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Help-seeking behaviour following school-based screening for current suicidality among European adolescents

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Abstract

Purpose To screen and clinically interview European adolescents reporting current suicidality (suicidal ideation and suicide attempt) and investigate attendance at the clinical interview.

Methods The Saving and Empowering Young Lives in Europe (SEYLE) Project was carried out in 11 European countries. A baseline questionnaire was completed in school by 12,395 adolescents (mean age 14.9; SD 0.9). Those who screened positive for suicidality (attempting suicide and/or serious suicidal ideation or plans) in the past 2 weeks were invited to a clinical interview with a mental health professional.

Results Of the 12,395 adolescents, 4.2 % ($n = 516$) screened positive for current suicidality. The prevalence ranged from 1.1 % in Hungary to 7.7 % in Israel ($p < 0.001$). 37.6 % ($n = 194$) of those who screened positive subsequently attended the clinical interview. Female students were more likely to attend for interview (42.0 % versus 30.6 %, $p = 0.010$). The attendance rate varied considerably across countries, from 5.7 % in Italy to 96.7 % in France ($p < 0.001$). Improved attendance was associated with using school as the only interview setting (Mean attendance rate, MAR = 88 vs. 31 %, $p = 0.006$) and arranging the interview within 1 week of contacting the student (MAR = 64 vs. 23 %, $p = 0.013$). The greater the travel time to interview, the lower the attendance rate (Pearson's $r = -0.64$, $p = 0.034$). Independent of the

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variation by country, at the individual level, adolescents with more depressive symptoms and a recent suicide attempt more often attended for interview.

Conclusion A high rate of current suicidality was found amongst European adolescents. However, the majority of these displayed limited help-seeking behaviour. Future studies should investigate ways of making screening programmes and other interventions more acceptable and accessible to young people, especially young males.

Keywords Suicidality · Adolescents · Screening · Help-seeking · SEYLE

Introduction

Suicide is the second leading cause of adolescent death in Europe [1], third in the US [2] and fourth globally [3]. In Europe, the annual suicide rate for 15–19 year olds is 4.8 per 100,000 [4]. In a large epidemiological survey conducted in the US, 13.8 % of high school students seriously considered attempting suicide and 6.3 % attempted suicide at least once in the previous year [5]. These numbers were confirmed by a systematic review of the international literature that has shown that the mean proportion of adolescents reporting suicidal thoughts and suicide attempts in the previous year was 19.3 and 6.4 % respectively [6].

The majority of adolescents engaging in suicidal behaviour represent a hidden population who do not receive professional help. According to data from the 2009 Youth Risk Behavior Survey (YRBS), less than 2 % of those who attempted suicide in the last year were seen by a doctor or a nurse [5]. A number of European population-based studies have shown that only 10–20 % of young people who engaged in deliberate self harm received help from the health services [7–10]. This reluctance to seek

professional help is not limited to those who attempt suicide, rather it is also found amongst those with suicidal ideation and related mental health difficulties [11–16].

School-based screening for suicidal behaviour is potentially a useful means of identifying those at-risk and increasing the number of suicidal young people who come into contact with the health services [17–19]. The available screening programmes have adopted a two-stage process [20]. In the first phase, a screening instrument is used to identify those at-risk, followed by an in depth clinical assessment for those who screen positive [21]. In the US, screening has been recommended by the Surgeon General [22], the Institute of Medicine [23] and the President's New Freedom Commission [24] and research has increased accordingly over the past decade. By contrast, little research exists on this issue amongst European adolescents. Much of the research conducted in North America on school-based screening has focused on the development of psychometrically valid screening instruments capable of accurately identifying suicidal adolescents. This has included the development of instruments, such as the Columbia Suicide Screen [25], the Risk of Suicide Questionnaire [26] and the Suicide Risk Screen [27]. By contrast, much less has been said in the literature about the clinical assessment phase, including attendance at assessment and potential factors impacting upon attendance at the assessment phase.

To our knowledge, the Saving and Empowering Young Lives in Europe (SEYLE) study is the first study to evaluate standardised school-based suicide and risk-behaviour preventative interventions in European countries [28]. Part of the randomised controlled trial of different preventive programmes in the SEYLE project included an in-school screening for current suicidality (suicidal ideation and suicide attempt) followed by a clinical interview for those who screened positive. The specific objectives of this paper were to: (1) establish the prevalence of young people reporting current suicidality; (2) establish the rate of attendance at a subsequent clinical interview and reasons for non-attendance; and, (3) identify differences between interview attendees and non-attendees and the factors that influenced attendance.

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Methods

Participants and procedures

The SEYLE study is a Randomised Control Trial (RCT), designed to establish the comparative efficacy of three school-based suicide and risk-behaviour preventative interventions. It has been registered at the German Clinical Trials Register (DRKS00000214). A detailed account of

the methodology and interventions employed in this study has been described previously [28]. SEYLE was implemented in 11 countries across Europe, including Austria, Estonia, Germany, France, Hungary, Ireland, Israel, Italy, Romania, Slovenia and Spain, with Sweden serving as the coordinating centre. In each country, mixed gender post-primary schools were randomly selected within a pre-determined and representative study site [29].

In total, 296 schools were invited to participate in the project, of which 178 accepted, giving an overall response rate of 60 % (Fig. 1). Across the 178 participating schools 28,837 students and parents were invited to take part. During this phase, participants' and parents' consent was obtained for participation in the SEYLE assessments and all subsequent interventions and emergency procedures. A total of 14,115 students and parents consented to participate and an eventual 12,395 (mean age 14.9 years; SD 0.90) completed the initial baseline assessment (1,720 were absent when the questionnaire was administered). The overall student response rate was 43 %. To ensure representativeness of the study sample, main characteristics of the SEYLE samples were compared to the respective demographics taken from Eurostat Statistics Database. These data have recently been published in a SEYLE methodological paper [29] and indicated that the study sites were reasonably representative of their respective countries, thus allowing for in-country and between-country comparisons.

The final sample included 5,529 (44.9 %) boys and 6,799 (55.2 %) girls. Sixty-seven pupils did not report their gender. All participants completed a 60-to-90-min self-report questionnaire in a school-based setting. A verbal and written introduction explained the confidentiality (except when someone screened positive for current suicidality), and voluntary nature of participation. All participants were provided with information on appropriate helplines and agencies, dedicated to working with young people on a range of psychosocial issues.

Screening for current suicidality

All questionnaires were screened in situ for young people reporting current suicidality. Two specific questions, from the Paykel Suicide Scale [30] were used to identify those who may be at risk of suicidality. Pupils were considered to have screened positive if they responded 'sometimes', 'often', 'very often' or 'always' to the question "During the past 2 weeks, have you reached the point where you seriously considered taking your life or perhaps made plans how you would go about doing it?" and/or if they responded 'Yes' to the question 'Have you tried to take your own life during the past 2 weeks?' When a pupil answered yes to either or both of the abovementioned questions, they were considered to have screened positive for current suicidality. Follow-up of these students was initiated to offer them a clinical interview with a mental

Fig. 1 Flowchart depicting recruitment and participation of students in the SEYLE study and subsequent screening process
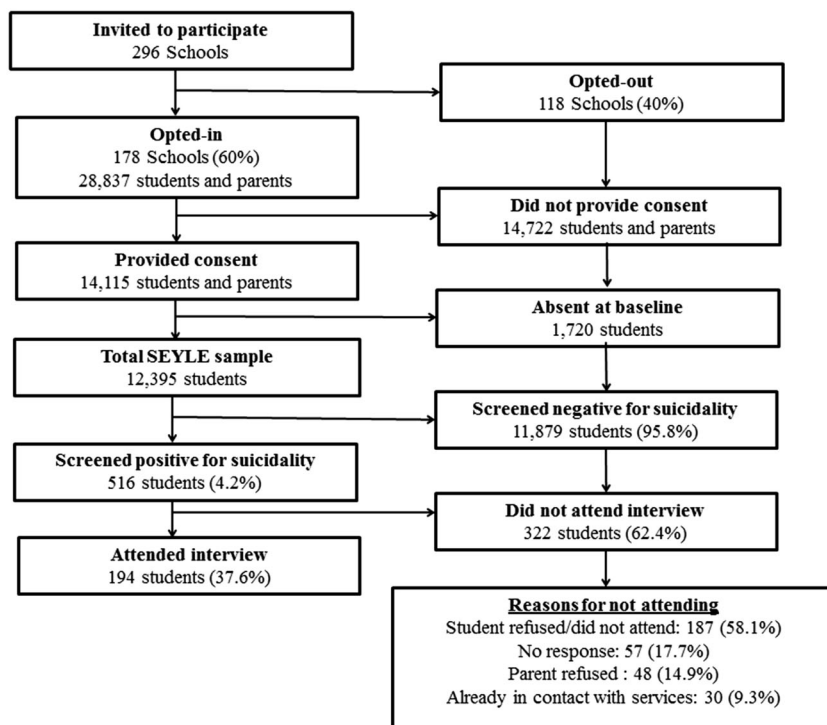
health professional, who was able to assess current risks and psychopathology and refer pupils at-risk to subsequent mental health care. All students and their parents had been informed of this process during the consenting procedure and prior to completing the questionnaire.

The screening process and the content of the clinical interview were standardised across all countries and performed according to a study protocol. However, the follow-up process and interview setting (school, study centre, and/or local health clinic) could vary depending on local regulations and resources. For example, some centres were obliged to inform parents about the clinical interview. Information on the follow-up process and interview setting was obtained by questionnaire and is detailed in Supplementary Table 1. Both student and parent(s)/guardian(s) were contacted in most countries. Phone call was the primary means of contact and participants received three phone calls on average. Further methods of contact—including email, SMS, letter and school nurse or counsellor—were employed by the majority of countries.

Measures

The self-report questionnaire administered at baseline assessment comprised the following internationally recognised scales:

A modified form of the Paykel Suicide Scale [30], a 4-item instrument, was used to measure suicidality. Students answered 'yes' or 'no' to having four levels of suicidal ideation, which differed in terms of severity (feeling that life is not worth living, wishing for death, thoughts of suicide without intent, and seriously considering or planning suicide). An additional item asked about a suicide attempt, during the past 2 weeks, which was answered as 'yes' or 'no'. Preliminary evidence has indicated that the PSS is an effective tool for screening purposes [31]. Participants who reported making a suicide attempt were asked if they had received medical care following the attempt.

The modified form of The Beck Depression Inventory II (BDI-II) [32], a 20-item measure, was used to measure depressive symptoms, during the past 2 weeks. One item, 'loss of libido', was omitted from the SEYLE questionnaire as it is considered to be an unsuitable question for an adolescent population in some cultural settings [33]. Ratings for the 20 items (rated 0–3) were summed together. The Cronbach alpha coefficient for the BDI-II, was 0.89, which is comparable to previous studies ($\alpha = 0.91$) [32].

The Zung Self-Rated Anxiety Scale (SAS) [34], a 20-item measure, was used to evaluate the frequency of state and trait anxiety symptoms, during the past two weeks. Ratings for the 20 items (rated 0–4) were summed together. The Cronbach alpha coefficient for the SAS was

0.89. Evidence for the validity of using the SAS with adolescents has recently been reported in our methodological paper [29].

The Strengths and Difficulties Questionnaire (SDQ) [35], comprises five, five-item subscales, which examine emotional symptoms, conduct problems, hyperactivity and/or inattention, peer relationship problems and prosocial behaviour, over the past 6 months. All of the subscale scores, except the prosocial behaviour scale, were summed together giving a total score for emotional and behavioural problems. The extended version of the SDQ was used, which includes the impact supplement, a measure of functional impairment or the extent to which problems cause impairment in everyday functioning. The impact supplement first measures difficulties in one or more of the following areas: emotions, concentration, behaviour or the ability to get along with other people. If a problem exists, further inquiry is made about chronicity, distress, social impairment, and burden to others due to these problems. The Cronbach alpha coefficient for the SDQ was 0.74.

The WHO Well-being Scale (WHO-5) [36] comprises five items which assess positive mood, vitality and general interest, during the past 2 weeks. The raw score ranges from 0 to 25 with 0 representing worst possible and 25 representing best possible quality of life. The WHO-5 has been shown to provide reliable assessment of adolescents' quality of life [29, 37]. The Cronbach alpha coefficient for the WHO-5 in our study was 0.80.

An adapted, 6-item version of the Deliberate Self-Harm Inventory (DSHI) [37] was used to determine a lifetime history of direct self-injurious behaviour (D-SIB). This measure has previously been reported to provide reliable and valid assessment of D-SIB amongst this age group [38].

All questionnaires were administered in the official language(s) of the respective country. The translation and adaption process involved professional translators as well as experienced researchers and clinicians who were native speakers of the respective language. Cultural adaption, where necessary, was documented and sent to the translation coordinator of the SEYLE project for approval. This procedure aimed to make sure that cultural adaptation never changed the core structure and content of each assessment instrument [38]. Reliability of the translated versions of the instruments was good to very good and was published previously [29].

Data analysis

Descriptive statistics were calculated to characterise those who screened positive. The number of students who screened positive and those students who attended the clinical interview were described for the sample as a whole

and for each country separately. For further analyses, the sample was divided into the following groups: screened positive versus screened negative; and did versus did not attend clinical interview. Mean values (M) and confidence intervals were (CI) calculated for dimensional variables in each group. The groups were subsequently compared by independent-samples t tests and Cohen's d was calculated as a measure of effect size. Sample sizes (N) and percentages (%) were calculated for categorical variables, and the abovementioned groups were compared using Chi square analysis. Cramer's V was calculated to establish effect size. Stepwise multivariate logistic regression was carried out to identify the factors associated with interview attendance. The resultant associations were described using odds ratios and their 95 % confidence intervals and p values. Nagelkerke's R square statistic was reported as a measure of the variation in attendance rate explained.

Results

Of the 12,395 students who participated, 516 (4.2 %) screened positive for current suicidality. Seventy-six of these students (14.7 %) reported that they tried to take their own life in the past 2 weeks. The other 440 (85.3 %) reported seriously considering taking their life without having made an attempt. Twenty-one of the 76 who reported making a suicide attempt in the past 2 weeks (27.6 %) indicated that they received medical care after the attempt.

The proportion of females was higher amongst those who screened positive than amongst those who screened negative (61.8 vs. 54.9 %; $\chi^2 = 9.55$, $df = 1$, $p = 0.002$, $V = 0.028$). Those who screened positive more often reported a history of D-SIB. They had significantly higher levels of depressive symptoms, anxiety symptoms, emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems and lower levels of well-being and prosocial behaviour (all $p < 0.001$).

The participation of students in the screening process is described in Fig. 1. Of the 516 who screened positive, 37.6 % ($n = 194$) attended the clinical interview. The students' unwillingness to attend was by far the most common reason (58.1 %) why the interview was not conducted. Parental refusal was the reason why a further 14.9 % were not interviewed. In 17.7 % of cases, efforts to contact the student received no response. Almost one in ten (9.3 %) were not interviewed as they were already in contact with mental health services.

There was a sevenfold difference in the prevalence of students screening positive for suicidality when examined by country ($\chi^2 = 121.45$, $df = 10$, $p < 0.001$, $V = 0.099$), ranging from 1.1 % in Hungary to 7.7 % in Israel (Table 1). The proportions attending for interview showed

Table 1 Students screening positive for current suicidality and attending interview by country

Country	Total sample	Screened positive		Attended interview	
	N	n	%	n	%
Austria	960	36	3.8	7	19.4
Estonia	1,038	23	2.2	16	69.6
France	1,007	61	6.1	59	96.7
Germany	1,444	96	6.6	14	14.6
Hungary	1,009	11	1.1	6	54.5
Ireland	1,112	45	4.0	14	31.1
Israel	1,285	99	7.7	20	20.2
Italy	1,195	35	2.9	2	5.7
Romania	1,143	26	2.3	5	19.2
Slovenia	1,173	45	3.8	20	44.4
Spain	1,029	39	3.8	31	79.5
Total	12,395	516	4.2	194	37.6

even greater variation by country ($\chi^2 = 191.53$, $df = 10$, $p < 0.001$, $V = 0.608$). Those who screened positive were most likely to attend the clinical interview in France (96.7 %) and least likely to attend in Italy (5.7 %).

There was some evidence that the follow-up process and interview setting influenced the attendance rate. Improved attendance was associated with using the school as the only interview setting (Mean attendance rate, MAR = 88 vs. 31 %, $t = 3.62$, $df = 9$, $p = 0.006$, Cohen's $d = 3.61$) and arranging the interview within 1 week of contacting the student (MAR = 64 vs. 23 %, $t = 3.10$, $df = 9$, $p = 0.013$, Cohen's $d = 3.10$). In addition, the greater the travel time to interview, the lower the attendance rate (Pearson's $r = -0.64$, $p = 0.034$).

Compared to students who screened positive but did not attend for clinical interview, attendees had significantly higher levels of depressive symptoms, anxiety symptoms, emotional symptoms, hyperactivity/inattention, peer relationship problems and functional impairment (Table 2). They had higher levels of prosocial behaviour, a higher proportion was female and more had a history of D-SIB. The groups did not differ in terms of age, well-being, conduct problems, the SDQ total score, a history of suicide attempts and current suicidal behaviour.

Country was the first variable selected in the stepwise multivariate logistic regression of interview attendance (Table 3) and explained a high degree of the variation in attendance (Nagelkerke's R square = 0.485). Two individual factors were selected into the model, suicide attempt in the past 2 weeks and level of depressive symptoms. A recent suicide attempt and greater depressive symptoms were associated with attending the interview. However, the small increase in Nagelkerke's R square to 0.505 indicated

Table 2 Comparison of interview attendees with non-attendees

Variable[a]	Mean (95 % CI)		p	D
	Attendees n = 194	Non-attendees n = 322		
Age	15.0 (14.9–15.1)	15.1 (15.0–15.2)	0.545	0.06
Depressive symptoms (BDI-II)	24.4 (22.8–25.9)	20.0 (18.7–21.3)	<0.001	0.38
Anxiety symptoms (SAS)	45.1 (43.7–46.5)	42.6 (41.5–43.7)	0.007	0.26
Emotionalsymptoms (SDQ)	5.7 (5.3–6.0)	4.7 (4.4–4.9)	<0.001	0.40
Conduct problems (SDQ)	3.4 (3.1–3.7)	3.6 (3.4–3.8)	0.308	0.09
Hyperactivity/inattention (SDQ)	5.1 (4.8–5.4)	4.6 (4.4–4.9)	0.029	0.20
Peer relationship problems (SDQ)	2.9 (2.6–3.2)	3.3 (3.0–3.5)	0.056	0.18
Prosocial behaviour (SDQ)	7.4 (7.1–7.7)	6.9 (6.6–7.1)	0.009	0.24
Emotional and behavioural problems (SDQ total)	17.0 (16.3–17.8)	16.1 (15.5–16.8)	0.072	0.17
Functional impairment (SDQ impact)	2.4 (2.1–2.7)	1.8 (1.6–2.1)	0.005	0.26
Well-being (WHO-5)	43.4 (40.4–46.3)	41.6 (39.1–44.2)	0.398	0.08
	n (%)		p	V
Female gender	132 (68.8)	185 (57.6)	0.012	0.111
Lifetime history of SIB (DSHI)	91 (48.4)	108 (35.1)	0.003	0.132
Lifetime history of suicide attempt (PSS)	93 (49.5)	140 (44.7)	0.303	0.046
Severe Suicidal Ideation (PSS)	163 (84.5)	276 (85.7)	0.697	0.017
Suicide attempt in the past 2 weeks (PSS)	30 (15.9)	46 (14.7)	0.722	0.016

[a] All variables assess participants' current status except where stated

Table 3 Factors associated with interview attendance arising from stepwise multivariate logistic regression

	Odds ratio	(95 % CI)	p
Austria	0.33	(0.12–0.95)	0.041
Estonia	2.88	(0.90–9.20)	0.074
France	38.48	(8.19–180.81)	<0.001
Germany	0.18	(0.07–0.44)	<0.001
Hungary	1.71	(0.44–6.66)	0.440
Ireland	0.73	(0.27–1.97)	0.530
Israel	0.39	(0.15–1.00)	0.049
Italy	0.09	(0.02–0.43)	0.002
Romania	0.25	(0.07-0.94)	0.041
Slovenia	1.00	Reference	Group
Spain	4.78	(1.73–13.22)	0.003
Suicide attempt in the past 2 weeks (PSS)	2.40	(1.11–5.15)	0.025
Depressive symptoms (BDI-II)	1.03	(1.00–1.05)	0.026

that their contribution to explaining variation in interview attendance was limited.

Discussion

To our knowledge, this is the first report of screening and subsequent clinical assessment of adolescents for current suicidality across multiple European countries. The primary aim of the study was to increase understanding of screening adolescents who reported current suicidality and their subsequent attendance at clinical interview.

The prevalence of young people reporting current suicidality

Over four percent of the sample reported suicidality in the previous 2 weeks which is a relatively high prevalence estimate, considering that on average 6.4 and 19.3 % of adolescents report attempting suicide and having thoughts about suicide, respectively, during the previous year [6]. Furthermore, previous researchers have argued that some young people will only admit to suicidal thoughts or behaviours if anonymity is guaranteed [40–42]. With that, it is likely that this figure is an underestimate as young people in the SEYLE study were informed that by reporting current suicidality they would not remain anonymous. A much higher percentage (20–28 %) of students have been identified in previous suicide screening interventions; however, these programmes employed broader screening criteria, assessing suicidality and associated psychopathology for longer time frames [25, 43, 44]. The finding that almost three quarters of those who attempted suicide did not receive medical attention following their attempt further highlights the need for school-based suicide prevention initiatives amongst this group.

There was a sevenfold difference, across the 11 countries, in the prevalence of those reporting current suicidality, ranging from 1.1 % in Hungary to 7.7 % in Israel. A comparatively high prevalence was also found in Germany (6.6 %) and France (6.1 %). These reported prevalence rates can be categorised in terms of being high (6–7 %: Israel, Germany and France), middle (3–4 %: Austria, Ireland, Italy, Slovenia) and low (1–2 %: Hungary, Estonia, Romania). This coincides with previous studies that have found considerable variation in self-reported suicidality amongst young people across European countries [45, 46]. This variation may be due to actual cultural differences in level of suicidality or they may be better explained by cultural differences in the reporting of suicidality. Various possible hypotheses could be considered. One possible explanation is that in Israel, Germany and France it is easier for young people to report suicidality or there is greater motivation for them to do so whereas in the three Eastern European countries (Hungary, Estonia, Romania), it may currently be more difficult to report suicidality or there is less motivation to do so. It is likely that a considerable number of psychosocial factors would contribute to such an outcome. Overall though it is difficult to suggest reasons for these discrepancies and there is no clear hypothesis that can be relied upon to explain the differing patterns. This difficulty is further highlighted by the fact that a recent cross-sectional European survey of country differences in suicide attempts [45] found Hungary to have the highest prevalence—as opposed to the lowest in the current study. Further in depth investigations of reasons for cross-cultural differences in suicidal behaviour are warranted.

Attendance at clinical interview

Two-thirds of those who screened positive did not attend the clinical interview. Non-attendance was most often due to the fact that students or their parent(s)/guardian(s) were unwilling to engage with the service being offered. It is important to highlight that considerable efforts were made to try and get all young people reporting current suicidality to attend a clinical interview; however, the majority still did not attend. This further highlights the well-documented difficulties that exist with getting this population to engage with services [7–16]. These findings are likely to represent a 'real world' difficulty that suicide screening programmes and many other intervention programmes are likely to encounter.

This low attendance rate may not be surprising given that school-wide screening has previously been rated as the least acceptable suicide prevention strategy by students and school authorities [47–49]. Investigating means of adapting screening programmes to make them more acceptable will be important in future studies. The current study highlights a number of likely contributing issues.

A range of factors related to the screening, and more specifically the follow-up procedure, may have influenced attendance. 'Country' influenced whether a student attended to an overwhelming degree. Due to the limitations of our data (differences in terms of follow-up procedure and interview setting were conducted after the study was completed and at a country, as opposed to an individual level) it cannot be said exactly what it is about each country that had such an impact. However, it appears that the following were influential and warrant attention in future screening studies. Students were more likely to attend the clinical interview in countries where the interview was conducted at school (France and Spain were the only two countries that conducted interviews at 'school only' and their respective attendance rates of 96.7 and 79.5 % were markedly higher); when the interview was arranged within a week of the student being contacted; and where students did have to travel, that the distances were as little as possible. Put simply, it would seem that the easier it is made for students to attend, the more likely it is that they will attend. Thus, our results suggest that more efforts need to be undertaken to make mental health supports easily and quickly accessible to young individuals in acute need of help. That said there may also be other cultural issues at play (e.g. cultural differences in stigmatisation of mental health care).

A range of other systemic factors may have influenced participants' and their parents' willingness to engage. One such issue is the stigma attached to suicide and seeking access to mental health services [14, 16]. This may have been exacerbated by the fact that often the institution offering the clinical interview would have been unfamiliar to students and their families. This 'unfamiliarity' has been shown to influence whether help is accepted [52]. It has previously been argued that parents may be concerned about 'possible' iatrogenic risks of suicide screening [53, 54]. Anecdotal evidence, based on the parent information evenings provided as part of the SEYLE project, supports the idea that this may have been an obstacle for parents in the current study. Future research needs to further address the range of issues associated with non-attendance and how these can be overcome.

Finally, there is some evidence to suggest that individual factors may also have influenced the attendance rate. Attendees had higher levels of depressive symptoms, anxiety symptoms, emotional symptoms, hyperactivity/inattention, peer relationship problems, functional impairment and prosocial behaviour and more had a history of D-SIB. However, following the regression analysis only depressive symptoms and a recent suicide attempt were found to explain some of the variation found in attendance.

While this suggests that those who attended were, to some degree, worse off than those who did not attend [10], the extent to which depressive symptoms and a recent suicide attempt influenced attendance was limited in comparison to 'country'.

Gender differences

Girls were more likely than boys to feature at both stages of the screening process. The fact that the majority of those reporting current suicidality were girls is in line with previous studies which have found the prevalence of suicidal phenomena to be higher amongst adolescent girls [6, 13, 55–57]. In addition, previous studies that have screened young people for suicidality have also identified more girls than boys as being at-risk [41, 42].

Despite the fact that suicidal ideation and suicide attempts are more common in females, research has consistently shown that males are more likely to die by suicide [58–61]. The findings that girls were more likely to accept the offer of attending a clinical interview, for further assessment, provides one possible explanation for this gender paradox [58]. Females have been found to be more likely to seek and receive help for their psychiatric difficulties and as a result may be less likely to die by suicide [58, 59, 62, 63]. While the higher prevalence of girls identifying themselves and attending assessment may be indicative of higher levels of difficulties, it may also reflect poorer mental health literacy and an under-reporting of symptoms by their male counterparts [64–67].

Strengths and limitations

The major strength of this study is the large population-based sample which includes representative adolescent samples from 11 European countries. A further strength lies in the study's high level of ecological validity. The low attendance rate at clinical interview is most representative of this. That the student data were based on self-report questionnaires is a limitation of the study. In addition, a potential limitation is the fact that different study procedures (e.g. information of parents in case of positive screening) may have influenced how students answered the questions on suicidality. Another limitation is the fact that the data collected on country differences in the follow-up process following the screening and regarding the interview setting were at a country rather than an individual level. As a result, more complex statistical analysis of these data was not possible. Further shortcomings include achieving a response rate of 43 % from the students in the participating schools and not being able to collect data on non-participants which would have allowed an assessment of the generalisability of the findings.

Conclusion

A relatively high rate of current suicidality was found amongst European adolescents. However, the vast majority of these young people had little contact with the health services and showed limited help-seeking behaviour. That the majority of those identified, did not attend the clinical interview further highlights the difficulties of engaging these young people and their parent(s)/guardian(s). Future research needs to examine ways, at both an individual and systemic level, of making screening programmes more acceptable and accessible to this group. In terms of accessibility, it would seem that the level of engagement can be increased considerably by simply making it as easy as possible for the young person to attend the service. That is through conducting interviews at school or close to their home and arranging appointments as quickly as possible after making contact. Finally, boys seem to be less responsive to suicide screening initiatives. Investigating these issues amongst young males and adapting programmes accordingly will be important, given their higher risk of death by suicide.

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