>
<td>Mental retardation</td>
<td>51</td>
<td>72.9</td>
<td>21</td>
</tr>
<tr>
<td>Parkinson’s disease</td>
<td>29</td>
<td>41.4</td>
<td>13</td>
</tr>
<tr>
<td>Cerebrovascular accident</td>
<td>14</td>
<td>20.0</td>
<td>10</td>
</tr>
<tr>
<td>Cerebral palsy</td>
<td>31</td>
<td>44.3</td>
<td>9</td>
</tr>
</tbody>
</table>

*McNemar Test  
p<.05  
### Table 3. Significant differences between pre-test and post-test on First Aid skills and help seeking section items.

<table>
<thead>
<tr>
<th>Item</th>
<th>Pre-test N</th>
<th>Mean (SD)</th>
<th>Post-test N</th>
<th>Mean (SD)</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. If a friend of mine developed a mental disorder, I would offer her/him support</td>
<td>63</td>
<td>4.52(0.69)</td>
<td>63</td>
<td>4.78(0.66)</td>
<td>-2.81*</td>
</tr>
<tr>
<td>12. If I had a mental disorder I would seek for help from my family</td>
<td>68</td>
<td>4.46(0.87)</td>
<td>64</td>
<td>4.44(0.94)</td>
<td>-0.56</td>
</tr>
<tr>
<td>14. If a friend of mine developed a mental disorder, I would encourage her/him to look for a psychologist</td>
<td>70</td>
<td>4.29(0.85)</td>
<td>64</td>
<td>4.48(0.69)</td>
<td>-1.47</td>
</tr>
<tr>
<td>17. If a friend of mine developed a mental disorder, I would talk to her/his parents</td>
<td>64</td>
<td>3.78(1.08)</td>
<td>64</td>
<td>4.17(1.08)</td>
<td>-2.45*</td>
</tr>
<tr>
<td>19. If I had a mental disorder I would seek for professional help (psychologist and/or psychiatrist)</td>
<td>70</td>
<td>4.30(0.81)</td>
<td>64</td>
<td>4.28(0.86)</td>
<td>-0.17</td>
</tr>
<tr>
<td>22. If a friend of mine developed a mental disorder, I would listen to her/him without judging or criticizing</td>
<td>63</td>
<td>4.16(0.99)</td>
<td>63</td>
<td>4.56(0.67)</td>
<td>-3.03*</td>
</tr>
<tr>
<td>29. If a friend of mine developed a mental disorder, I would encourage her/him to get medical support</td>
<td>70</td>
<td>4.24(0.77)</td>
<td>64</td>
<td>4.38(0.79)</td>
<td>-1.38</td>
</tr>
<tr>
<td>31. If I had a mental disorder I would seek for help from my friends</td>
<td>70</td>
<td>4.13(0.96)</td>
<td>64</td>
<td>4.30(0.85)</td>
<td>-1.54</td>
</tr>
<tr>
<td>36. If a friend of mine developed a mental disorder, I wouldn’t be able to help her/him a reverse-coded item</td>
<td>64</td>
<td>4.08(1.10)</td>
<td>64</td>
<td>4.39(1.03)</td>
<td>-2.10*</td>
</tr>
<tr>
<td>43. If a friend of mine developed a mental disorder, I would talk to the form teacher or other teacher</td>
<td>64</td>
<td>3.75(1.07)</td>
<td>64</td>
<td>4.33(0.86)</td>
<td>-4.20**</td>
</tr>
</tbody>
</table>

* p<.05  
** p<.001  
a reverse-coded item

### Table 4. Significant differences between pre-test and post-test on Self-help strategies' items.

<table>
<thead>
<tr>
<th>Item</th>
<th>Pre-test N</th>
<th>Mean (SD)</th>
<th>Post-test N</th>
<th>Mean (SD)</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Physical exercise helps to improve mental health.</td>
<td>70</td>
<td>4.20(0.94)</td>
<td>64</td>
<td>4.83(0.52)</td>
<td>-4.07**</td>
</tr>
<tr>
<td>18. Good sleep helps to improve mental health.</td>
<td>70</td>
<td>4.39(0.64)</td>
<td>64</td>
<td>4.70(0.53)</td>
<td>-3.47**</td>
</tr>
<tr>
<td>25. The sooner mental disorders are identified and treated, the better.</td>
<td>70</td>
<td>4.43(0.79)</td>
<td>64</td>
<td>4.63(0.58)</td>
<td>-1.35</td>
</tr>
<tr>
<td>32. Having a balanced diet helps to improve mental health.</td>
<td>70</td>
<td>3.91(1.00)</td>
<td>64</td>
<td>4.61(0.70)</td>
<td>-4.69**</td>
</tr>
<tr>
<td>44. Doing something one enjoys helps to improve mental health.</td>
<td>70</td>
<td>4.24(0.73)</td>
<td>64</td>
<td>4.66(0.67)</td>
<td>-3.34**</td>
</tr>
<tr>
<td>46. Talking over problems with someone helps to improve mental health.</td>
<td>69</td>
<td>4.17(0.77)</td>
<td>64</td>
<td>4.52(0.69)</td>
<td>-2.84*</td>
</tr>
</tbody>
</table>

* p<.05  
** p<.001

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**Education and Health**

The journal, published by SHEU since 1983, is aimed at those involved with education and health who are concerned with the health and wellbeing of young people. Readership is worldwide and in the UK include: primary; secondary and further education teachers; university staff and healthcare professionals working in education and health settings. The journal is online and open access, continues the proud tradition of independent publishing and offers an eclectic mix of articles.

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