



A school-based study of mental
health and suicide prevention

IN

IRELAND

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FOREWORD

**Dr Niall Muldoon,
Ombudsman for Children**

As Ombudsman for Children I am obliged to seek out the voices of children and to bring what they say to the highest levels of government so that they can live safe, fulfilled and happy lives every day. I am aware that Ireland's suicide rate across the whole population is currently slightly lower than average when compared to other European countries, ranking us 21st of 31. However, I am concerned that we rank fourth out of 31 when we compare rates for young people aged 15-19. This tells me that it is time we, as a society, redouble our efforts to help those young people struggling with poor mental health.

The role of the modern teenager is much more diverse and complicated than may have been the case in previous generations of Irish children. There has been great progress in society in many different areas that are important to young people, like talking about and promoting healthy sexuality, learning about and accepting the diversity of people, and having a greater understanding of wellbeing. Consequently, those leaving puberty are now afforded lots of opportunities to hear about a range of previously hidden issues. However, the proliferation of information is not always accompanied by the time, space and opportunity to process and discuss those issues as they relate to the individual child. Therefore, we still have many children and young people who are struggling to come to terms with the feelings going on inside them (good and bad). Thus, any positive mental health programme which can assist those young people and allow them to cope better with anxiety or depression, has to be welcomed – and even more so if it is properly evaluated and researched.

Nearly one quarter of the young people in the Irish part of this study had significant anxiety symptoms and 14% had significant depressive symptoms while almost 4% reported having attempted suicide at some time in their life. Unfortunately, those figures are representative of what we know about the state of mental health of our youth in general. It is important to take time to reflect that what this means is for every one hundred of our 14-17 year olds in schools, four of them have already attempted suicide.

Therefore the timeliness of this major study could not be better. The proper, scientific evaluation of a suicide prevention programme in our schools is long overdue and by completing this study all concerned have done a great service for the children and young people of Ireland. The import of having a reputable programme available to all schools is enormous. To know that by implementing such a programme a school can significantly reduce both suicidal thoughts and attempts should be a clarion call for all involved in education to ensure this happens in all the schools around the country.

I commend each and every person who worked on this report and especially all the teenagers who gave of themselves to aid in the quest for a better tomorrow for their peers who are suffering today.

EXECUTIVE SUMMARY

Globally, mental disorders are the largest cause of disability among those aged 10-24 years (1), with approximately half of all mental disorders emerging during adolescence, broadly the period between the ages of 12 and 18 (2-5). Suicide is one of the leading causes of death among young people (6) and in Ireland peak rates of hospital-treated self-harm are among 20-24 year old males and 15-19 year old females (7). *Connecting for Life*, Ireland's National Strategy to Reduce Suicide 2015-2020, has identified young people aged 15-24 as a priority group at whom to target approaches to reduce suicidal behaviour and improve mental health (Goal 3, page 29) (8).

Youth suicide prevention programmes are often based in a school setting. However, high-quality evidence has been limited, in both an Irish and international setting, to identify the true impact of suicide prevention interventions (9). In particular, no randomised controlled trials of school-based prevention programmes examining changes in suicidal behaviour had been conducted anywhere in Europe prior to the Saving and Empowering Young Lives in Europe (SEYLE) study.

In this report we present the research findings of the SEYLE study, a mental health-promoting programme for adolescents in European schools (10). The study participants, 11,110 adolescents aged between 14 and 17 years old, were recruited from randomly selected mainstream second-level schools in ten European countries. The study was a randomised controlled trial (RCT) that aimed to identify an effective method of promoting adolescent mental health and decreasing suicidal thoughts and behaviours. A second aim was to gather information on the lifestyles and mental health of adolescents in order to identify risk and protective factors associated with suicidal behaviour. In this report we present both overall findings of the multi-centre trial and detailed findings on the mental health and lifestyles of Irish youth using data from the Irish study centre. In addition, this report details a range of risk and protective factors associated with mental ill-health and suicidal behaviour in Irish adolescents.

The SEYLE trial identified one school-based intervention, Youth Aware of Mental Health (YAM), that was associated with a significantly lower number of subsequent suicide attempts and suicidal ideation compared to the control intervention (10). YAM is a brief, universal mental health awareness programme that was delivered in the classroom over a four-week period and includes role-play sessions, interactive lectures and workshops. The programme aimed to improve the mental health literacy and coping skills of young people, to raise awareness of risk and protective factors associated with suicide, and to enhance young people's knowledge about mental health issues such as depression and anxiety.

In Ireland, 1,112 adolescents from 17 schools in the Cork and Kerry region participated in the SEYLE study. The lifestyles and mental health of the Irish SEYLE participants were examined using data gathered as part of the SEYLE trial. While the majority of the Irish sample reported high levels of wellbeing and low levels of risk behaviours, 23.7% had anxiety symptoms suggestive of a possible disorder and 13.8% had depressive symptoms suggestive of disorder, based on self-report screening measures. Serious suicidal thoughts were reported by 7.0% of the adolescents and 3.6% reported having attempted suicide at some time in their lives, with rates of suicidal thoughts and behaviour very similar for boys and girls.

Rates of smoking, alcohol and drug use were low, but strong associations were found between these risk behaviours and levels of anxiety, depressive symptoms and suicidal behaviour. We identified several groups at elevated risk of mental ill-health, including young people who had been victims of sexual or physical assault, migrants, and adolescents with concerns about their sexual orientation. Lifestyle factors associated with lower levels of difficulties included engaging in frequent physical activity and getting adequate sleep, indicating a possible protective role of these behaviours. Positive relationships with peers and parents were also associated with better mental health.

The young people who participated in this research were asked how best adolescents could be encouraged to discuss their mental health. Participants highlighted the need for school-based individual support, in particular the need for guidance counsellors to be available for young people in distress. A second major theme that emerged from the responses was the need for enhanced universal programmes of mental health education.

The World Health Organisation's first report on suicide, entitled "Preventing Suicide: a Global Imperative" made recommendations highlighting the importance of both the identification of risk factors and the strengthening of the factors which increase resilience and protect against suicidal behaviour (11). Schools are in a unique position to promote mental health and emotional wellbeing, to provide a health-promoting environment and to identify young people experiencing emotional distress. The roll-out of evidence-based mental health awareness programmes in Irish schools should be undertaken as a matter of priority in order to develop mental health literacy, promote positive mental health and prevent suicide in this vulnerable group. As a society, we face an urgent need to enhance inter-disciplinary collaboration in policy and service provision in the area of youth mental health in order to promote wellbeing and prevent suicide among Irish adolescents.

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1. INTRODUCTION

Adolescent Mental Health

Adolescence refers to the period of life during which an individual makes the transition from childhood to adulthood, broadly denoting the age span between 12 and 18 years. Adolescence is a time of biological and social change and a period of life associated with increased vulnerability to mental health difficulties (12). Onset of mental disorders peaks during adolescence (13) and globally, mental disorders are the largest cause of disability among those aged 10-24 years (1). Disorders that frequently develop during this time include mood, anxiety, substance use, and psychotic disorders as well as suicidal behaviour (2-5, 14).

Depression and anxiety

Depressive and anxiety disorders are relatively common in adolescence. A large-scale UK study reported the prevalence of anxiety disorder among 11-15 year olds to be 4.6%, and the prevalence of depressive disorder to be 1.8% (15). In Ireland, the prevalence of anxiety and depressive disorders in the Challenging Times adolescent mental health study was 3.7% and 4.5% respectively (16). Both anxiety and depressive disorder in adolescence are associated with the development of suicidal behaviour and other mental disorders in adulthood (17, 18) as well as physical health problems, early parenthood, unemployment and poor educational attainment (17, 19). Anxiety and depressive disorders commonly co-occur during adolescence and both are more prevalent among girls than boys (18).

Suicidal behaviour

Suicidal behaviour consists of a complex range of experiences and actions including suicidal ideation, self-harm (which can involve varying methods, underlying motives and levels of suicidal intent), and suicide (14). Suicide is one of the leading causes of death among young people (6) and previous self-harm is the strongest predictor of suicide (20). From the age of 12 self-harm becomes increasingly common, particularly among girls (Figure 1.1) (7, 21). In 2015, the National Self-Harm Registry Ireland reported that the highest rates of hospital-treated self-harm were among young people with peak rates for males among 20-24 year olds and for females among 15-19 year olds (Figure 1.2) (7). Self-harm is largely a hidden behaviour and it has been estimated that, in Ireland, just 6% of self-harm episodes result in a presentation to hospital (22). Among Irish adolescents, it has been reported that girls were four times more likely than boys to report having harmed themselves and were twice as likely to present to hospital after an episode of self-harm. In contrast, boys were six times more likely to take their own life than girls (Figure 1.3) (22).

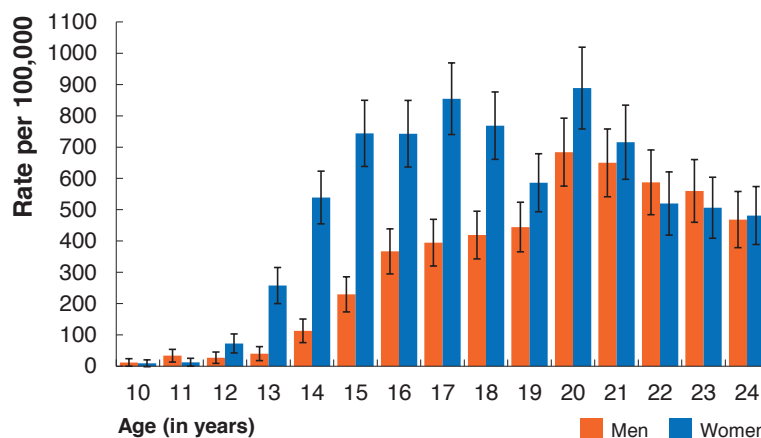


Figure 1.1. Incidence of hospital-treated self-harm among young people in Ireland (Griffin et al., 2016)

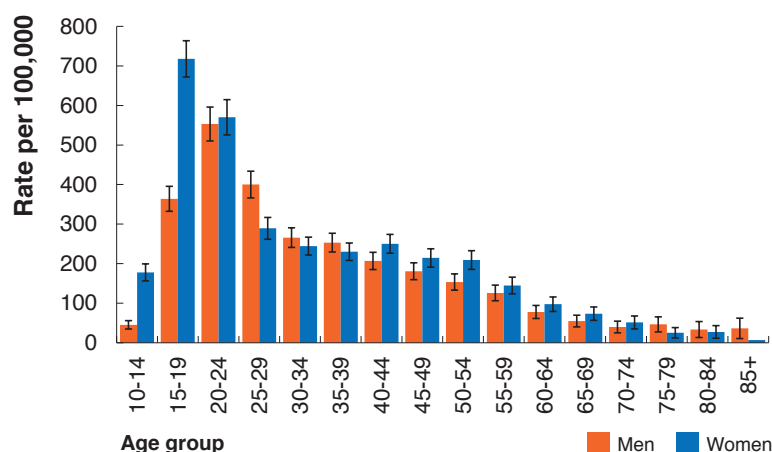


Figure 1.2. Incidence of hospital-treated self-harm in Ireland by age group (Griffin et al., 2016)

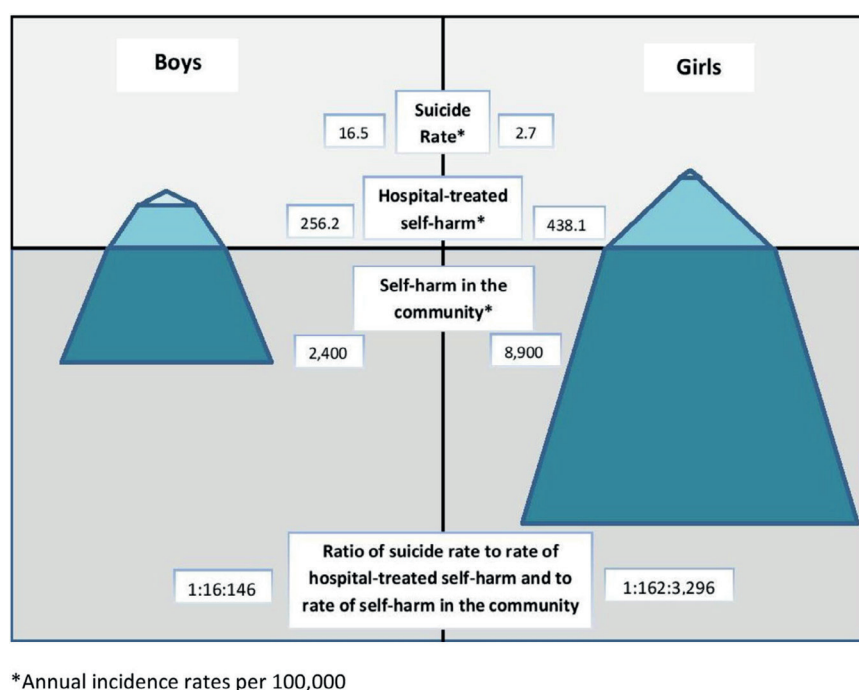


Figure 1.3. Relative incidence of self-harm and suicide among Irish adolescents aged 15-17 (McMahon et al., 2014)

Risk and protective factors

Mental disorders and suicidal behaviour in adolescence are a result of a combination of genetic, biological, psychological, social and cultural factors (17, 21, 23). Irish studies have identified elevated risk of mental disorders among females, among those of minority sexual orientation, and those reporting high levels of stressful life events (24). Healthy lifestyle choices promote mental wellbeing, including physical activity, sleeping well, a healthy diet, avoidance of alcohol and drugs, effective management of stress, healthy relationships and social contact (11). Notable risk factors for self-harm and suicide include low socio-economic status, experience of negative life events and adversity in childhood (21). Knowledge of factors that contribute to adolescent mental ill-health, self-harm and suicide is essential for the development of mental health promotion programmes (21).

Youth suicide prevention research

The authors of a recent review of the research evidence for suicide prevention interventions reported that high-quality evidence is limited, particularly in an Irish setting, and highlighted the need for randomised controlled trials to identify the true impact of suicide prevention interventions on suicidal behaviour (9). A number of positive effects have been reported when mental health promotion programmes have been implemented in Ireland, including increased awareness of positive mental health and supports available, and enhanced understanding of the needs of a young person showing signs of depression (25, 26). Although the national guidelines: *Wellbeing in Post Primary Schools: Guidelines for Mental Health Promotion and Suicide Prevention* (27) are in place, there is a need for evidence-based programmes which have been rigorously evaluated to be made available in all schools. Acknowledging these gaps in research evidence, one of the primary goals of *Connecting for Life*, Ireland's National Strategy to Reduce Suicide 2015-2020, is better evaluation of suicide prevention strategies, with an emphasis on universal approaches such as building resilience among young people (8).

School-based interventions

Connecting for Life has identified young people aged 15-24 as a priority group at whom to target approaches to reduce suicidal behaviour and improve mental health (8). Youth suicide prevention programmes are often based in the school setting as the majority of adolescents attend school. Universal prevention strategies are designed to reach the entire population and aim to promote positive mental health and help-seeking among all students and to encourage protective factors such as strong personal relationships and positive coping strategies (11). Selective prevention strategies target vulnerable groups through activities such as training of gatekeepers (for example school staff) to identify those in need of support, while indicated strategies target specific vulnerable individuals with appropriate services and support. Although interventions using each of these approaches have been implemented in schools, prior to the Saving and Empowering Young Lives in Europe (SEYLE) study, no large-scale randomised controlled trials of school-based prevention programmes examining suicidal behaviour had been conducted in Europe (28).

Objectives of the Young Lives in Ireland report

In this report we outline the research findings of the Saving and Empowering Young Lives in Europe study (SEYLE), a health-promoting programme for adolescents in European schools.

The report has two main objectives:

1. To present the findings of the multi-centre SEYLE trial that aimed to evaluate the effectiveness of school-based mental health-promoting interventions in a randomised controlled trial (RCT) in European schools.
2. To describe the lifestyles and mental health of the Irish adolescents who participated in the SEYLE study, including presenting findings on risk and protective factors associated with mental ill-health and suicidal behaviour.

2. THE SAVING AND EMPOWERING YOUNG LIVES IN EUROPE (SEYLE) STUDY

Objectives of the SEYLE study

The objectives of the SEYLE study were to evaluate the effectiveness of three school-based mental health-promoting interventions in a randomised controlled trial (RCT) and to gather information on the health and wellbeing of European adolescents. The project included adolescents between 13 and 17 years old recruited from randomly selected schools in 10 European countries (Austria, Estonia, France, Germany, Hungary, Ireland, Italy, Romania, Slovenia, and Spain) with Sweden acting as the coordinating centre.

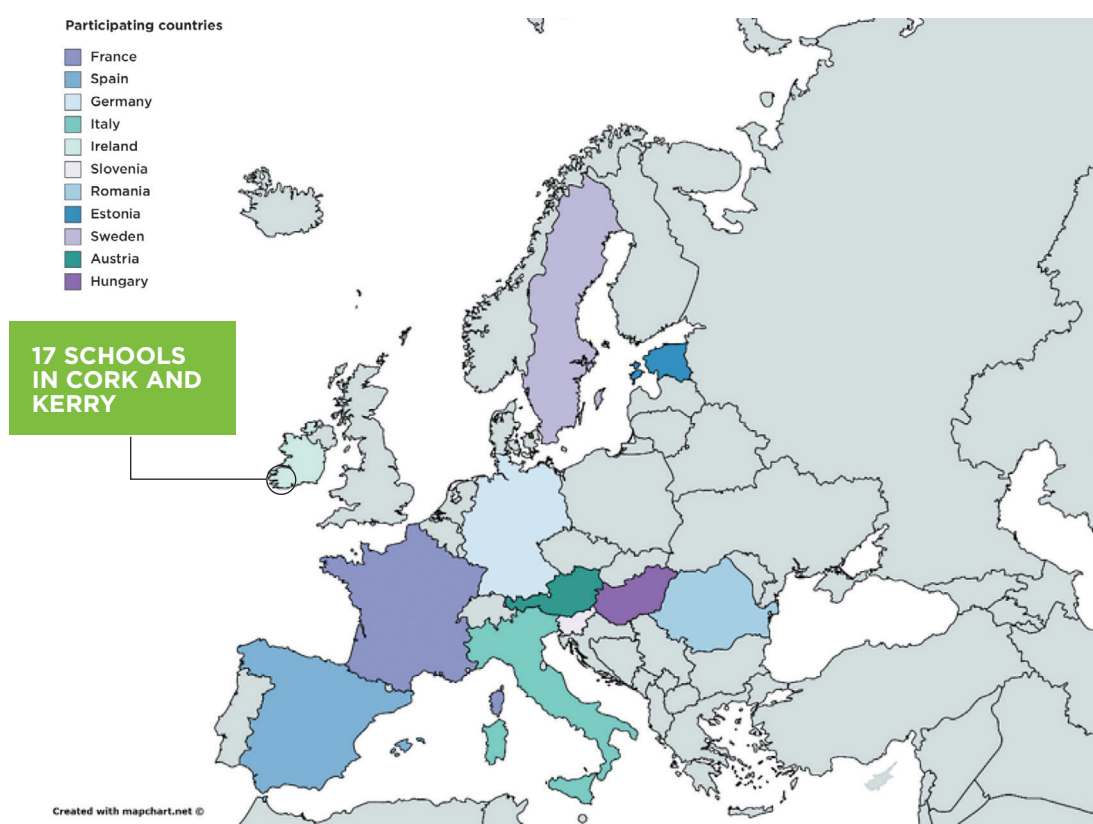


Figure 2.1. Map of Europe highlighting the countries with participating SEYLE centres

SEYLE in Ireland

In Ireland, the SEYLE study was carried out by the National Suicide Research Foundation in 2009 and 2010. The participating schools were in the Cork and Kerry region. Schools were randomly selected from a list of all mainstream, mixed sex public secondary schools in the region and invited to participate. Seventeen schools participated, with a mix of urban and rural schools included. In each school selected, every class in which at least 50% of the pupils were aged 14 years took part. In most cases the participating classes were in second year.

The SEYLE multi-centre trial

A randomised controlled trial (RCT) was conducted to identify an effective method of promoting mental health and decreasing suicidal thoughts and behaviours.

What is a Randomised Controlled Trial?

A randomised controlled trial (RCT) is a type of research study where participants are randomly allocated to receive an intervention or to be in a control group. The control group serves as a basis of comparison with the interventions being tested. The randomised controlled trial is considered the best type of study design to determine whether an intervention is effective. In the SEYLE study, each participating school was randomised to receive one of the three active interventions or the minimal (control) intervention. This type of study is known as a cluster-randomised controlled trial as all participants in each school were randomised together to the same arm of the trial.

In each of the participating countries three active interventions and one minimal (control) intervention were implemented. The primary objective of each of the interventions was to help young people and their parents in the early identification of mental health issues such as anxiety, depression, substance abuse, and suicide risk. The active interventions were: the Youth Aware of Mental Health programme (YAM), Question, Persuade, Refer (QPR), and Professional Screening (ProfScreen).

Interventions:

Youth Aware of Mental Health (YAM)

In the Youth Aware of Mental Health (YAM) programme, the study team worked directly with adolescents in the classroom setting to enhance their knowledge about mental health issues such as depression and anxiety and to raise their awareness of risk and protective factors associated with suicide. YAM also involved the development of skills to cope with stressful life events and suicidal behaviour. YAM included role-play sessions, interactive lectures and workshops, a booklet that each adolescent could take home, and educational posters displayed in each participating classroom. The programme took place over a 4-week period and took 5 hours in total.

Question, Persuade and Refer (QPR)

Question, Persuade and Refer (QPR) was a gatekeeper training module which trained teachers and other school personnel to recognise the signs of suicidal behaviour in young people and to respond positively and appropriately by communicating with the individual and encouraging them to seek professional help.

Professional Screening (ProfScreen)

In the Professional Screening intervention (ProfScreen), mental health professionals reviewed responses to a structured questionnaire administered to the participants before taking part. Those who screened at or above pre-established risk cut-offs were invited to participate in a clinical assessment with a mental health professional and were subsequently referred to clinical services if necessary.

Control intervention:

In the control schools, educational posters from the YAM intervention were displayed in the participants' classrooms. No further intervention was carried out.

Prior to receiving the study interventions, participants completed a baseline questionnaire in a classroom setting with a member of the SEYLE study team present. Further questionnaires were completed three months later and again 12 months later and these were used to evaluate the effectiveness of the interventions as they gathered information on the outcomes of interest (suicidal ideation and suicide attempts). Findings of the multi-centre trial are outlined in Section 3.

The SEYLE study was designed to recruit a sufficient number of participants to allow for the detection of differences in frequency of suicide attempts and suicidal ideation between the interventions and the control group. As these outcomes are quite rare, a large sample is required to be able to detect these differences. Therefore, it was not possible to measure the effectiveness of the interventions within any centre or country alone.

Information gathered as part of the SEYLE study

The following scales/items were included in the questionnaire in order to gather information on mental health, lifestyle and life events:

- The Global School-Based Pupil Health Survey (GSHS)(29), which assesses lifestyles and risk-taking behaviours.
- The WHO Wellbeing Scale (WHO-5) (30), which evaluates mood, vitality and general interests.
- The Beck Depression Inventory-II (BDI) (31), which measures depressive symptoms.
- The Zung Self-Rating Anxiety Scale (SAS) (32), which measures symptoms of anxiety.
- The Paykel Suicide Scale (PSS) (33), which assesses suicidal ideation and suicide attempt.
- The Strengths and Difficulties Questionnaire (SDQ) (34), which collects information on emotional symptoms, conduct problems, hyperactivity and/or inattention, peer relationship problems and pro-social behaviour.
- The Deliberate Self-Harm Inventory (DSHI) (35), which evaluates direct self-injury.
- Questions from the European Values Study (EVS) (36), which examine values related to religion, family, marriage, work and friendship.
- Self-perceived health, one item which is used as a global measure including several health dimensions (e.g. physical, social and emotional) (37).
- Specific items developed or modified for the SEYLE study concerning coping, trauma and bullying, stressful life events, peer and parent-child relations, children's physical health, and alcohol and substance use (38).
- Young's Diagnostic Questionnaire (YDQ) (39), which assesses patterns of Internet usage that result in psychological or social distress.

In addition to these measures, participants were given the opportunity to express in their own words what they believed could be done to help young people to discuss their problems. This took the form of an open-ended question in the baseline questionnaire, where text was entered by the respondents. The researchers later carried out thematic analysis of the responses received.

The information gathered at baseline in the Irish SEYLE schools was used to examine mental health, lifestyle and risk and protective factors, and these findings are outlined in Section 4.

Ethical Approval

Ethical approval was obtained at each study site from the appropriate local ethics committees. In Ireland ethical approval was also obtained from the Clinical Research Ethics Committee of the Cork Teaching Hospitals. An independent ethical advisor supervised the implementation of the project to ensure maximum protection of vulnerable individuals. A specific procedure to evaluate and provide immediate assistance in emergency cases was in place during the study. Emergency cases were identified by means of two questions in the SEYLE questionnaire assessing suicide attempt or serious suicidal thoughts. Those participants identified as emergency cases were immediately referred for clinical evaluation to health care services (40).

Data Protection and Confidentiality

The National Suicide Research Foundation is registered with the Data Protection Agency and complies with the Irish Data Protection Act of 1988 and the Irish Data Protection (Amendment) Act of 2003. Confidentiality is strictly maintained and only anonymised data in aggregate form are released in reports. Data were securely stored at all times and identifiable characteristics were substituted with numeric codes.

Statistical Analysis

Frequencies were calculated for all data items. Differences between groups were examined using Chi-square tests for categorical variables and t-tests for continuous variables. Differences were considered to be statistically significant if their associated p-value was <0.05. Throughout this report, statistically significant differences are noted in text but specific p-values are not reported. In accordance with confidentiality guidance for reporting health statistics, values less than 5 are not reported (41).

3. RESULTS OF THE SEYLE MULTI-CENTRE TRIAL

3.1. Effectiveness of SEYLE interventions

The SEYLE study was the first European, multi-country, randomised controlled trial of the prevention of suicidal behaviour in adolescents. In the 10 European countries, 11,110 adolescents from 168 schools participated in the SEYLE study. The results of the SEYLE trial were published in The Lancet medical journal in 2015 (28). The primary outcome measures used to evaluate the interventions were the number of participants from each group who reported a suicide attempt or serious suicidal ideation in the time between the start of the study and the follow-up. No significant differences were identified between any of the three interventions (Youth Aware of Mental Health, Question, Persuade and Refer or Professional Screening) and the control group at the 3 month follow-up. However, at the 12 month follow-up the Youth Aware of Mental Health (YAM) intervention was found to be associated with a significantly lower number of suicide attempts and cases of severe suicidal ideation compared to the control intervention. Fourteen adolescents (0.70%) in the YAM group reported suicide attempts during the study period versus 34 (1.51%) in the control group. Fifteen adolescents (0.75%) reported severe suicidal ideation in the YAM group versus 31 (1.37%) in the control group, a 50% lower rate in the YAM intervention group. Rates of suicidal ideation and suicide attempt in the QPR and ProfScreen arms were not significantly lower than rates in the Control arm at 12-month follow-up (10). No participants in any of the centres died by suicide during the study period.

3.2. Cost-effectiveness of SEYLE interventions

With growing demands on scarce health resources, an analysis of the cost-effectiveness of health interventions is increasingly required to inform decision making in the allocation of resources. A cost-effectiveness analysis of the SEYLE study was conducted, comparing the costs and outcomes of the three interventions versus the control. For the purposes of the analysis, outcomes were measured in terms of quality adjusted life years (QALYs). The QALY is a generic measure of disease burden, including both the quality and the quantity of life lived. At 12 month follow-up, the cost per QALY gained was lowest for the YAM awareness programme and YAM was therefore deemed the most cost-effective intervention versus the Control in preventing both a suicide attempt and severe suicidal ideation. For suicide attempt, the cost per QALY gained was €15,639 and for severe suicidal ideation, the cost per QALY gained was €16,698 (42).

The focus of the remainder of this report is on findings of the Irish SEYLE centre, focusing on the lifestyles and mental health of adolescents in Ireland. The results presented are based on data gathered using the SEYLE baseline questionnaire. Where relevant, we have included details of published findings from the overall international SEYLE study. These are marked throughout the text.

At a glance: Overview of Irish SEYLE findings

Participants

600
Boys



496
Girls



Average age:
13.7 years

General wellbeing



13.8%



One in 7 had significant
symptoms of **depression**

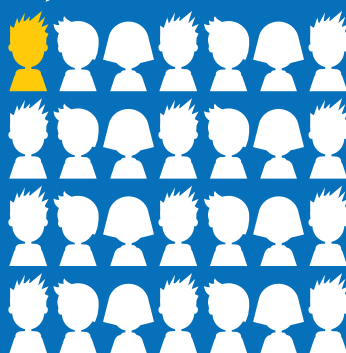
Prevalence of mental ill-health

23.7%



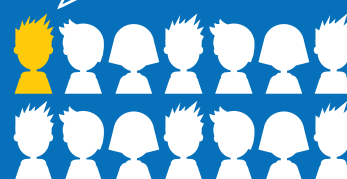
One in 4
had symptoms of
anxiety

3.6%



One in 28 reported having
attempted suicide

7.0%



One in 14 reported serious
suicidal ideation

Selected risk and protective factors associated with attempted suicide

Lifestyle

Drug use

X9 incidence of
attempted suicide

Sleeping 8 hours+ per night:

÷5 incidence of
attempted suicide

Sport involvement

÷2 incidence of
attempted suicide

Victimisation

Victims of Physical assault

X6 incidence of
attempted suicide

Victims of Sexual assault

X17 incidence of
attempted suicide

Victims of **Bullying**

X7 incidence of
attempted suicide

Positive relationships

Understanding parents

÷4 incidence of
attempted suicide

Positive peer relationships

÷5 incidence of
attempted suicide

4. FINDINGS OF THE IRISH SEYLE STUDY

The parents/guardians of 1,722 adolescents, mostly in second year, were asked to consent to their child participating in the project. A total of 1,112 adolescents participated, representing a response rate of 65%. Here we report on 1,096 young people for whom we have comprehensive survey data.

4.1. Demographics

4.1.1. Sex and age

Six hundred boys (54.7%) and 496 girls took part. Students ranged in age from 13 to 16 years; most were 13 (37.5%) or 14 (54.8%) years of age.

4.1.2. Family structure

The majority of adolescents (83.4%) reported that they were living with both parents, a further 15.1% lived with one parent and 1.5% did not live with either parent. Seven percent of adolescents reported that they had no siblings, while more two thirds of adolescents (66.2%) reported that they had one or two siblings, the remaining 26.8% had three or more siblings.

When asked if their parents have problems making ends meet, 3.0% answered yes, while 25.0% said “A little” or “To some extent”. The majority (72.0%) said that their parents do not have trouble making ends meet. Seven percent of adolescents reported that one or both of their parents currently worked abroad, of whom 88.0% reported that their father worked abroad, 8.0% their mother, and 4.0% both parents. When asked if their parent working abroad affects them, 82.2% of the adolescents reported that it did not bother them as they had adjusted, 9.6% of said that they felt sad or alone, and 8.2% said that they were glad that they received money and presents as a result of their parent working abroad.

4.1.3. Region of birth

The majority of adolescents were born in Ireland (81.7%). Of the 197 participants born abroad, the most common regions of birth were: Western Europe (59.0%), Eastern Europe (22.1%), North America (7.2%) and Africa (5.1%) (Figure 4.1). Those who were born abroad arrived in Ireland, on average, at age six.

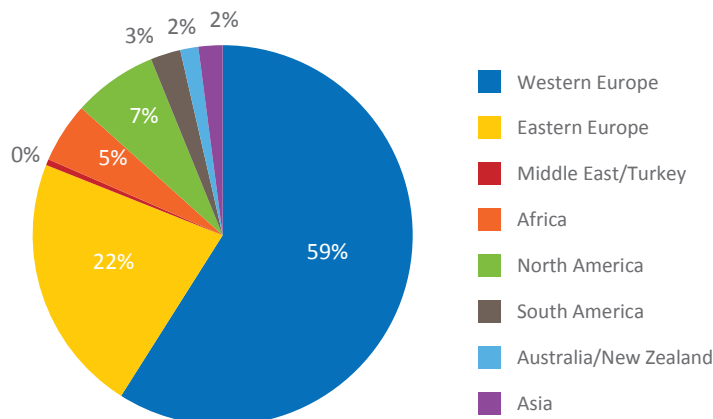


Figure 4.1. Region of birth of participants born abroad

Overall, 18.1% of adolescents reported that they had moved from one country to another. Of these, the majority (64.9%) felt that this relocation was mostly good, while 8.8% felt that relocating was mostly bad and approximately a quarter (26.3%) were unsure.

4.1.4. Religion

Most of the adolescents (77.7%) reported that they belonged to a religious denomination. Participants were also asked whether they considered themselves to be religious (Figure 4.2). More than twice the proportion of boys than girls reported being a convinced atheist (7.4% of boys and 3.4% of girls).

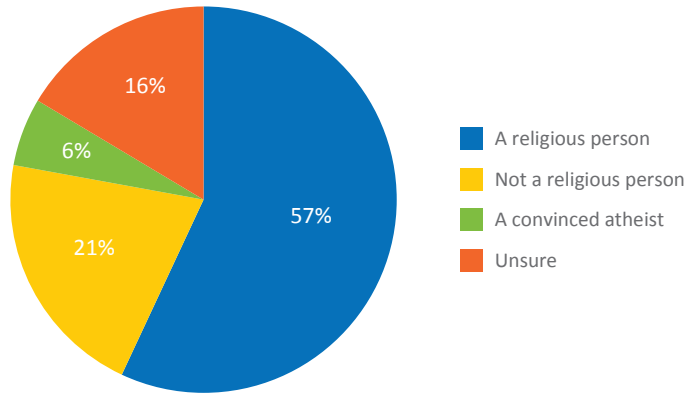
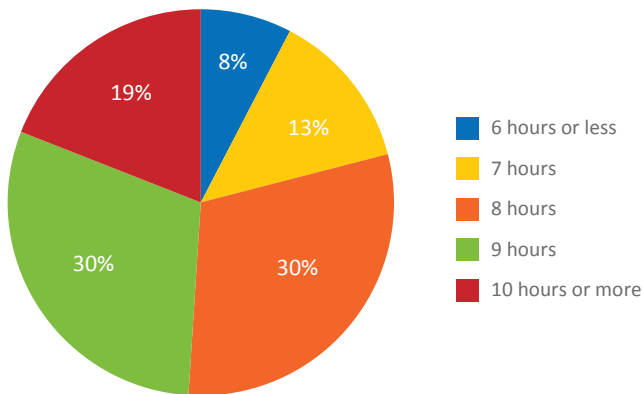


Figure 4.2. Religiosity

4.2. Lifestyle

4.2.1. Sleeping habits

On average, participants reported getting 8.4 hours of sleep on a school night, with the majority (79.9%) sleeping for eight hours or more (Figure 4.3). One in nine (11.7%) reported taking a nap after school on more than one day each week during the past six months. One third (35.1%) of adolescents said that they felt tired every morning before school and more than half (54.7%) reported that they felt tired before school one to four mornings per week. The remaining 10.2% seldom or never felt tired on school mornings.



INTERNATIONAL SEYLE FINDINGS

In the total SEYLE sample across Europe, the mean number of reported hours of sleep per night during school days was 7.7. The Irish sample had the highest average sleep duration of the ten centres, 8.4 hours (43).

Figure 4.3. Hours of sleep on school nights

4.2.2. Eating habits

Over two thirds of participants (69.1%) reported eating breakfast before school each day, while 9.7% said that they seldom or never did. Boys were significantly more likely to report eating breakfast before school compared to girls (Figure 4.4). Almost half (46.6%) of the adolescents reported eating fruit or vegetables more than once every day while 41.2% did so at least a few times per week and 12.2% rarely or never did.

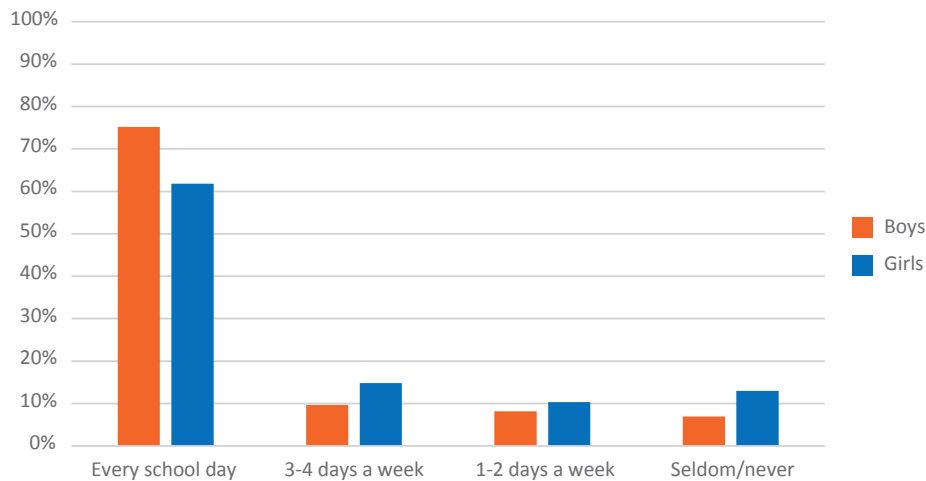


Figure 4.4. Frequency of eating breakfast before school

4.2.3. Physical activity and sports participation

The World Health Organisation (WHO) recommends that children and adolescents aged 5-17 years should accumulate at least 60 minutes of moderate-to-vigorous activity each day (44). In this study, 9.0% of adolescents reported that they engaged in at least 60 minutes of physical activity every day, with twice the proportion of boys (11.9%) than girls (5.6%) engaging in this level of activity. The average number of days, out of the previous 14 days, of at least 60 minutes activity was also significantly higher for boys (8 days) than girls (7 days). Based on the number of days adolescents were physically active, their activity levels were categorised as low (0-3 days), medium (4-7 days) and high activity (8-14 days) (Figure 4.5).

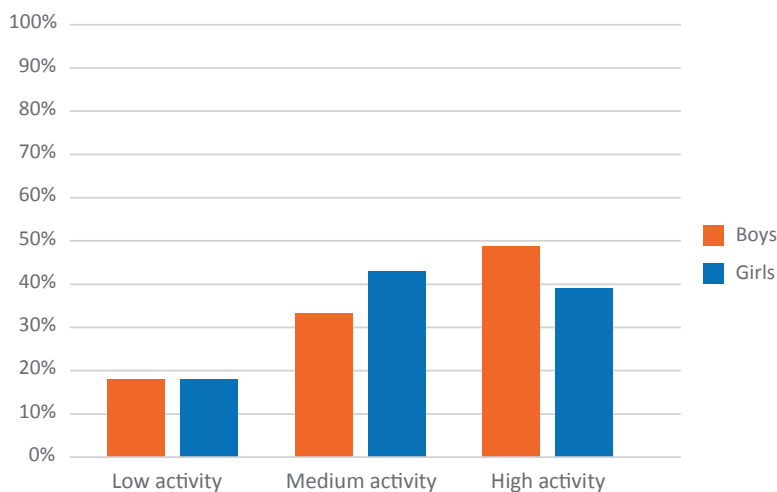


Figure 4.5. Frequency of physical activity

INTERNATIONAL SEYLE FINDINGS

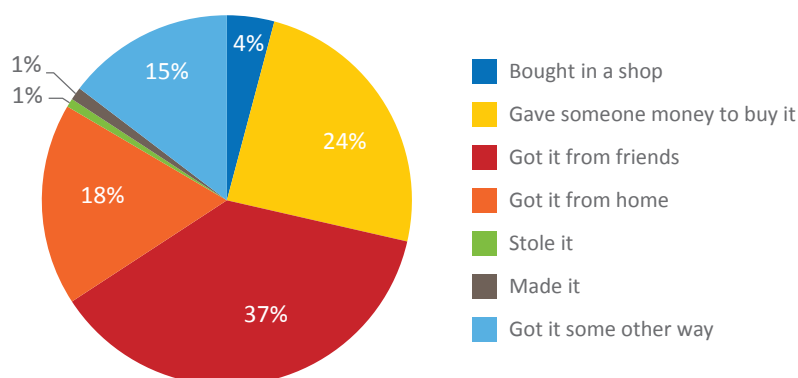
In the European sample, 13.6% of participants reported daily physical activity of at least 60 minutes, as recommended by the WHO (44). The percentage of the Irish sample reporting daily activity was average among the ten centres. Boys were significantly more active than girls in all ten countries (45).

MOST POPULAR SPORTS	
BOYS	GIRLS
1. Soccer	1. Gaelic football
2. Gaelic football	2. Basketball
3. Hurling	3. Soccer
4. Rugby	4. Camogie
5. Basketball	5. Hockey

During the previous six months, 83.4% of adolescents participated in a sport or fitness activity of some kind at least once per week. Significantly more boys (70.8%) than girls (59.9%) played one or more team sports while almost twice the proportion of girls (23.8%) than boys (12.0%) engaged in an individual sport or fitness activity.

4.2.4. Alcohol use

Almost three out of four adolescents (73.7%) said that they never drink alcohol, while 19.0% reported having a drink once a month or less. The remaining 7.3% of adolescents were classified as regular drinkers as they reported drinking alcohol on at least two occasions each month. Of the 268 adolescents who reported drinking alcohol, the majority (67.9%) said they would have one or two drinks of alcohol on a typical day when drinking, 28.4% typically had between three and six drinks and 3.7% of adolescents typically consumed seven or more drinks. About one in ten adolescents (9.9%) reported having drunk so much that they were really drunk on at least one occasion. The most common source of alcohol reported by the adolescents was via a friend (Figure 4.6).



INTERNATIONAL SEYLE FINDINGS

In the overall SEYLE sample across Europe, 36.0% of the adolescents reported never drinking alcohol, 33.1% reported drinking once a month or less, 30.9% at least twice a month. The study also showed that the more often adolescents see a family member drunk the more often they drink themselves (46).

Figure 4.6. Sources of alcohol

More than half of participants (58.2%) reported that they had seen a family member drunk on at least one occasion, including 45 adolescents (4.2%) who reported seeing a family member drunk at least once a week. Adolescents who had seen a family member drunk previously were approximately seven times more likely to be regular drinkers compared to their peers who had never seen a family member drunk (11.3% and 1.8% respectively).

4.2.5. Smoking cigarettes

Approximately one in five adolescents (20.4%) reported having ever smoked cigarettes and 12.9% of adolescents were current daily smokers. Of the 138 smokers, the average number of cigarettes smoked in a day was three (Figure 4.7). The majority of adolescents were aged 12 years or older when they first smoked a cigarette. One in four adolescents (25.7%) reported that one of their parents smoked cigarettes and 9.3% of adolescents reported that both their parents smoked. Adolescents who reported that one or both of their parents were smokers were significantly more likely to be smokers themselves compared to their peers whose parents were non-smokers (16.7% and 10.3% respectively).

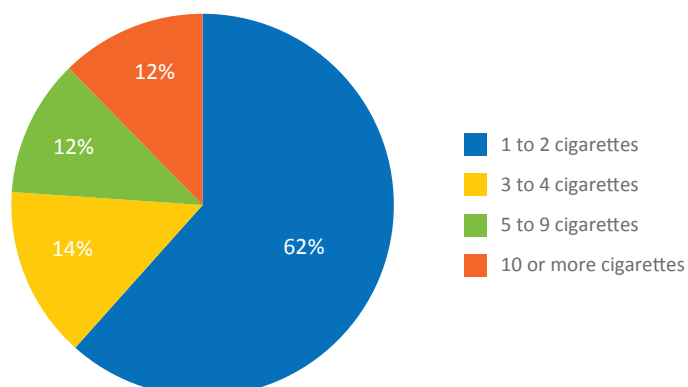


Figure 4.7. Number of cigarettes smoked per day by smokers

4.2.6. Illegal drug use

A total of 4.4% of the sample reported using illegal drugs at some time in their life, with significantly more boys (5.7%) than girls (3.0%) reporting drug use. Cannabis was the most commonly reported drug, and was used by 5.6% of boys and 2.9% of girls. Six adolescents reported having used ecstasy, and smaller numbers had used other drugs, including speed and LSD. Of the 49 adolescents who had used drugs, the majority (71.4%) had done so on one or two occasions, 12.2% had used drugs between three and nine times and the remaining 16.4% had used drugs 10 or more times. Of those who had used drugs previously, 22.7% had taken more than one type of drug.

Thirty-two adolescents (3.0%) reported that a member of their family had used illegal drugs in the previous 12 months, of whom 33.3% reported that their family member took more than one type of drug and 81.0% said that their family member had used cannabis. More girls (4.1%) than boys (2.1%) reported that a member of their family used drugs. Adolescents who reported that a member of their family has used drugs were seven times more likely to have used drugs themselves compared to their peers whose parents had not used drugs (23.3% and 3.4% respectively).

4.2.7. Cigarette, alcohol and illegal drug use

A small proportion of adolescents (2.0%) were regular drinkers, daily smokers, and had a history of using drugs (Figure 4.8).

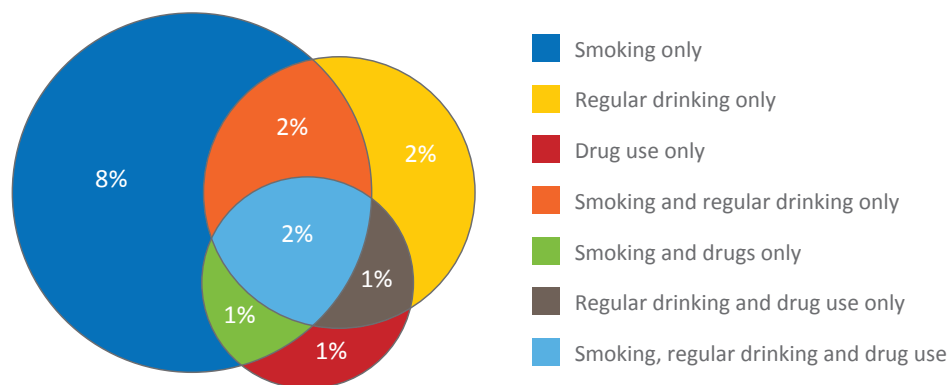


Figure 4.8. Proportional representation of prevalence of smoking, drinking and drug use

4.2.8. Pathological Internet Use

Based on the Young's Diagnostic Questionnaire, which assesses internet addiction, participants were categorised into three groups: adaptive internet users, maladaptive internet users and pathological internet users (47). Of the total sample, 9.7% were maladaptive internet users and 3.8% were pathological internet users. Among girls, the percentages who were maladaptive and pathological internet users were 11.7% and 2.7%, while among boys 8.1% and 4.7% were maladaptive and pathological internet users respectively.

INTERNATIONAL SEYLE FINDINGS

In an international SEYLE paper examining associations between internet use and mental health, pathological internet use was reported to be associated with suicidal behaviour, depression, anxiety, conduct problems and hyperactivity/inattention (48).

4.2.9. Sexual intercourse

One in twelve adolescents (8.3%) reported having ever had sexual intercourse. Intercourse was reported by more boys (9.3%) than girls (7.4%). Of the adolescents who reported having had sexual intercourse, most reported having had one sexual partner only (58.8%) and that they always used a condom when having sexual intercourse (69.4%) (Figure 4.9). A small proportion of adolescents (1.8%) reported that they or their partner had experienced a pregnancy during the past six months, including the same proportion of girls and boys.

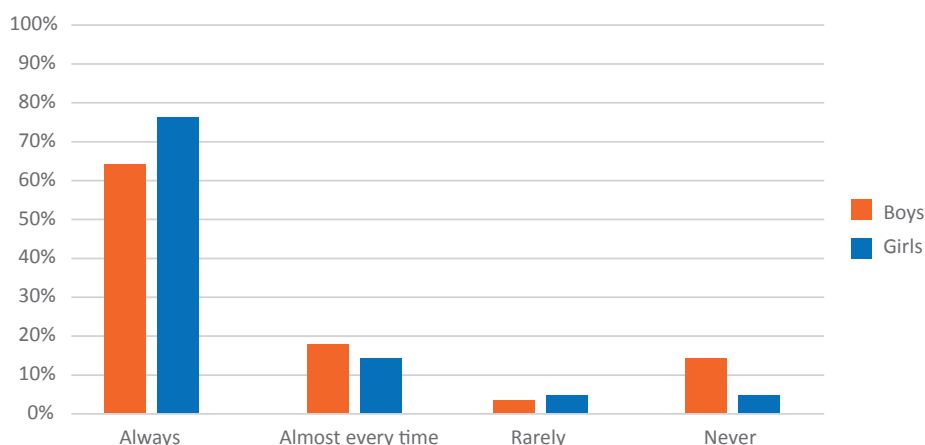


Figure 4.9. Condom use among those who reported sexual intercourse

4.3. Negative life events

4.3.1. Physical and sexual assault

Twenty adolescents (2.1%) reported having been forced to engage in sexual activities against their will. Significantly more girls (3.2%) than boys (1.2%) had experienced sexual assault. One in ten adolescents (9.9%) reported having been physically attacked during the past 12 months, and a significantly higher proportion of boys (13.8%) than girls (5.2%) reported having been attacked. Of the 109 adolescents who had been attacked, no boys and 15.4% of girls reported that their attacker was a parent. Significantly more boys than girls reported having been attacked by an unfamiliar person and significantly more girls reported being attacked by a relative (Figure 4.10).

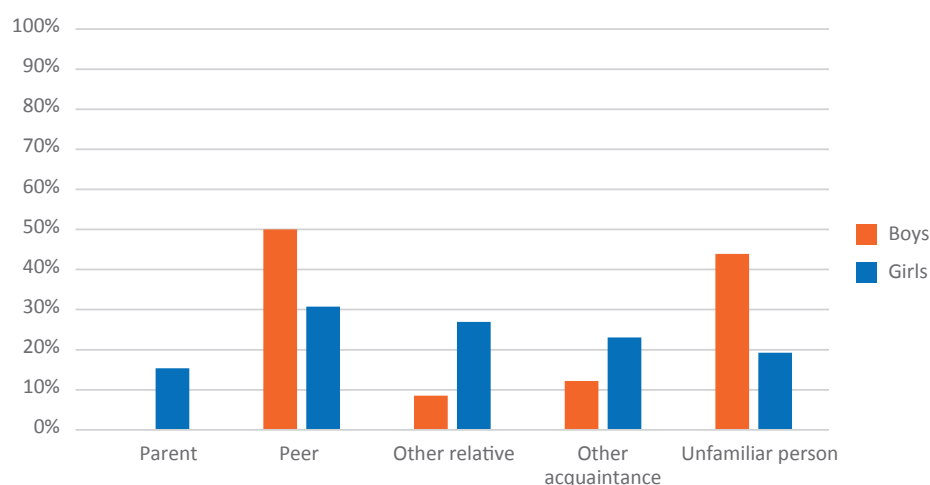


Figure 4.10. Relationship with attacker among adolescents who had been physically attacked

4.3.2. Physical fights

Almost one in five adolescents (19.4%) reported being involved in a physical fight on at least one occasion during the past 12 months. A significantly larger proportion of boys (40.8%) than girls (14.8%) reported fighting.

4.3.3. Negative experiences within the family

Overall, 6.5% of adolescents reported that a parent was unemployed during the past 6 months. In total, 2.4% adolescents reported that their parents had divorced during the previous 6 months and 14.1% reported the death of a close family member during this period; 16.7% of girls and 11.7% of boys.

4.3.4. Negative experiences among peers

The death of a close friend during the past six months was reported by 6.7% of participants. More than one fifth of adolescents (22.3%) reported having broken up with a girlfriend or boyfriend during this period.

4.3.5. Bullying

Almost half of participants (49.8%) reported having experienced a form of bullying over the previous 12 months, with similar proportions of boys (50.5%) and girls (49.2%) bullying victimisation. There were significant differences between boys and girls in the type of bullying they reported experiencing (Figure 4.11).

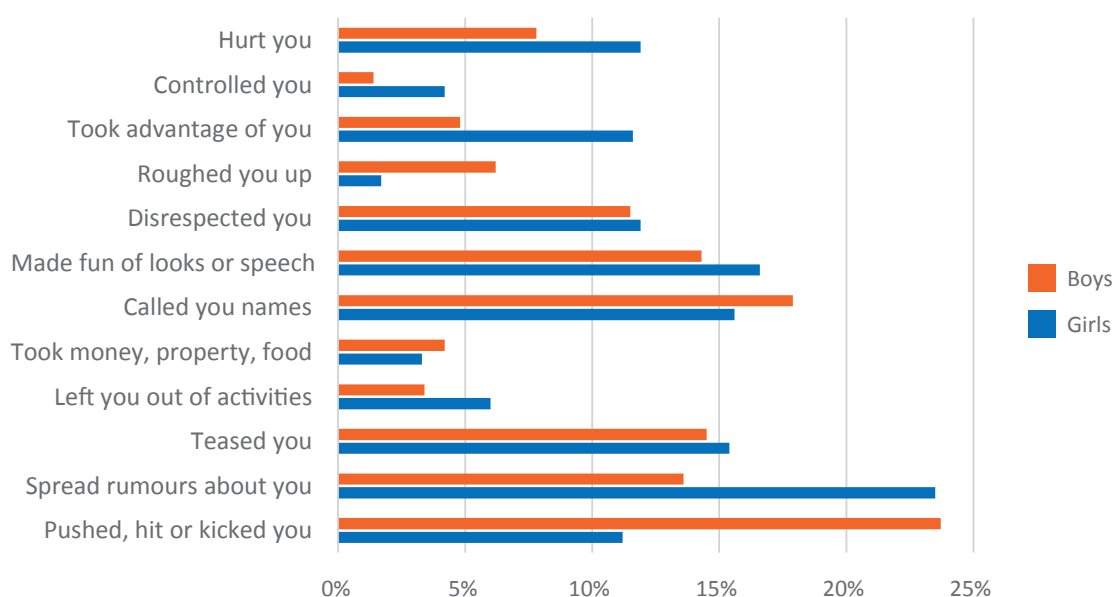


Figure 4.11. Types of bullying experienced during past 12 months

4.4. Health and wellbeing

4.4.1. General health

Self-perceived health is a subjective assessment that individuals make about their own health status and is used as a global measure including physical, social and emotional dimensions (37). When asked how they would rate their own overall health, the majority of adolescents reported that their overall state of health was either very good (47.3%) or good (41.7%) and a further 9.8% reported that the state of their health was fair. A small proportion of adolescents reported that their health was poor (1.1%) or very poor (.1%).

Overall, 3.2% of adolescents said that they had a physical disability and 20.8% said that they had a chronic illness. Chronic illnesses reported by participants included both physical and psychological conditions (Table 4.1) and 40.7% of this group said that their condition lowered their abilities or hindered their daily activities.

Table 4.1. Most commonly reported chronic illnesses

Illness	% (n)
Asthma	15.2% (167)
Injuries and musculoskeletal conditions	1.0% (11)
Epilepsy	0.5% (6)
Heart conditions	0.5% (6)
Hay-fever	0.5% (5)
Coeliac disease and other digestive problems	0.5% (5)
Diabetes	0.5% (5)
Eating disorder	0.5% (5)
Other	1.6% (17)

4.4.2. Wellbeing

Participants completed the WHO-5 Wellbeing Index, with responses to each of the five items ranging from zero to five (30). These scores were summed and converted to obtain a percentage score ranging from zero to 100, where 100 represents best possible level of wellbeing. Based on their scores, adolescents were categorised as having poor wellbeing (≤ 49) or good wellbeing (≥ 50) (49). Most of the adolescents (87.3%) had good wellbeing while 12.7% had poor wellbeing. More girls (14.3%) than boys (11.3%) had poor wellbeing. Figure 4.12 outlines participants' responses to the items of the WHO-5 Wellbeing Index.

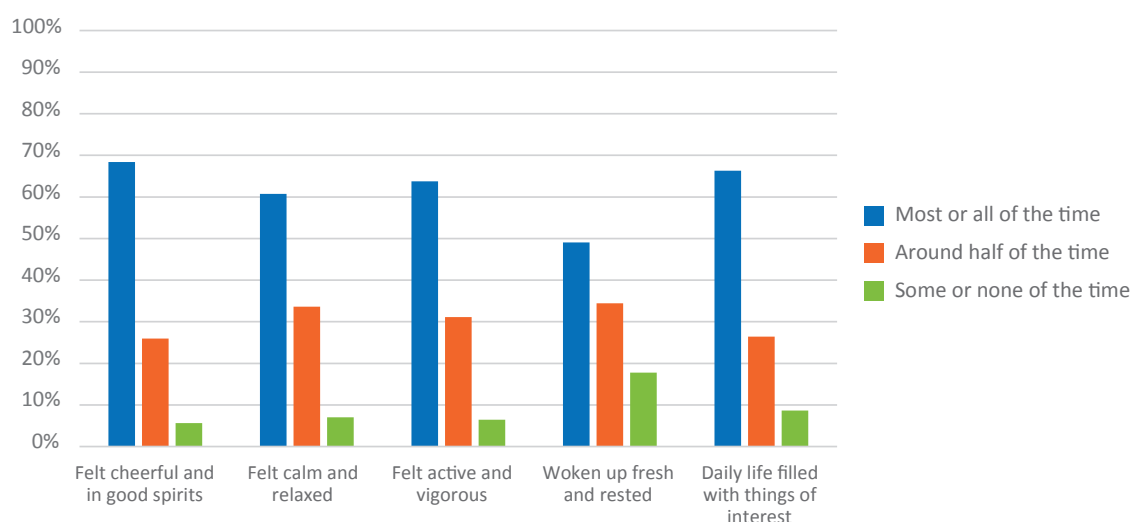


Figure 4.12. Responses to items of the WHO-5 Wellbeing Index

4.4.3. Depression and Anxiety

Symptoms of depression

Symptoms of depression were assessed using the Beck Depression Inventory II (31). One item of the original 21-item scale was omitted for the SEYLE study as it was not considered appropriate for a young adolescent sample (50). Each item is scored from zero to three, indicating the severity of the symptom, with total scores ranging from zero to sixty. Based on their total score, adolescents were categorised as having no significant depressive symptoms (within the normal range) (≤ 13), mild depressive symptoms (14-19), or moderate to severe depressive symptoms (≥ 20) (31). Most of the adolescents (86.2%) had depressive symptoms within the normal range, while 6.8% of adolescents had mild depressive symptoms and 7.0% of adolescents had moderate to severe depressive symptoms. Girls had significantly higher levels of depression than boys (Table 4.2).

Table 4.2. Levels of depressive symptoms

	TOTAL	BOYS	GIRLS
No significant depressive symptoms	86.2% (920)	89.2% (518)	82.5% (402)
Mild depressive symptoms	6.8% (73)	6.2% (36)	7.6% (37)
Moderate to severe depressive symptoms	7.0% (75)	4.6% (27)	9.9% (48)

Symptoms of anxiety

Symptoms of anxiety were assessed using the Zung Self-Rating Anxiety Scale (SAS) (32), a 20-item self-report questionnaire. Scores range from 25 to 100, with higher scores indicating increased levels of anxiety. Based on their scores on the Zung SAS, adolescents were categorised as having: anxiety symptoms within the normal range (no significant anxiety symptoms) (≤ 44), mild anxiety symptoms (45–59), moderate to severe anxiety symptoms (≥ 60) (51). Three out of four adolescents (76.3%) had normal levels of anxiety symptoms while 19.8% had mild anxiety symptoms and 3.9% had moderate to severe anxiety symptoms. Significantly more girls than boys had abnormal levels of anxiety symptoms (Table 4.4).

Table 4.3. Levels of anxiety symptoms

	TOTAL	BOYS	GIRLS
No significant anxiety symptoms	76.3% (699)	82.1% (401)	69.6% (298)
Mild anxiety symptoms	19.8% (181)	15.2% (74)	25.0% (107)
Moderate to severe anxiety symptoms	3.9% (36)	2.7% (13)	5.4% (23)

Symptoms of depression and anxiety

Overall, 13.8% of adolescents had significant depressive symptoms and 23.7% had significant anxiety (scores above established cut-offs on the screening measures used). A total of 10.3% of adolescents who completed both scales had both significant depressive and anxiety symptoms (Figure 4.13). Of the adolescents with significant depressive symptoms, the majority (80.9%) also had significant anxiety symptoms. Of those with significant anxiety symptoms, less than half (43.9%) had significant depression symptoms. These patterns of comorbidity were similar for boys and girls.

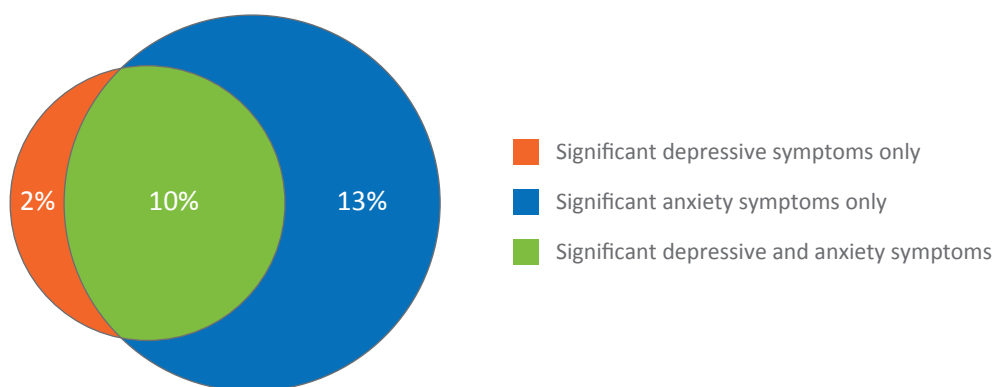


Figure 4.13. Proportional representation of the prevalence and co-morbidity of depressive and anxiety symptoms

4.4.4. Psychotic-like experiences

Participants were asked whether they had ever heard voices or sounds that no one else could hear. Auditory hallucinations, which are psychotic-like experiences (52), were reported by one in every fourteen adolescents (7.1%), with similar prevalence among boys (7.7%) and girls (6.3%). There was significant co-morbidity between psychotic-like experiences and depression and anxiety. The majority (60.0%) of those reporting psychotic-like experiences also had significant anxiety symptoms, compared with 21.4% of those without psychotic-like experiences. More than half (56.3%) of those with psychotic-like experiences had significant levels of depressive symptoms, compared with 10.9% of those without psychotic-like experiences.

4.4.5. Strengths and difficulties

The Strengths and Difficulties Questionnaire (SDQ) (53) collects information on emotional symptoms, conduct problems, hyperactivity and/or inattention, peer relationship problems and pro-social behaviour (Figures 4.14-4.18). Abnormal levels of difficulties in one domain were found in 16.5% of adolescents, and 8.8% had abnormal levels in two or more domains. More adolescents had abnormal levels of hyperactivity/inattention difficulties than the other four types of difficulties. Boys and girls had similar levels of difficulties in the areas of conduct, hyperactivity/inattention and peer relationships. Abnormal levels of emotional symptoms were more than twice as common among girls while boys were more than three times more likely to have abnormal levels of prosocial behaviour.

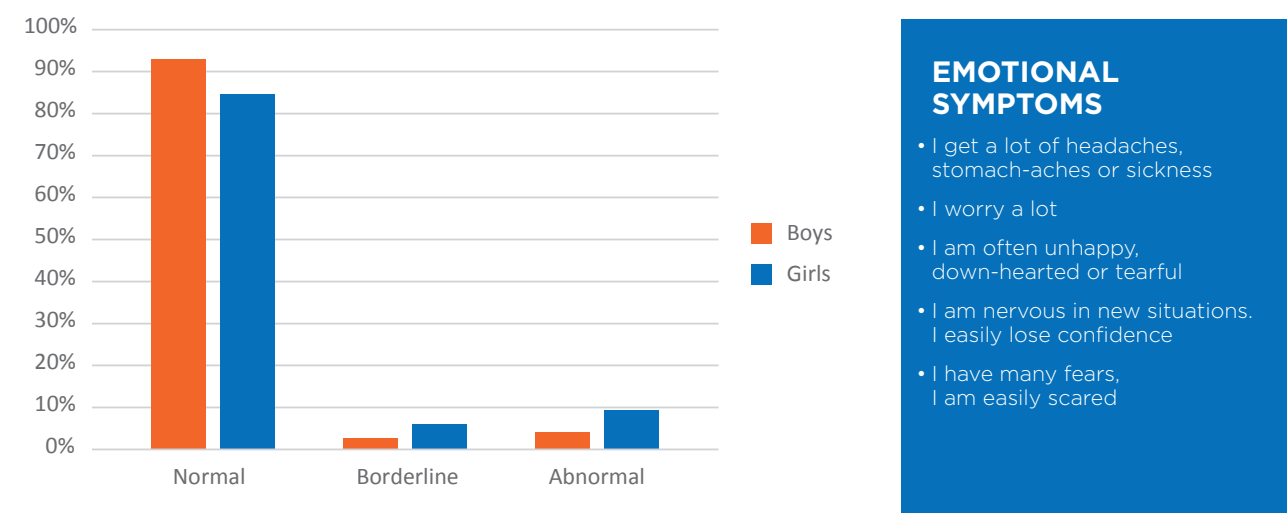


Figure 4.14. Emotional symptoms

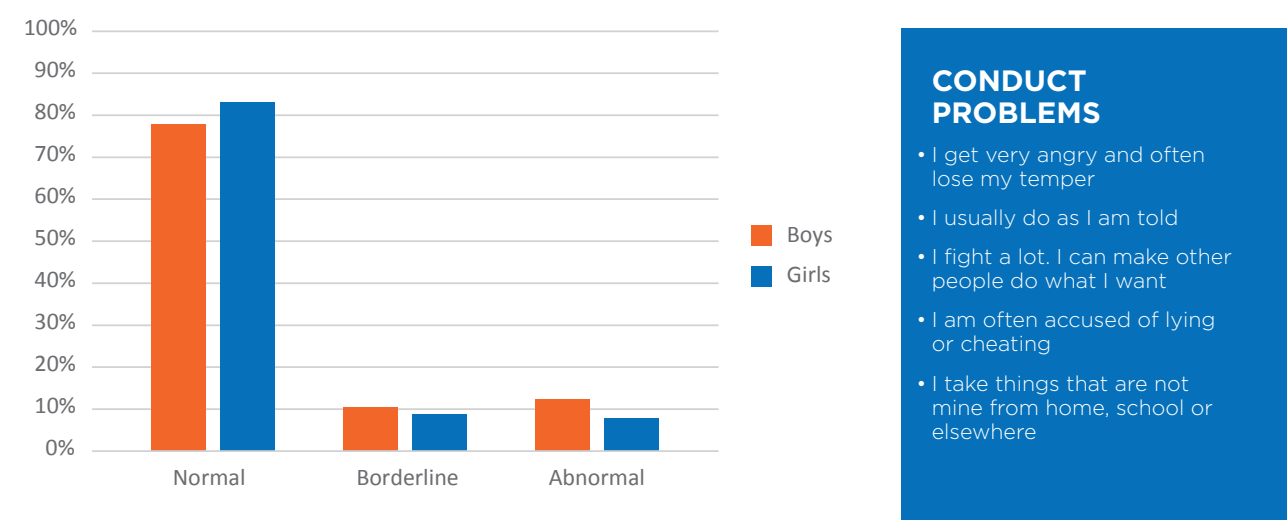
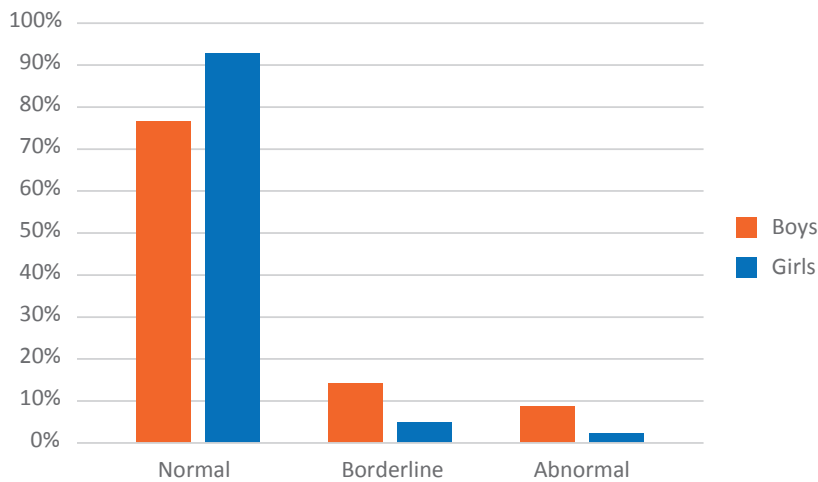


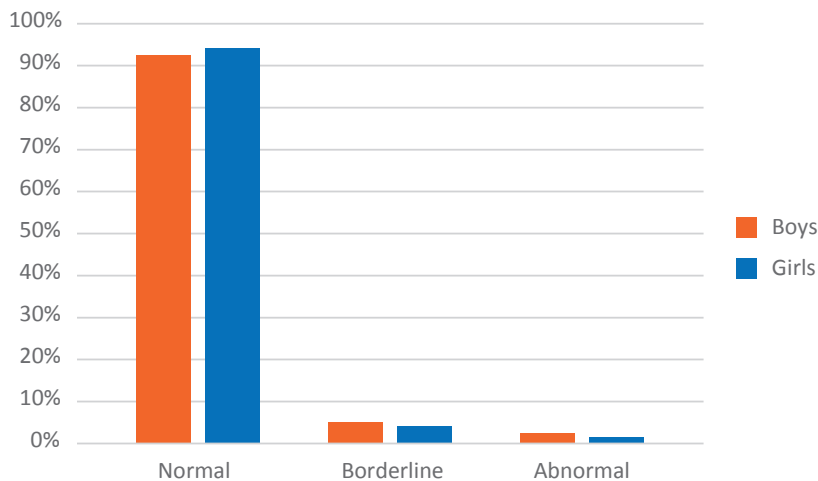
Figure 4.15. Conduct problems



HYPERACTIVITY/ INATTENTION

- I am restless, I cannot stay still for long
- I am constantly fidgeting or squirming
- I am easily distracted, I find it difficult to concentrate
- I think before I do things
- I finish the work I'm doing. My attention is good

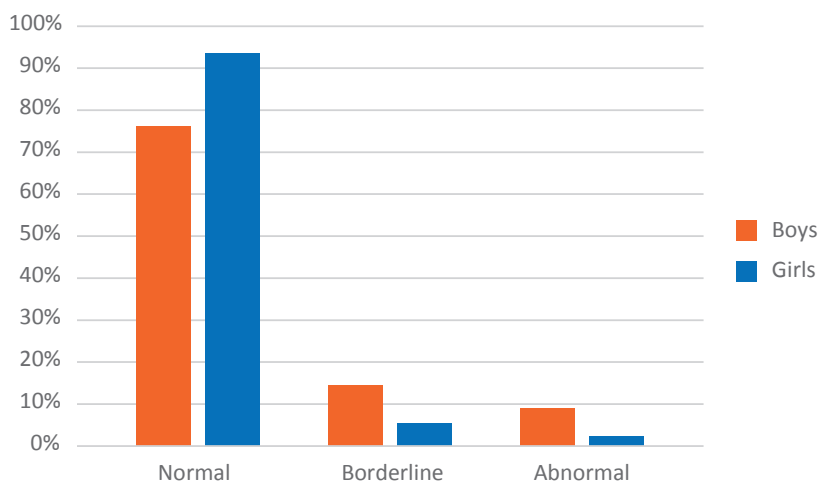
Figure 4.16. Hyperactivity/inattention



PEER RELATIONSHIP PROBLEMS

- I am usually on my own. I generally play alone or keep to myself
- I have one good friend or more
- Other people my age generally like me
- Other children or young people pick on me or bully me
- I get on better with adults than with people my own age

Figure 4.17. Peer relationship problems



PROSOCIAL BEHAVIOUR

- I try to be nice to other people. I care about their feelings
- I usually share with others (food, games, pens etc.)
- I am helpful if someone is hurt, upset or feeling ill
- I am kind to younger children
- I often volunteer to help others (parents, teachers, children)

Figure 4.18. Prosocial behaviour

4.4.6. Suicidal ideation

Suicidal ideation was measured using the Paykel Suicide Scale (PSS) (33). Adolescents were asked four questions about how often, if at all, they had thoughts of suicide or dying in recent weeks. Reflecting on the previous two weeks, 18.2% said that they had felt that their life was not worth living; 11.9% of adolescents reported having wished that they were dead; 13.6% reported having thought of taking their own life, even if they would not really do it; and 7.0% reported having seriously considered taking their own life or made plans about how they were going to do it (Figure 4.19).

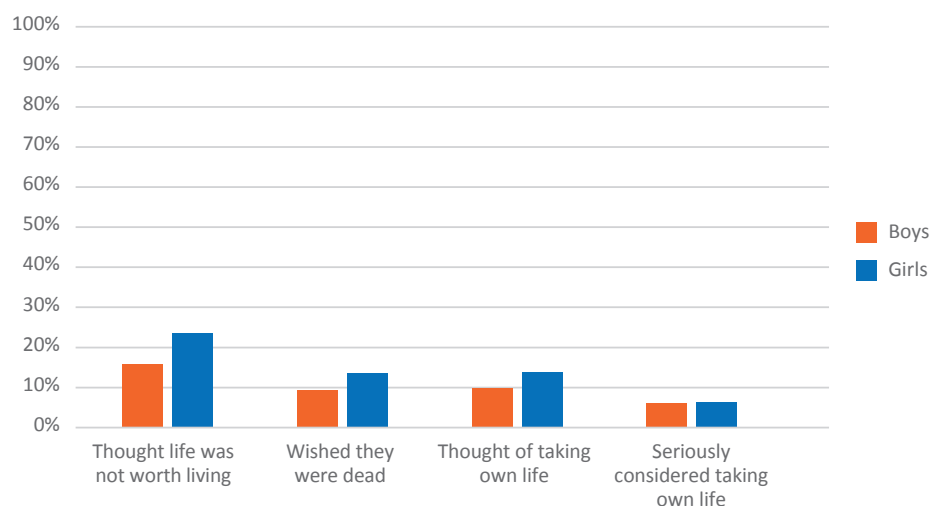


Figure 4.19. Incidence of suicidal ideation

4.4.7. Self-harm

Self-injury

In the SEYLE study the specific type of self-harm examined was self-injury, defined as the intentional self-inflicted damage of the surface of an individual's body by self-cutting, burning or other methods (35). Self-injury was assessed using a modified 6-item version of the Deliberate Self-Harm Inventory (DSHI) (54). One in five adolescents (20.2%) had engaged in self-injury; 21.9% of boys and 18.4% of girls. Of those who had injured themselves previously, 9.5% had intentionally harmed themselves to the extent that they required hospitalisation or medical treatment, including almost three times more boys (13.1%) than girls (4.5%).

Suicide Attempt

In total, 3.6% of adolescents reported having tried to take their own life, with little difference between boys and girls. Of those who reported the method used, the most frequent methods were attempted hanging and overdose. Of the adolescents who had attempted suicide, 23.7% received medical care after the attempt. Of those who did not receive medical care after the attempt, the majority (58.1%) spoke to no one about it, 25.8% spoke to one or both parents, 29.0% spoke to a friend, 6.5% spoke to an adult other than their parent, and no adolescents reported speaking to a sibling about the attempt.

INTERNATIONAL SEYLE FINDINGS

The Irish rate of direct self-injury was one of the lowest in the SEYLE study. In the total SEYLE sample across Europe, 27.6% of young people reported ever having injured themselves. A minority of the adolescents who reported self-injury ever received medical treatment (54).

INTERNATIONAL SEYLE FINDINGS

In the total SEYLE sample, 4% of participants reported severe suicidal ideation and 3% reported having attempted suicide at some time (10).

4.5. Relationships and support

4.5.1. Relationship with parents

The majority of adolescents reported that their parents had a high level of involvement in their everyday lives (Figure 4.20). More than two thirds of adolescents reported that their parents often knew how they were spending their free time. Significantly more girls (75.7%) than boys (62.9%) reported that their parents often knew where they were. Over half of adolescents reported that their parents often helped them to make decisions. Significantly more girls (59.1%) than boys (48.8%) reported often getting help from their parents when making decisions. Overall, 39.0% of adolescents reported that their parents often monitored their schoolwork.

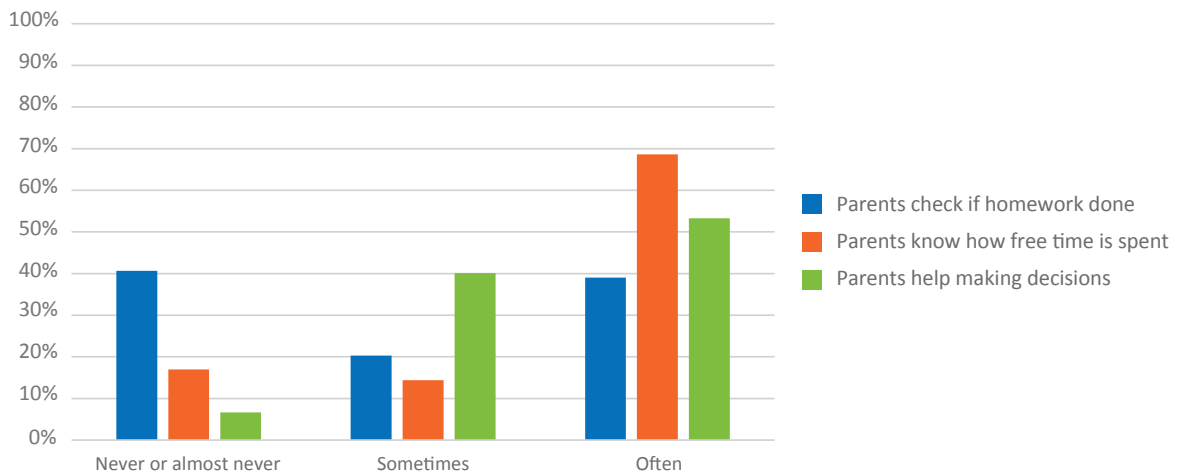


Figure 4.20. Level of parental involvement in the adolescents' lives

Almost 60% of adolescents reported that their parents often understood their problems and worries and most reported that their parents listened to their opinion or what they had to say (Figure 4.21). The majority of adolescents reported that their parents sometimes or often took time to talk with them about things that happened in their lives. Significantly more girls (46.4%) than boys (33.4%) reported that their parents often took time to talk about the things that happened in their lives.

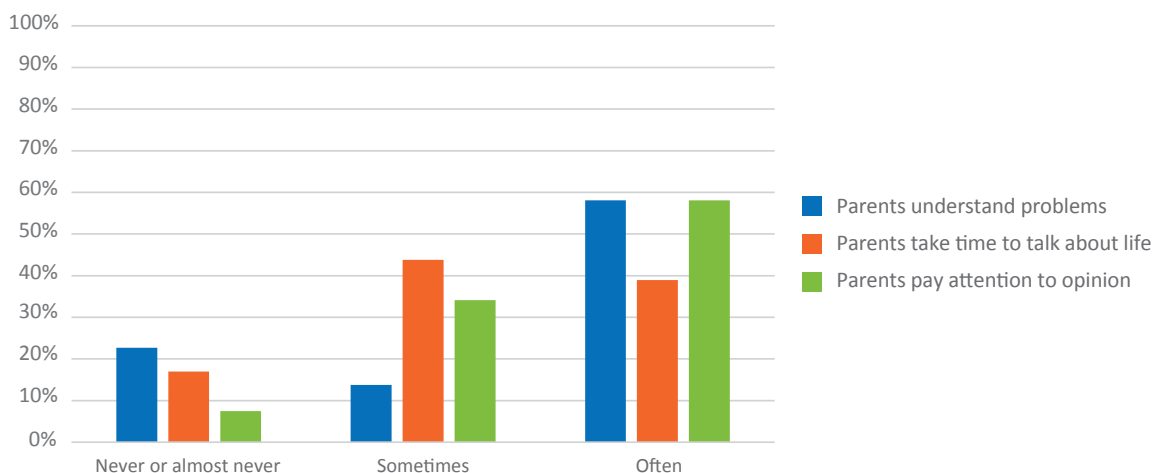


Figure 4.21. Relationship with parents

4.5.2. Peer relationships

The majority of adolescents reported that they often got along with people of their own age, they felt they belonged to a group and their peers liked having them in their group (Figure 4.22). Sex differences in these aspects of peer relationships were small.

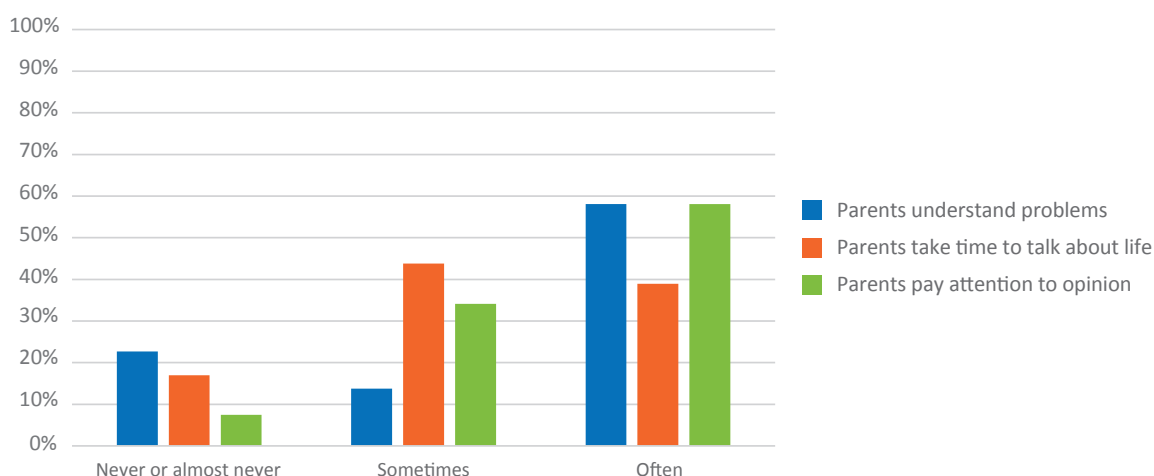


Figure 4.22. Peer relationships

4.6. Coping and help-seeking

4.6.1. Response to bullying

When adolescents were asked how they reacted to being bullied, 27.6% reported that they spoke about it with a peer and 26.4% spoke to their parents about the bullying (Figure 4.23). There were significant gender differences in the way in which adolescents responded to being bullied: more girls than boys spoke to someone other than the person bullying them while more boys than girls responded directly to the person or people bullying them.

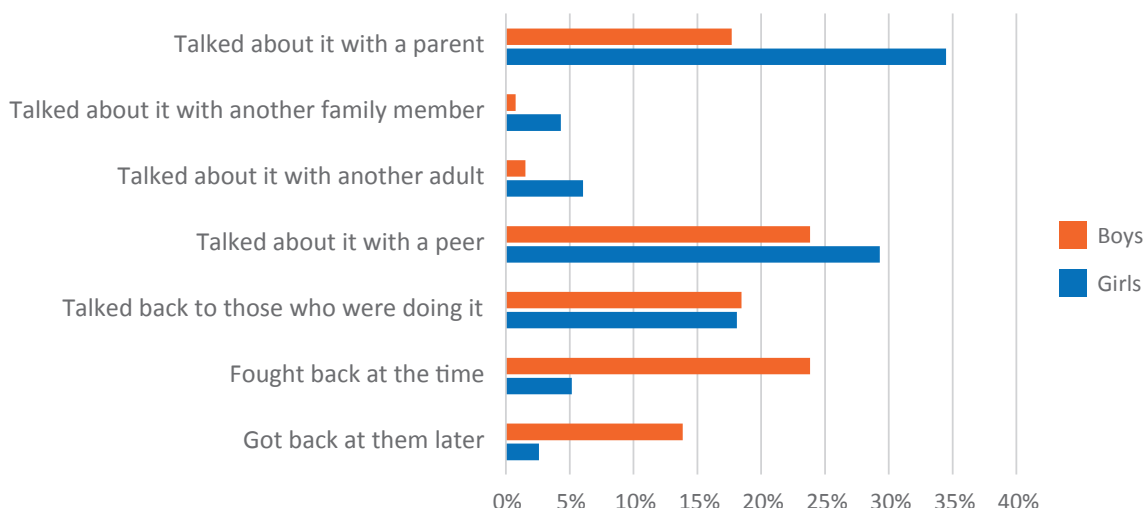


Figure 4.23. Response to being bullied

4.6.2. Help-seeking

Adolescents were asked about their views on counselling and their opinion on the appropriate approach to adopt when facing a problem (Figure 4.24). Compared to boys, girls were significantly more likely to agree that they would get professional help if they were having a mental health crisis. Girls were also significantly more likely to agree that a person is not likely to solve their emotional problems alone.

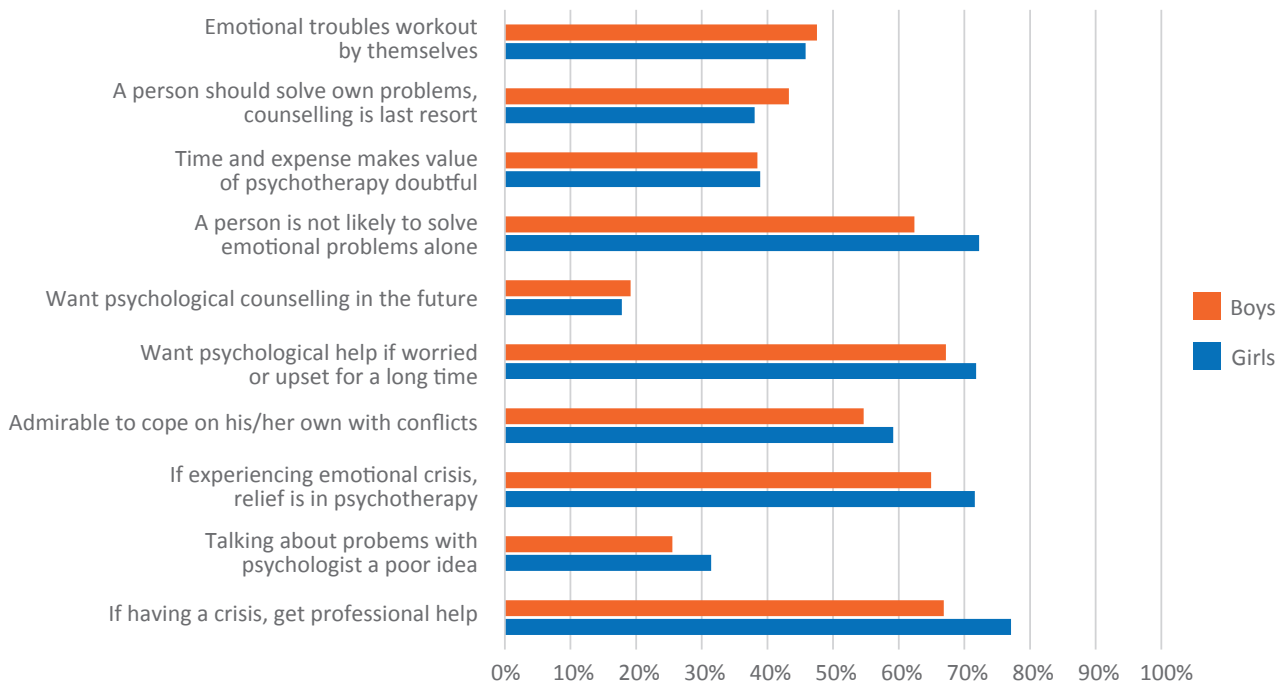


Figure 4.24. Attitudes towards help-seeking

Participants were also given the opportunity to express in their own words what they believed could be done to help young people discuss their problems. From the responses received, the following four themes emerged, reflecting ways in which young people believed communication about mental health could be enhanced:

1. School-based individual support
2. School-based mental health education
3. Anonymous support
4. Peer discussion groups

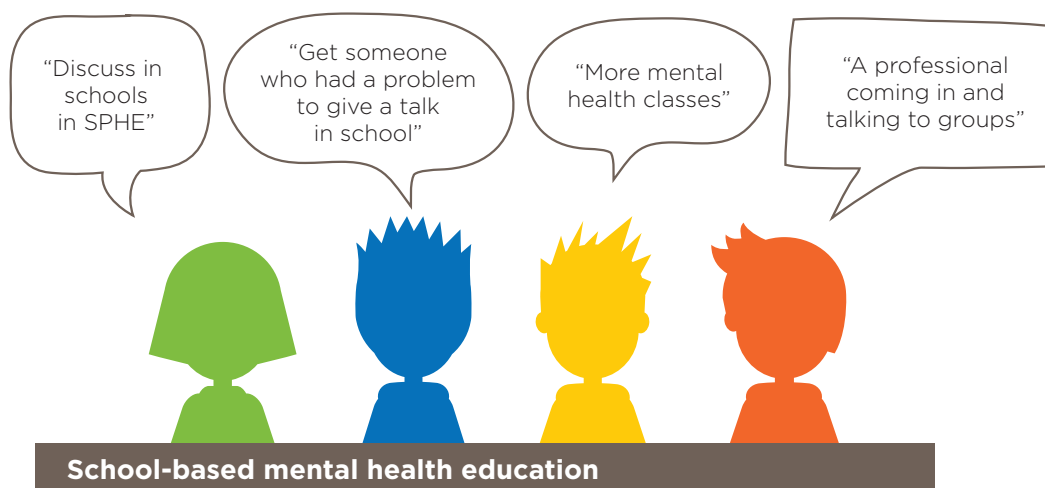
1. School-based individual support

The most common suggestion made by the adolescents to promote discussion about mental health was that school-based individual support should be readily available for all students. Many students specifically recommended that this support should come from counselling services in place within each school. Furthermore, participants highlighted the importance of making all students aware of the availability of this support. In addition, to ensure engagement with the counselling services it was suggested by the participants that students should have routine appointments with the school counsellors.



2. School-based mental health education

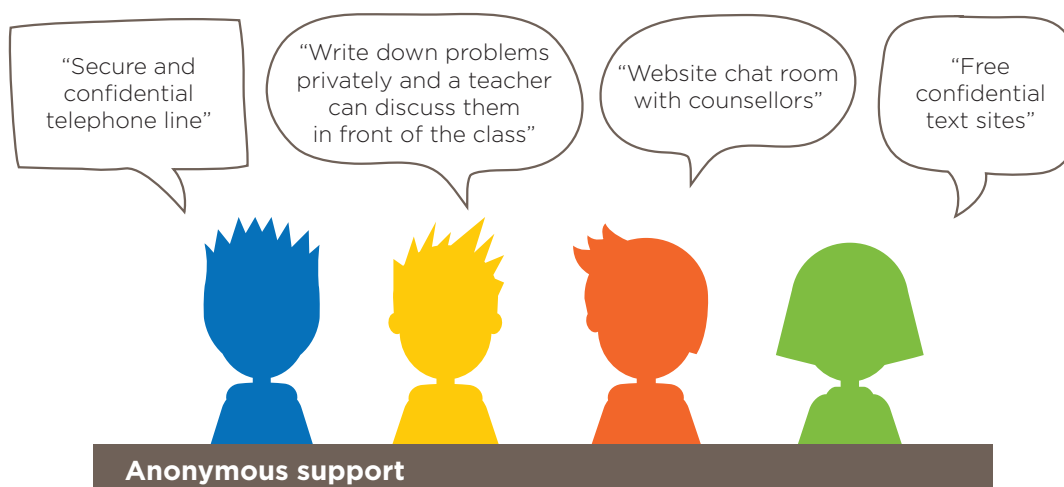
Participants expressed that an important way of helping young people discuss their problems would be to increase mental health education in schools. Many of the adolescents suggested incorporating mental health education in the curriculum. A number of the participants believed that it would be beneficial to organise professionals from outside the school to come and give talks about mental health. Others suggested that it would be helpful to hear about the experiences of other young people who had experienced mental ill-health. Some participants suggested specific ways of educating students on mental health, including carrying out workshops or role-plays in school.



3. Anonymous support

Participants also suggested that the provision of an anonymous source of support would help adolescents to discuss their problems. A number of different types of anonymous support were suggested, including:

- Internet sites where adolescents could discuss their problems with a professional counsellor
- Anonymous telephone and text helplines
- Anonymous discussion of problems in class



4. Peer discussion groups

Many of the adolescents suggested setting up peer groups where young people can discuss their problems and provide support to each other. In addition, it was suggested that discussions with people closer to their own age would help adolescents feel more comfortable discussing their problems.



Other important messages from the adolescents

Support from parents and peers. It was also highlighted by many of the adolescents that support from parents and peers is important in encouraging adolescents to discuss and address their problems "Parents could give a big boost"; "Train peers on how to deal with problems".

Direct and non-judgemental approach. Many adolescents emphasised the importance of communicating in a direct way with young people when trying to encourage them to open up: "People don't always admit their problems so a teacher or parent should talk to them"; "Speaking to pupils about problems instead of parents".

Furthermore, the adolescents expressed that it is important to communicate in a non-judgemental manner: "Young people like to talk to people they trust and not to be judged"; "Adults should not judge them".

INTERNATIONAL SEYLE FINDINGS

In one SEYLE study teachers were asked how they felt about helping students with mental ill-health. Teachers' satisfaction with their school and their own psychological wellbeing were important factors associated with teachers' beliefs in their ability to help adolescents in distress (55).

4.7. Risk and protective factors

We examined associations between psychological difficulties, suicidal thoughts and behaviour and a number of demographic, lifestyle and life event factors.

The following demographic, lifestyle and life event factors were examined, with categories defined as below:

- **Migrants:** Those born outside of Ireland.
- **Sexual orientation concerns:** Those reporting concerns about their sexual orientation.
- **Smokers:** Those who currently smoke at least one cigarette every day.
- **Regular drinkers:** Those who drink alcohol two or more times each month.
- **Used drugs:** Those who have used illegal drugs at least once previously.

- **Physical assault:** Those who have been physically attacked in the previous 12 months.
- **Sexual assault:** Those reporting having been forced to engage in sexual activity against their will.
- **Bullying:** Those reporting bullying victimisation in the previous 12 months.
- **Physical activity:** Categorised as low (engaged in at least 60 minutes of physical activity on 0-3 of the previous 14 days), medium (4-7 days) and high activity (8-14 days).
- **Sports participation:** Participation in individual sports or team sports.
- **Sleep:** Number of hours of sleep on a typical school night
- **Relationships with family:** Whether parents understand the adolescents' problems.
- **Relationships with peers:** Whether the adolescents get along with people of their own age

The psychological difficulties and suicidal thoughts and behaviours examined were:

- **Poor wellbeing:** WHO-5 Wellbeing Index converted score of less than 50.
- **Significant depressive symptoms:** Beck Depression Inventory-II score of 14 or higher.
- **Significant anxiety symptoms:** Zung Self-Rating Anxiety Scale index score of 45 or higher.
- **Serious suicidal ideation:** Positive answer to item 4 of the Paykel Suicide Scale "During the past two weeks, have you reached the point where you seriously considered taking your life or perhaps made plans about how you would go about doing it?".
- **Suicide attempt:** Positive answer to the following question "Have you ever tried to take your own life?".
- **Emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems and low pro-social behaviour:** Strengths and Difficulties Questionnaire (SDQ) using established cut-offs to identify abnormal levels of difficulties (53).
- **Psychotic-like experiences:** Those reporting having heard voices or sounds that no one else could hear.

All of the information reported was gathered at the same time. Therefore, it was not possible to establish causal relationships and all associations reported are cross-sectional.

4.7.1. Migrant adolescents

We compared the young people born in Ireland with those born abroad in terms of scores on the Strengths and Difficulties (SDQ) scale. The majority of participants, both migrants and non-migrants, had scores on the SDQ scales which indicated no behavioural or emotional problems. There were significantly more migrants who had elevated scores on the peer problems scale, with 11.2% of migrants in this category, compared with 5.4% of non-migrants. Migrants and non-migrants did not differ significantly on the other SDQ scales.

Migrants were also compared with non-migrants in terms of wellbeing. There were statistically significant differences between the two groups, with 88.7% of non-migrants having scores indicating positive wellbeing, compared with 81.8% of migrants.

Migrants were more than twice as likely to report having had serious suicidal thoughts (reported by 6.8% of migrants and 3.1% of non-migrants). There were also statistically significant differences between non-migrants and migrants in terms of history of suicide attempt, with a suicide attempt reported by 6.8% of migrants, compared with 2.7% of non-migrants.

4.7.2. Sexual orientation concerns

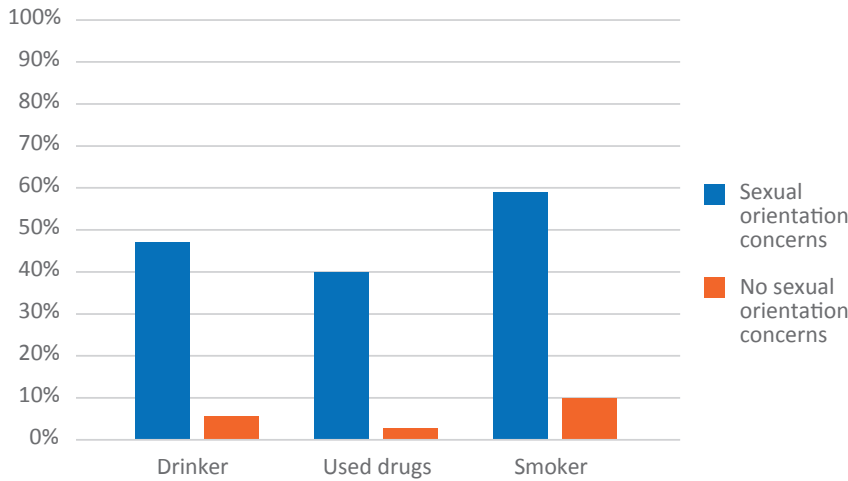
The SEYLE study questionnaire did not include an item recording respondents' sexual orientation, but adolescents were asked if they had concerns about their sexual orientation and 5.5% (58) of adolescents said yes. Sexual orientation concerns were reported by 6.1% of boys and 4.7% of girls. Adolescents with sexual orientation concerns were compared with those without sexual orientation concerns in relation to a range of factors including substance use, mental health variables and suicidal behaviour.

INTERNATIONAL SEYLE FINDINGS

In a study carried out using the European SEYLE dataset, migrants had elevated prevalence of both suicidal ideation and suicide attempts. The highest prevalence of suicidal ideation was found among adolescents who were born in their country of residence but whose parents had migrated from outside Europe (second generation migrants) (56).

Alcohol, cigarette and illegal drug use in adolescents with concerns about their sexual orientation.

Adolescents who expressed that they were worried about their sexual orientation were significantly more likely to use alcohol, drugs and cigarettes than their peers without these concerns (Figure 4.25). Adolescents who reported sexual orientation concerns were more than 16.5 times more likely to have used drugs previously and 9.3 times more likely to drink alcohol regularly compared to their peers without these concerns.

**INTERNATIONAL SEYLE FINDINGS**

A paper on this topic has been published by the Irish SEYLE investigators in the Irish Medical Journal. The authors reported that adolescents with concerns about their sexual orientation had, compared to their peers, a markedly increased prevalence of physical assault (40% vs. 8%) and sexual assault (16% vs. 1%) (57).

Figure 4.25. Alcohol, drug and cigarette use among those with and without sexual orientation concerns

Mental health of adolescents with concerns about their sexual orientation.

Adolescents with sexual orientation concerns had significantly poorer mental health than those without sexual orientation concerns (Figure 4.26). Adolescents were 14.6 times more likely to have attempted suicide if they had concerns about their sexual orientation.

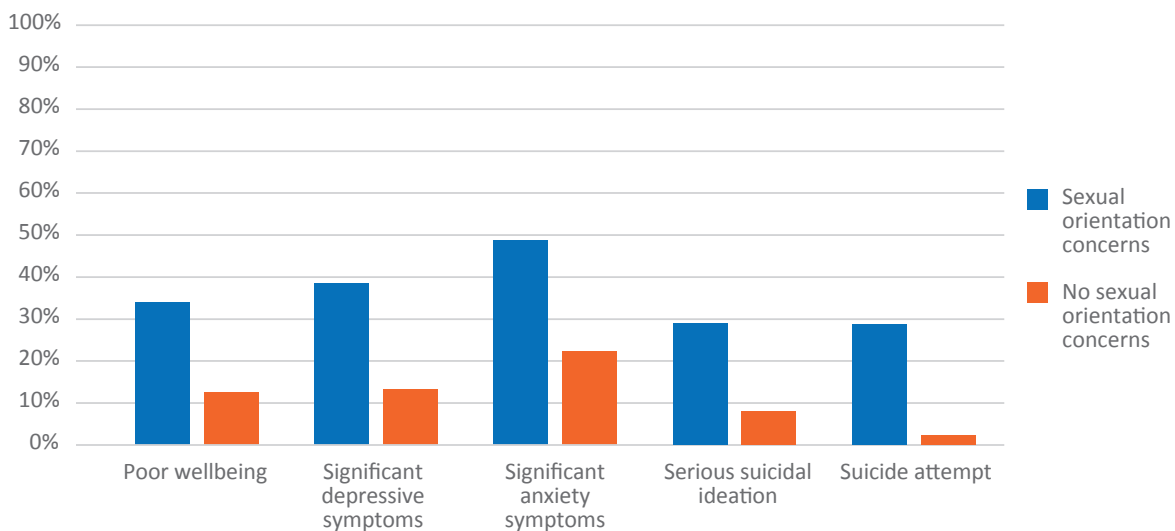


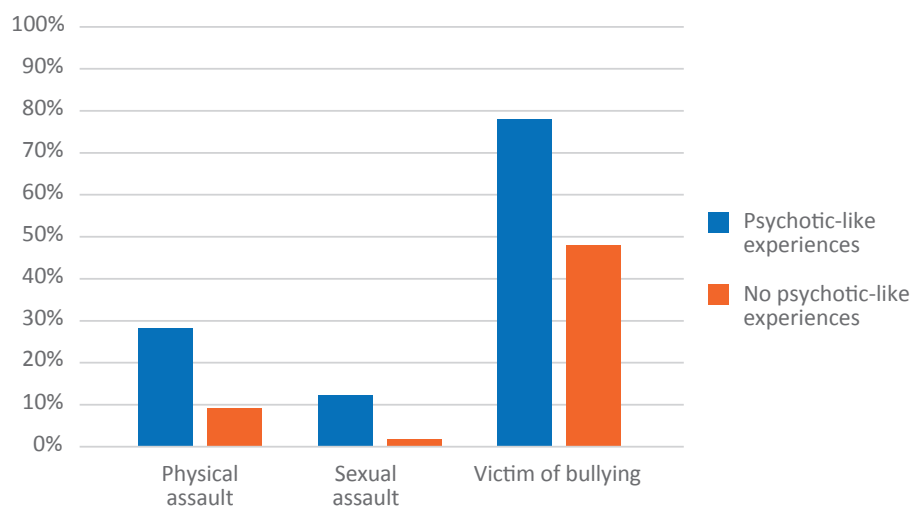
Figure 4.26. Prevalence of psychological difficulties and suicidal thoughts and behaviour among those with and without sexual orientation concerns

4.7.3. Psychotic-like experiences

Adolescents who reported psychotic-like experiences were compared to those without these experiences in relation to experiences of assault, victimisation and suicidal behaviour.

Psychotic-like experiences and assault and victimisation

Adolescents who reported having psychotic-like experiences previously were significantly more likely to have experienced assault or victimisation (Figure 4.27). Adolescents who had reported psychotic-like experiences were 8.5 times more likely to have been sexually assaulted compared to those who had no history of psychotic-like experiences.



INTERNATIONAL SEYLE FINDINGS

The authors of an Irish SEYLE paper examined associations between childhood trauma and psychotic-like experiences. Exposure to bullying or assault was found to predict subsequent psychotic-like experiences, while cessation of these traumatic experiences led to a reduced incidence of psychotic-like experiences (24).

Figure 4.27. Prevalence of physical and sexual assault and bullying among those with and without a history of psychotic-like experiences

Psychotic-like experiences and suicidal behaviour

The 76 adolescents with a history of psychotic-like experiences were significantly more likely to have other mental health difficulties compared to their peers (Figure 4.28). Adolescents with previous psychotic-like experiences were 9.7 times more likely to have attempted suicide.

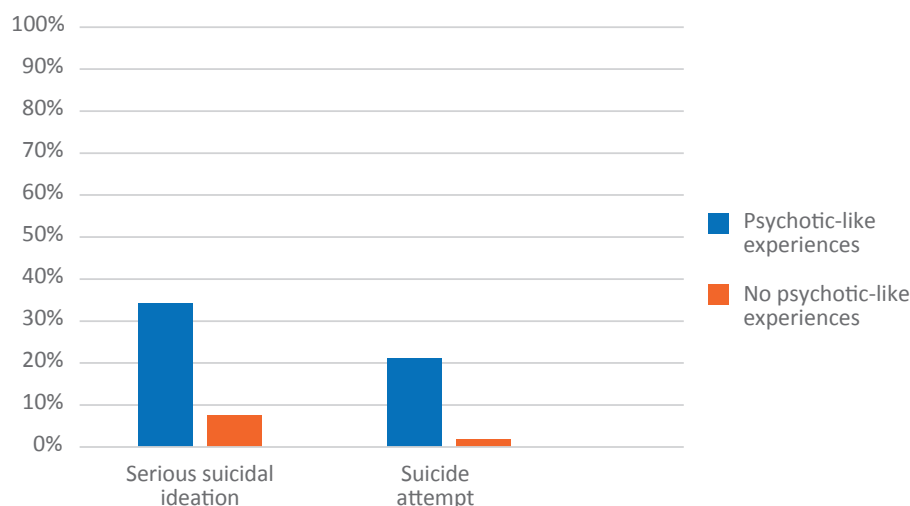


Figure 4.28. Prevalence of suicidal behaviour among those with and without history of psychotic-like experiences

4.7.4. Alcohol, drug use and smoking

Alcohol use and mental health

Significantly more of the 79 adolescents classified as regular drinkers had poor wellbeing, significant levels of depression and anxiety, and had reported suicidal ideation compared to those who were not regular drinkers (Figure 4.29). Furthermore, adolescents who were drinkers were eight times more likely to have attempted suicide compared to their peers.

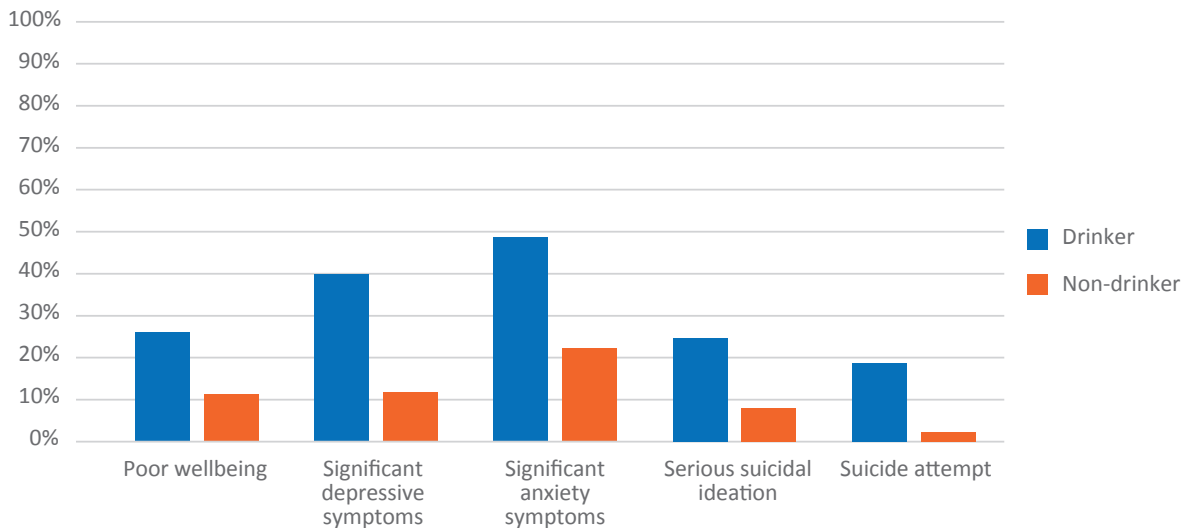


Figure 4.29. Prevalence of psychological difficulties and suicidal thoughts and behaviour among drinkers and non-drinkers

Illegal Drug use and mental health

Use of illegal drugs was associated with elevated levels of anxiety and depressive symptoms (Figure 4.30). Adolescents with a history of drug use were 9.0 times more likely to have attempted suicide previously compared to their peers who reported never having used drugs.

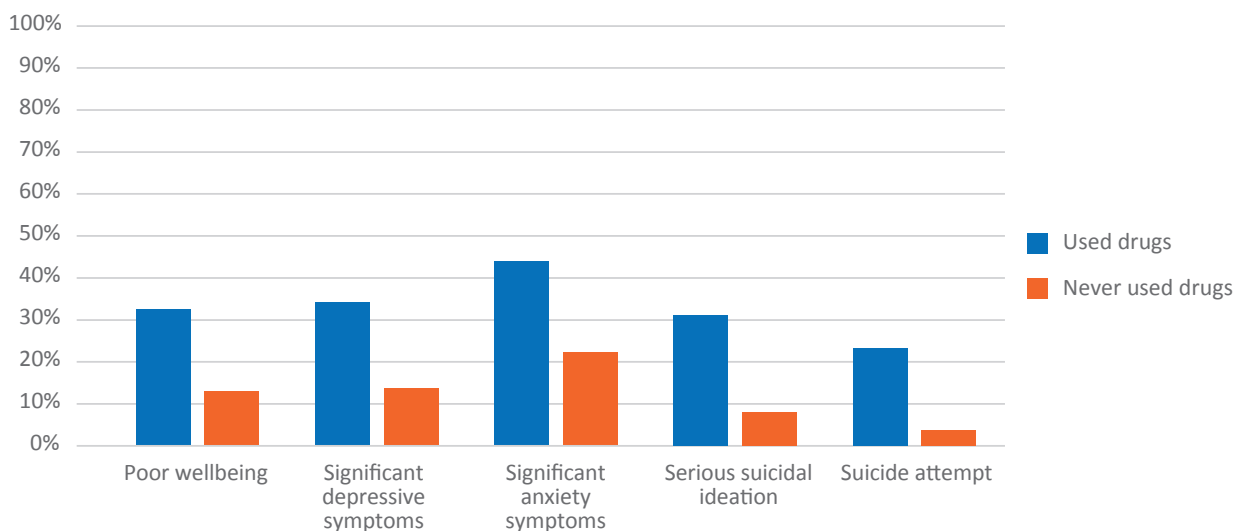


Figure 4.30. Prevalence of psychological difficulties and suicidal thoughts and behaviour among those with and without drug use

Smoking and mental health

Adolescents who were categorised as current smokers had significantly poorer mental health and were more likely to have engaged in suicidal behaviour than their peers who were not smokers (Figure 4.31). Adolescents who were smokers were 6.3 times more likely to have attempted suicide in the past compared to their non-smoking peers.

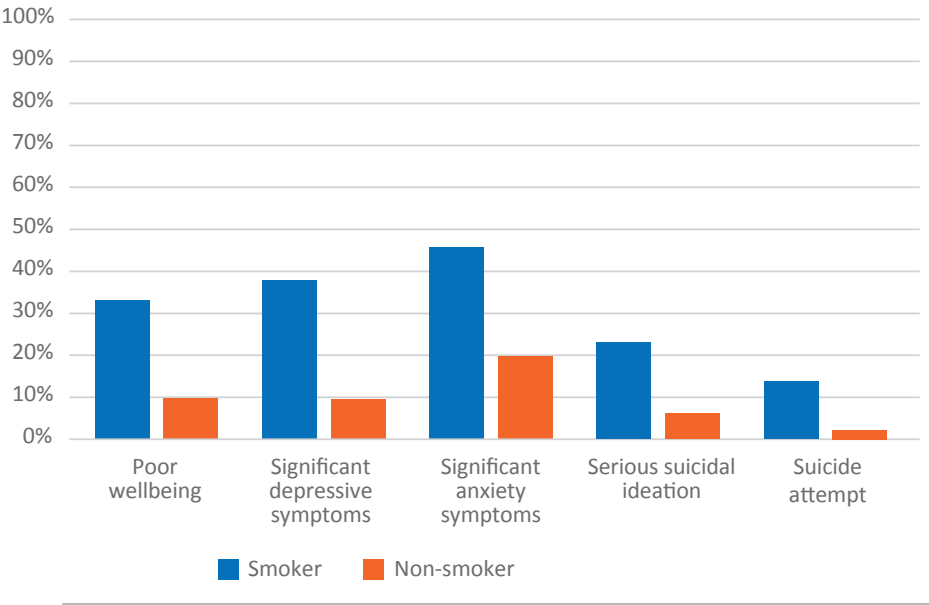


Figure 4.31. Prevalence of psychological difficulties and suicidal thoughts and behaviour among smokers and non-smokers

INTERNATIONAL SEYLE FINDINGS

Screening of students for risk-behaviours such as alcohol, drug and tobacco use significantly increased the number of students identified as requiring mental healthcare, compared with screening only for current depression, anxiety and suicidal ideation. The authors of this SEYLE international study concluded that attention to risk behaviours such as drug use is important in order to facilitate prevention and early intervention (58).

4.7.5. Assault and victimisation

Physical assault and mental health

Adolescents who reported having been physically attacked in the previous 12 months had significantly poorer mental health compared to those who had not been assaulted (Figure 4.32). Adolescents who had been physically assaulted were 5.7 times more likely to have attempted suicide compared to their peers.

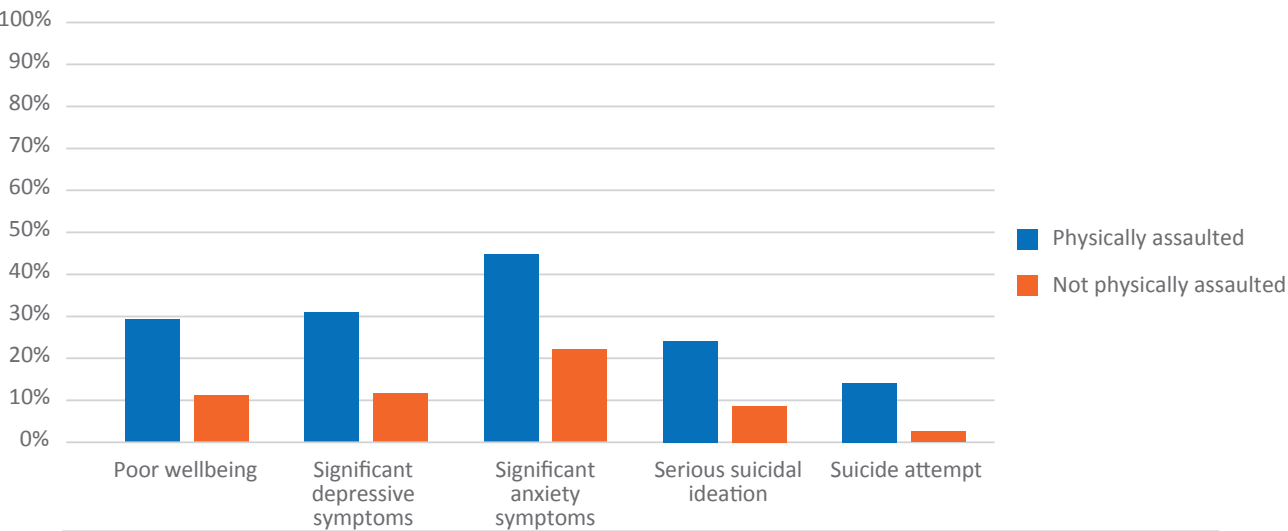


Figure 4.32. Prevalence of psychological difficulties and suicidal thoughts and behaviour among those physically assaulted and not physically assaulted

Sexual assault and mental health

Very strong associations were found between sexual assault and all the indicators of mental ill-health examined (Figure 4.33). The majority of those who reported having been forced to engage in sexual activity against their will had significant symptoms of depression and/or significant symptoms of anxiety, as well as poor wellbeing. Of the participants who had been sexually assaulted, 45% reported a suicide attempt at some time in their lives, a 17.3 times greater prevalence than found among their peers without a history of sexual assault.

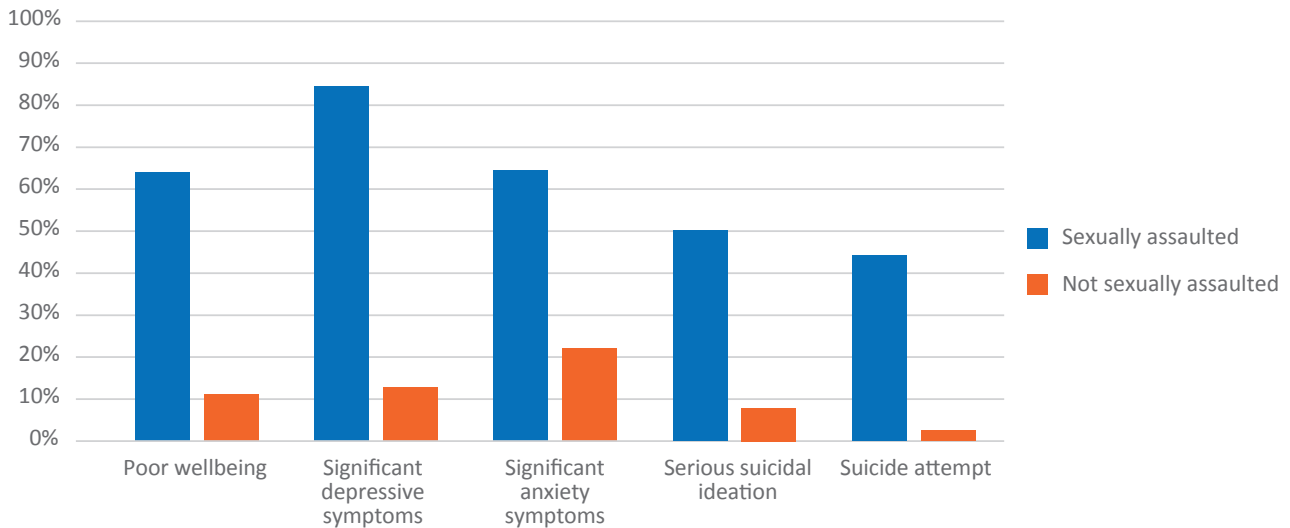
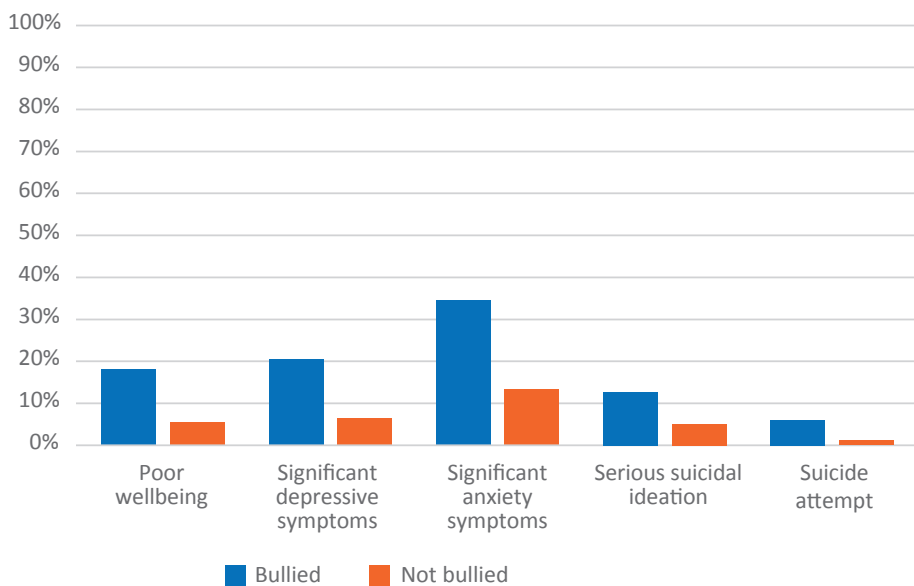


Figure 4.33. Prevalence of psychological difficulties and suicidal thoughts and behaviour among those sexually assaulted and not sexually assaulted

Bullying and mental health

Bullying victimisation was associated with elevated levels of anxiety and depressive symptoms, suicidal ideation and suicide attempts (Figure 4.34). Adolescents who had been bullied were 6.6 times more likely to report having attempted suicide compared to their peers.



INTERNATIONAL SEYLE FINDINGS

SEYLE researchers reported that victims of bullying were more likely to have harmed themselves than their peers. These associations were present for boys and girls. Victims of bullying who reported good parental and peer support were at lower risk of self-harm than victims without support (59).

Figure 4.34. Prevalence of psychological difficulties and suicidal thoughts and behaviour among those bullied and not bullied

4.7.6. Physical activity and sports participation

Physical activity and mental health

When comparing those with low, medium and high levels of physical activity, lowest levels of wellbeing and highest levels of depression and anxiety symptoms were found among the least active group (Figure 4.35). There were statistically significant differences between the groups in terms of wellbeing and depressive symptoms for both boys and girls, while differences in terms of anxiety levels were statistically significant for boys only but not for girls.

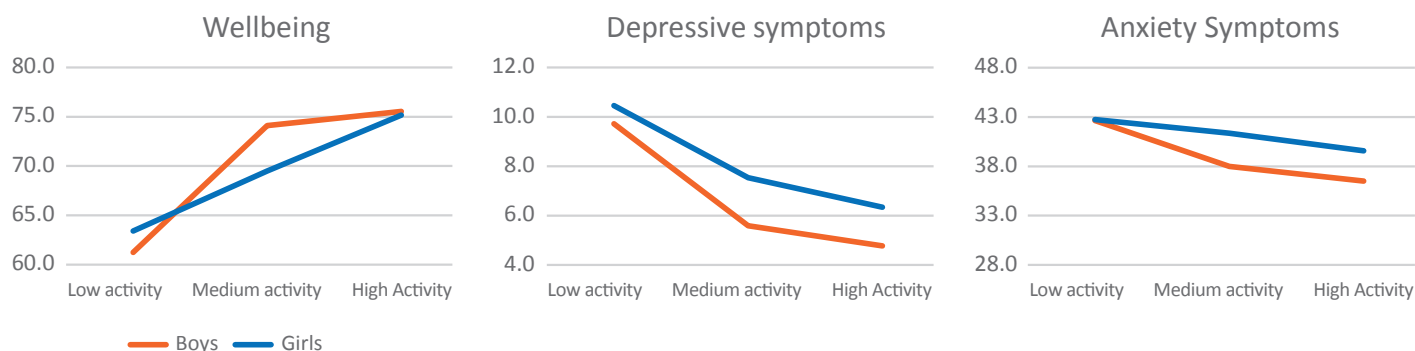


Figure 4.35. Associations between frequency of physical activity and wellbeing, depression and anxiety symptoms

Sports participation and mental health

Lowest levels of wellbeing and highest levels of depression and anxiety symptoms were among those reporting no participation in sport and the highest wellbeing and lowest levels of anxiety and depressive symptoms among those who participate in team sports (Figure 4.36). These differences were statistically significant in terms of wellbeing and depressive symptoms for both boys and girls, while differences in terms of anxiety levels were statistically significant for boys only but not for girls. Of those reporting participating in any sport (team or individual), 2.7% suicide attempt reported having attempted suicide, compared with 5.9% of those with no sport participation.

INTERNATIONAL SEYLE FINDINGS

Associations between physical activity and mental health were examined in a paper published by the European SEYLE group. Higher frequency of activity was found to be associated with better wellbeing and lower levels of anxiety and depressive symptoms, up to a threshold of moderate frequency of activity. Participation in sport was also linked with better mental health independently of frequency of activity (45).

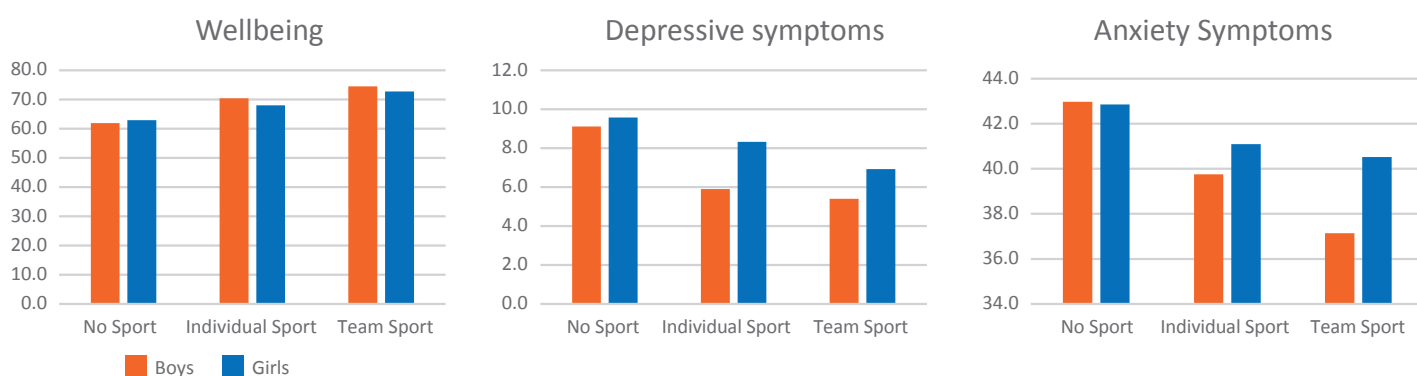


Figure 4.36. Associations between participation in individual and team sports and wellbeing, depression and anxiety symptoms

4.7.7. Sleep

The reported number of hours of sleep on a typical school night was associated with wellbeing, depressive symptoms and anxiety (Figure 4.37). Longer sleep duration was associated with better wellbeing and lower levels of symptoms in all domains for both boys and girls, with the exception of associations with depressive symptoms among boys, where lowest levels of depression were among those reporting nine hours of sleep. Largest differences in terms of all mental health indicators were between those sleeping seven hours or less per night and those with a longer sleep duration. Of those who reported sleeping less than 8 hours a night, 8.8% had attempted suicide, compared with 1.7% of those sleeping 8 or more hours.

INTERNATIONAL SEYLE FINDINGS

In the total SEYLE sample across Europe, emotional difficulties, peer-related problems and suicidal ideation were associated with reduced sleep hours (43).

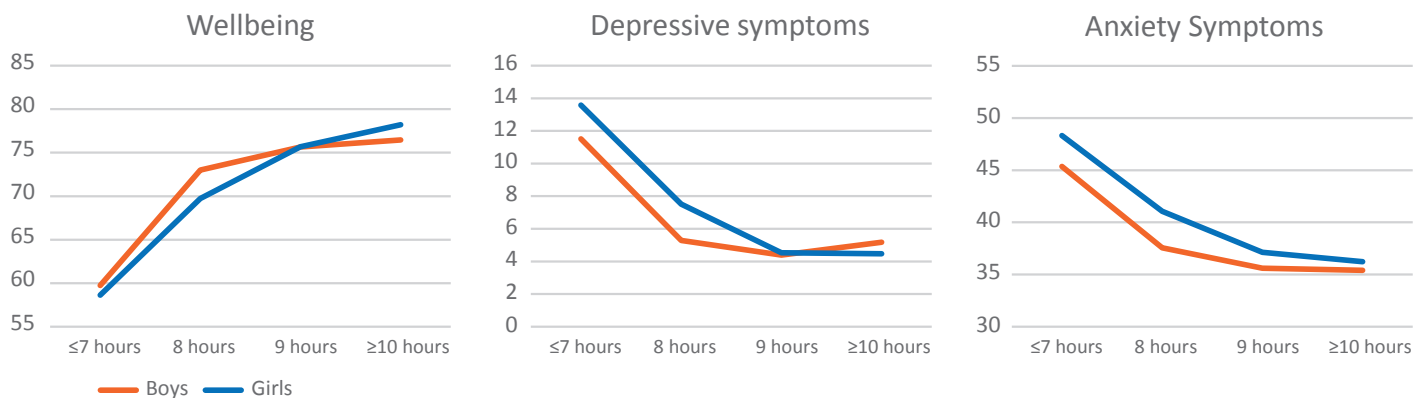


Figure 4.37. Associations between average hours of sleep on school nights and wellbeing, depression and anxiety symptoms

4.7.8. Relationships with family and peers

Young people who reported that their parents understood their problems some or all of the time were significantly less likely to have indicators of mental ill-health compared to those whose parents rarely or never understood their problems (Figure 4.38). Adolescents who reported that their parents rarely understood their problems were 3.4 times more likely to have significant depressive symptoms compared to their peers who reported that their parents generally understood their problems.

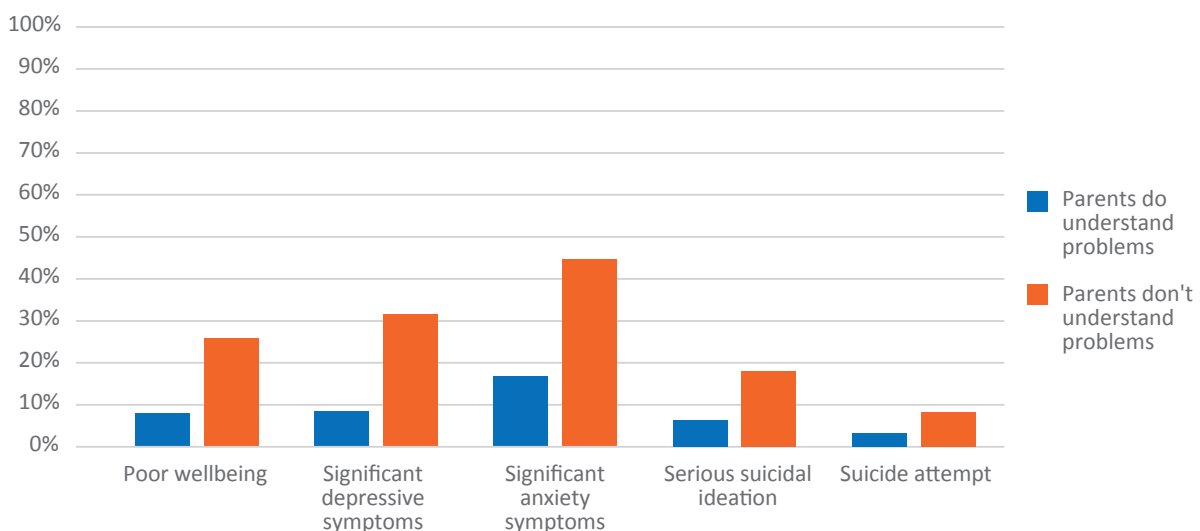


Figure 4.38. Prevalence of psychological difficulties and suicidal thoughts and behaviour among those reporting parental understanding and lack of parental understanding

Adolescents who reported that they get along with people of their own age some or all of the time had lower levels of depressive and anxiety symptoms and better wellbeing compared to those who rarely or never get along with people of their own age (Figure 4.39). Adolescents who reported that they rarely or never get along with people of their own age were 7.2 times more likely to have reported suicidal ideation compared to their peers.

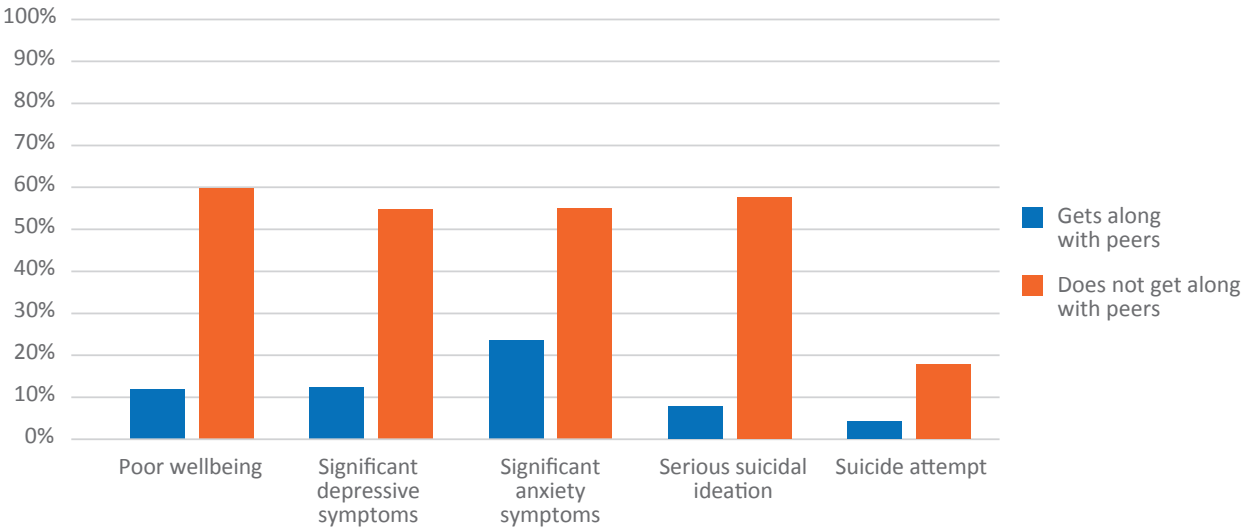


Figure 4.39. Prevalence of psychological difficulties and suicidal thoughts and behaviour among who do and do not get along with their peers

5. SUMMARY AND IMPLICATIONS OF RESEARCH FINDINGS

5.1. Key Findings

5.1.1. School-based mental health awareness programme

In the SEYLE multi-centre study, the Youth Aware of Mental Health (YAM) programme was found to be effective in preventing suicidal ideation and suicide attempts in European adolescents. This brief programme aimed to improve the mental health literacy and coping skills of young people through a combination of role-play sessions, interactive lectures and workshops. The programme was successful in cultivating peer understanding and support and was found to be both educational and enjoyable by the majority of students who participated (60). It has been suggested that the YAM awareness programme was successful because it offered young people the opportunity to think, verbalise, and discuss among themselves a range of issues related to mental health, which are important given that individuals engaging in suicidal behaviour often find it difficult to identify and express their feelings.

This study provided much-needed empirical evidence of the efficacy and cost-effectiveness of a universal school-based public health intervention. The SEYLE study showed that the awareness programme can prevent one suicide attempt for every 167 students targeted (10). Although further studies are needed to replicate these results within individual countries and education systems, this research provides evidence for the use of universal mental health awareness programmes in schools, contributing to addressing the gap in knowledge of effective suicide prevention strategies for an Irish context, as highlighted in *Connecting for Life* (8). It is therefore recommended to implement an evidence-based universal mental health promoting intervention in all secondary schools in Ireland. For more information on the YAM programme, see www.y-a-m.org.

5.1.2. Prevalence of anxiety and depressive symptoms, psychotic-like experiences and suicidal behaviour in Irish adolescents

The majority of the Irish adolescents who participated in the SEYLE study were functioning well, reported high levels of wellbeing, positive relationships and low levels of risk behaviours. Here we discuss findings on the prevalence of selected indicators of mental ill-health.

Prevalence of anxiety and depressive symptoms

Internationally, the reported prevalence of anxiety disorder in adolescent general population samples is between 10% and 15%, with the figure for depressive disorder between 3% and 6% (4, 61). The SEYLE study used self-report screening measures to assess levels of anxiety and depressive symptoms and therefore findings are not comparable with those of other studies which used diagnostic interviews to assess the prevalence of mental disorders. The large-scale My World survey, which, like SEYLE, used a self-report survey methodology, reported prevalence of abnormal levels of anxiety which are broadly similar to SEYLE findings. Of the second year sample within My World, 30% had abnormal levels of anxiety (62), compared with 23.7% in SEYLE. The prevalence of significant depressive symptoms was lower in the SEYLE sample, with 13.8% of SEYLE participants scoring above the cut-off, compared with 27% of those in second year who participated in My World. Differences may partly be due to the different instruments used to assess anxiety and depressive symptoms in the two surveys. Other Irish studies, including the Challenging Times, Challenging Times Two and Adolescent Brain Development Study, which used varying methodologies including diagnostic interviews, all reported lower prevalence of both anxiety and depressive disorders than those we have reported based on screening measures (16, 24, 63, 64).

Prevalence of psychotic-like experiences

It is now well established that psychotic-like experiences are relatively common in adolescents with recent estimates suggesting that 7.5% of 13-18 year olds have these experiences (65). We found a prevalence of 7.1% within this early/mid adolescent sample, which is in keeping with this estimate. Adolescents who report these experiences are known to be at risk of a wide range of co-morbid mental disorders, including increased rates of depression, anxiety (66) and suicidal behaviour (67). The results from this sample replicated these findings. Moreover, consistent with previous studies, we report a relationship between trauma, victimisation or bullying and an increased risk of subsequent or concurrent psychotic experiences (68, 69).

Prevalence of suicidal ideation

In the Irish SEYLE study, 7.0% of participants reported recently having had serious suicidal thoughts including suicidal plans. The rates of suicidal ideation we report are similar to the prevalence of 6.8% reported in the Adolescent Brain Development study, which had a slightly younger adolescent sample (63). As expected with older adolescent samples, the My World (young adult sample), Challenging Times and Challenging Times Two studies reported a higher prevalence of suicidal ideation in Irish mid-adolescent and young adult samples (18%, 22% and 19% respectively) (16, 24, 62). Definitions of suicidal ideation vary between studies, both in terms of severity and timing.

Prevalence of self-injury and suicide attempts

In the SEYLE study, one in five of the participants reported having deliberately harmed themselves, which was very similar to the prevalence reported among the young adult sample of the My World survey (62). In addition, 3.6% of the Irish SEYLE sample reported ever having attempted suicide. This prevalence was similar to both the overall prevalence among the ten European centres of the SEYLE study and also to other international findings for this age group (70, 71). The use of varying terminology and definitions for suicide attempt and self-harm make comparison with other recent Irish studies difficult. In the SEYLE study, suicide attempt was specifically assessed, while other studies examined self-harm, with or without suicidal intent. Previous Irish studies have reported rates of adolescent self-harm of between 6% and 9% (63, 64, 72).

5.1.3. Risk and protective factors**Smoking, alcohol, drugs and mental health**

While rates of smoking, alcohol and drug use were low in our sample, we found strong associations between all of these factors and indicators of mental ill-health. Regular drinkers were nearly four times more likely to have significant levels of depression or anxiety than non-drinkers and were eight times more likely to report a suicide attempt than non-drinkers. Those who had used drugs had poorer levels of wellbeing and higher levels of depressive symptoms than their peers and were nine times more likely to report having attempted suicide. Smokers were almost four times more likely to have significant depressive symptoms and more than three times more likely to have significant anxiety symptoms than their peers. Smokers were also more than six times more likely to report a suicide attempt than non-smokers. It is important to emphasise that these findings do not indicate a causal association between these risk behaviours and mental disorders. However, knowledge of these associations may help to identify those at high risk of mental ill-health. Research by the European SEYLE group found that alcohol use, drug use, smoking and other factors including reduced sleep and sedentary behaviour were important indicators of risk of mental disorders (70).

Gender differences

In this study girls were more likely than boys to have poor wellbeing and significant anxiety and depressive symptoms. Boys had greater levels of difficulties with conduct, pro-social behaviour and peers, while girls had higher levels of emotional symptoms and hyperactivity/inattention. Despite these gender-specific profiles of difficulties, it was notable that there were few differences between girls and boys in terms of rates of serious suicidal ideation and suicide attempts, while the proportion of boys reporting self-injury was slightly higher than for girls. These findings are unexpected, given the higher rates of self-harm among Irish adolescent girls and of suicide among boys (22), and maybe helpful in the identification of young people at risk.

Adolescents with concerns about sexual orientation

Young people with worries about their sexual orientation were identified as a group at elevated risk of psychological difficulties, with higher levels of anxiety and depression, poorer wellbeing and higher levels of suicidal ideation and suicide attempt than their peers without

sexual orientation concerns. Almost four in ten reported having been physically assaulted, while three quarters had been bullied. Data were not gathered on sexual orientation, but on concerns about sexual orientation only. Therefore, conclusions cannot be drawn about gay, lesbian or bisexual young people from these findings. However, these findings do highlight that, although there is growing acceptance of LGBT youth in Irish schools, further supports are needed for young people who are experiencing worries or difficulties (57).

Migrants

Young migrants are another group we have identified as at elevated risk of mental ill-health. Most migrants in our study had moved with their families from another European country. Nonetheless, migrants were at higher risk of suicidal ideation and suicide attempts and were more likely to have problems with peer relationships. This finding is consistent with the results of the larger European SEYLE study (56), and highlights the need for the provision of appropriate support to young migrants.

Negative life events

The negative effects of traumatic experiences including bullying victimisation, physical assault and sexual assault on mental health are strongly suggested by our findings. Among those reporting that they had been sexually assaulted, over 80% had high levels of depressive symptoms, while over 40% reported having attempted suicide, in both cases reflecting a risk of approximately ten times that of their peers without the experience of sexual assault. The previous Irish school-based Child and Adolescent Self-Harm in Europe (CASE) survey found similarly strong associations between forced sexual activity and self-harm among girls (73). We have also seen strong associations between bullying victimisation and poor mental health, again mirroring previous Irish findings (74). Further research conducted using the SEYLE data found that experience of assault or bullying predicted the development of psychotic experiences, while the cessation of traumatic experiences led to a reduced incidence of psychotic experiences. (24). The large and growing issue of cyberbullying has not been examined in this report as it is a recent phenomenon. Young people who have experienced these negative life events may need additional support in the school context.

Healthy lifestyles: physical activity and sleep

Although the benefits of activity to physical health are widely known (44), the vast majority of adolescents we surveyed were not achieving the recommended amount of physical activity. This finding is in keeping with the findings of the other European SEYLE centres (45). The most inactive adolescents had poorest mental health, while those who were active for at least an hour most days of the week, and those engaging in team sports, had the highest levels of wellbeing and lowest levels of anxiety and depressive symptoms. These findings underline the need for physical activity to be accessible to all, both within the school setting and the wider community, in order to promote positive mental and physical health.

Sleep was also identified as an important lifestyle factor associated with mental health. Longer nightly sleep duration was associated with higher levels of wellbeing and lower levels of anxiety and depression. As adolescents' sleep duration and quality is increasingly affected by excessive screen-time (75), it is important to emphasise the importance of a good night's sleep to young people's wellbeing.

Positive relationships

Young people who reported having supportive parents and positive relationships with peers also had better mental health. Those who reported that parents understand their problems had lower levels of anxiety and depression, better wellbeing and were less likely to report suicidal thoughts or suicide attempts. Associations between mental health and peer relationships were even stronger, with better mental health on all of these measures associated with reporting getting along well with peers.

5.1.4. Help-seeking, mental health literacy and school-based support

Among the young people who reported having attempted suicide, levels of help-seeking were low. Less than a quarter received medical care after their suicide attempt and over half of those who did not seek medical care told nobody about it. Participants were more likely to speak to a friend than a parent about their suicide attempt. However, the majority of the overall sample had a positive view of help-seeking and disagreed that a person is likely to solve emotional problems alone. Three quarters of participants agreed

that a person experiencing a crisis should get professional help. When asked how best young people could be encouraged to discuss their mental health, participants highlighted the need for school-based individual support, in particular the need for guidance counsellors to be available for young people in distress. A second major theme that emerged from the responses was the need for enhanced universal programmes of mental health education. The need for anonymous, confidential support for young people in distress was also emphasised. Adolescents acknowledge that their schools are in a unique position to promote mental health and emotional wellbeing and to identify young people experiencing emotional distress.

5.2. Implications of research findings for Irish mental health and education policy

The World Health Organisation's "Preventing Suicide" report highlights the importance of both the identification of risk factors and the strengthening of the factors which increase resilience and protect against suicidal behaviour and endorse the SEYLE mental health promoting programme (11). Knowledge of risk and protective factors among young Irish people can aid in the identification of those most at risk of mental disorders. The roll-out of evidence-based mental health awareness programmes in Irish schools should be undertaken as a matter of priority in order to develop mental health literacy, promote positive mental health and prevent suicide in this vulnerable group. On a broader level, implementation of the *Wellbeing in Post Primary Schools: Guidelines for Mental Health Promotion and Suicide Prevention* (27) in all post-primary schools should be prioritised. Guidance counselling provision in all schools is key to addressing the needs expressed by the students who participated in this survey for one-to-one support when needed. In the multi-centre SEYLE study, 12.5% of participants

were found to be in need of mental healthcare, based on screening for mental disorders and risk behaviours (58), therefore availability of access to supports such as the National Educational Psychological Service (NEPS) and Child and Adolescent Mental Health Services (CAMHS) is vital. A stated objective in the Department of Education and Skills Action Plan for Education 2017 is "to improve services and resources to promote wellbeing in our school communities to support success in school and life" (Objective 1.1, p. 14) (76). Schools play a vital role in providing a protective and health-promoting environment for young people which can substantially counter risk factors associated with mental ill-health.

5.3. Conclusion

Adolescence is a stage of life at which many mental disorders first arise, yet young people are often slow to seek help. For this reason, *Connecting for Life*, Ireland's National Strategy to Reduce Suicide 2015-2020, has identified young people aged 15-24 as a priority group at whom to target approaches to reduce suicidal behaviour and improve mental health (Goal 3, pg. 29) (8). While the majority of Irish youth have low levels of difficulties, it is crucial that every effort is made to respond to those experiencing mental ill-health. Schools are in a unique position to promote mental health and wellbeing and to identify young people experiencing emotional distress. In this report, we have examined the mental health of Irish adolescents and described a school-based universal programme shown to be effective in reducing suicidal behaviour and in promoting mental health at a stage in life when young people are facing significant life challenges. The roll-out of evidence-based mental health awareness programmes, the promotion of healthy lifestyles and the provision of appropriate services for those experiencing mental ill-health are vital in achieving the objective of the best possible mental health for all young people.

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