Risk Expanded

a qualitative study of youth and mental health research

Camilla Wasserman

Dottorato di Ricerca in Scienze per la Salute

Università degli Studi del Molise, Campobasso, Italia
Dipartimento di Medicina e di Scienze per la Salute
SSD: MED/25
Gennaio, 2016

All previously published papers were reproduced with permission of the copyright owner

© Camilla Wasserman, 2016

Designed by Tiffany Malakooti

ISBN 978-91-86339-40-1

The supervisor of this PhD thesis is Marco Sarchiapone and the co-supervisor Vladimir Carli

Abstract

The Saving and Empowering Young Lives in Europe (SEYLE) health promotion study sought to evaluate the outcomes of different preventive programs through a Randomized Controlled Trial (RCT) in ten European Union countries. The twofold aims were to improve adolescent health by means of a decrease in risk-taking and suicidal behaviors and to collect epidemiological data on risk behaviors and psychiatric symptoms. The Youth Aware of Mental health (YAM) program reduced the number of suicide attempts and severe suicidal ideation with approximately 50% and was hence the most successful of the intervention programs.

In addition to the RCT, two qualitative studies were performed with YAM youth and instructors respectively. In 32 semi-structured interviews with YAM participants in Estonia, Italy, Romania and Spain, mental health topics including risk and their experience of YAM was discussed. Drawing on both qualitative and quantitative methods to better understand the everyday practices of youth, risk is here investigated as an experience rather than behavior. The main focus of inquiry is how the research questions posed define and limit our findings.

Mental health research carries a lot of expectation about youth, often placing the youth of today in relation to future moments, behaviors and health outcomes, more or less positive ones. In youth mental health research, risk behaviors are considered a major public health concern. Risk and youth are primarily studied through the lens of behaviors and attitudes within a developmental framework. Attached to risk are various correlations and future outcomes such as that of psychopathology.

Risks are everywhere. They take the form of threat, disease, accident, war, climate, finance, relationships and affect us in different ways. In everyday life, risk is experienced quite differently than in terms of statistical links between risk factors and mental health outcomes. Risk decisions do not occur in isolation, but are performed in the context of

the many shared and perhaps contradictory norms and practices that surround that particular individual. Cultural beliefs, habits, power relations, social acceptability, scientific knowledge, personal experience and more, all influence risk perception and management. Defining risk is steeped in value, for individuals and the scientific community alike and classifications change over time.

Risk cannot be considered as primarily negative or with only negative outcomes, instead, risk can be neutral, or even positive. The relationships between behaviors and mental health outcomes are more complex than is frequently suggested. Much of the risk studied in mental health research takes as point of departure that of objective risks and dangers, yet what is considered a hazard in one historical or cultural context may not be identified as such elsewhere.

In the YAM program, by putting the participating youth in focus beyond the paradigm of risky/protective behaviors, a more fluid approach to their everyday lives and mental health topics takes center stage. Here mental health promotion is not connected to morality or deciding exactly which activities are healthy and positive. Based on empathy building and finding solutions as a group, the YAM youth reflect and analyze their actions through play and discussion.

In this dissertation a call is made for a more reflexive research practice, maintaining a critical approach to the meaning of categories and methods in all steps of the research process. Specifically, collaborations with youth in study design and analysis, cultural adaptation of assessment tools and mental health promotion programs, the use of different research methods to explore similar topics and a more nuanced and less normative stance on risk will hopefully lead to research results reflecting the complexities of everyday life.

Keywords: *Risk; youth; adolescence; mental health; qualitative study; SEYLE; YAM; health promotion; epidemiology; outcome; context; reflexivity; grounded theory*

For my three favorite teens, by no means teens anymore,
Marcus, Joakim & Emil

Contents

Abstract 3
Figures and images 15
Abbreviations 17
Acknowledgements 19

Preface 23

Considering risk and youth, together and separately 23
First notes on my inquiry 26
A short note on the use of 'youth' 27
Structure of thesis 28

I. Introduction 33

Deep in the psychiatric epidemiological study I found a clue 35
Youth, who are they (to us)? A little something on habit 36
Alternative research strategies and collaborations 38

II. Background 43

Youth and mental health, a history intertwined 45
Youth, adolescents, teenagers as we know them 45
Descriptions of youth 47
Youth, as part of life as a whole 49

III. Risk is more than just prevalent 53

Risk, beyond any one discipline 55
Youth, a risky time according to mental health research 55
Risk in the mental health literature 57
As correlate and predictor and the case for prevention 57
In context and of developmental importance 58
Danger, probability and values 60
Risk situated 61
A preventable deviation from the norm 62
SEYLE: mental health promotion for youth 64

Saving and Empowering Young Lives in Europe: collection of epidemiological data 66
Collecting epidemiological data on European adolescents: risk behaviors 66
Investigating risk: some questions left unasked 66
Psychological and epidemiological concerns 66
Prevalence of risk and psychopathology 67
Risk assessment and the creation of at-risk groups 71
Conflicting interpretations of risk 72
Framing, management and prevention of risk in society 74

IV. Risk expanded: qualitative interviews with youth 77
The meanings of risk: qualitative interviews with 32 European youth 79
Method: transparency of protocol 80
Working in Europe to Stop Truancy Among Youth (WE-STAY) 81
The creation and use of a semi-structured interview: the interview guide 82
Fieldwork 83
Ethical considerations 84
Data treatment 85
Transcription 85
Translation 85
Data analysis 86
Theory and method 86
Coding and analyzing the data 86
Quality criteria of the research conducted 87
Results: navigating risk *In Real Life* (IRL) 88
Alcohol: what's drinking all about? 89
An air of maturity 89
It is expected of us! 90
But, there's a time and place for drinking 90
We need more information than simply "it's bad for you"! 91
The experts say… 92
Skipping school 92
The art of skipping 92

Maturing and testing boundaries 94
Managing school as your work environment 94
Skipping doesn't always mean missing 94
What are the consequences? 95
What we do? We do whatever 97
Having a little fun at your teacher's expense 97
Everyone loves a good story 98
A decision I make for myself 99
Some reflections on the data presented 99
Risk: let's problematize it! 100
Risk as experience 100
Deliberating and navigating contradictions 100
Control and pushing the norms 102
Risk versus quality of experience 102
Bringing qualitative experience into quantitative territory 103
Reflections beyond the risk/protection paradigm 104

V. Youth Aware of Mental health (YAM): youth in play and dialogue 107
Mental health promotion 109
Youth in the present moment 110
Youth Aware of Mental Health (YAM) 111
A supportive platform for experience and discussion 112
Genesis of YAM 113
Risk in YAM 114
YAM: a hands-on approach to mental health empowerment and solidarity 115
Method and content: in brief 116
Validity, strengths and weaknesses 117
YAM: preventing suicidal thoughts and attempts 118
Exploring the field: texture and quality of the YAM experience 119
Youth positioning in relation to mental health interventions — qualitative interviews with YAM participants 120
The role of youth in mental health research 120
Lessons learned from the YAM instructors 121

CONTENTS

Nuance and flexibility in the classroom 121

A challenging and welcomed diversion to the school environment 122

Method 123

Results: Mental health — youth and researchers communicate 124

We all have favorites: "Interested" 124

Let silence speak: "Not my topic" 126

Give me a little time and let me speak the way I like: "Foot in the door" 128

Can I trust you?: "Careful" 129

Am I doing alright?: "'Respect for authority" 129

Distribution of the youth: a reality more complex than the data 130

We are all human — Duh! 131

Mind-set and method of the interviewers 132

A more creative understanding of mental health 134

Meaning of words: experience and interpretation 135

YAM and the different groups of youth 136

Advice for future YAM activities 137

VI. Concluding remarks 141

Beyond anticipation: exploring our research questions 144

Risk expanded 145

Youth defining the present moment 147

The inquiry continues: future research 149

VII. Protocols 153

Semi-structured interviews with YAM youth: interview guide 155

VIII. Published papers 163

List of published papers 165

Appendix A 166

Appendix B 180

Appendix C 189

Appendix D 198

References 211

Figures and images

Figures

YAM timeline p. 115

YAM materials p. 116

The interplay of positioning, response and method between youth and interviewers p. 125

Images

Four humorous illustrations p. 151

Abbreviations

IRL – In real life (as opposed to on the Internet)

CBPR – Community-Based Participatory Research

PPI – Patient and Public Involvement

RCT – Randomized Controlled Trial

SEYLE – Saving and Empowering Young Lives in Europe

WE-STAY – Working in Europe to Stop Truancy Among Youth

YAM – Youth Aware of Mental health program

Acknowledgements

I would like to start this bundle of blessings by thanking the youth who participated in our interviews for giving their time and opening up to us about sometimes sensitive topics like skipping school or mental health and for introducing me to many new and creative ways to think about these matters.

My deepest thanks to Marco Sarchiapone for persuading me to participate in the competition for this PhD in the first place, for believing in me and for providing institutional support. Thank you Marco for your hard work, fantastic solutions to every problem and kind words along the way. Thank you to your whole family for their hospitality and friendship.

Vladimir Carli has followed this dissertation from the get-go and made immensely valuable contributions and suggestions while overseeing my work with patience and wit. Vladimir exemplifies what an outstanding supervisor should be: supportive, critical and flexible. Most of all I want to thank him for our many discussions and occasional disagreements. His continued support and help until the very last minute is what made this dissertation what it is.

Thank you to Vita Poštuvan, my favorite conference call partner and my go-to colleague whenever I'm stuck in a train of thought. Our close collaboration has been an exciting experience, not without its struggles, but facing seemingly endless obstacles with you has been nothing but laughs in the end. Without your wholly compatible yet often different ways of thinking from me, this dissertation would not exist. The study of youth positioning vis-à-vis mental health researchers at the end of this dissertation is the result of Vita's and my collaboration over the past four years, and we together put the analysis in writing. The preliminary results here presented about meanings of risk are also drawn from the qualitative interviews Vita and I performed together.

Thank you to Miriam Iosue and Gergö Hadlaczky for exuding positive vibrations when we work together, and for being such wonderful collaborators. Thank you especially to Miriam for helping me navigate all kinds of administrative and linguistic troubles over the years. Not everyone is lucky enough to have a mind reader translate for them!

Christina Hoven took me under her wings back in 2008 when I first came into this field of research and I thank her for her support over the years. I commend her for her drive and extensive know-how about epidemiology and children.

I would like to extend my deepest gratitude to the translators in the countries where the qualitative study was conducted, without whom the interviews would not have happened and whose valuable observations made my research possible. Thank you to Marta Casero, Dana Herta, Miriam Iosue and Peeter Värnik. I would also like to thank the WE-STAY site leaders in these countries, namely Airi Värnik in Estonia, Marco Sarchiapone in Italy, Doina Cosman in Romania and Julio Bobes and Pilar Saiz in Spain. Many thanks to the National Centre for Suicide Research and Prevention of Mental Ill-Health (NASP) at Karolinska Institutet and the SEYLE/WE-STAY steering group for scientific advice. I would like to thank all my colleagues over the past eight years for valuable discussions and a healthy dose of divergence in perspective, from the University of Molise, to the Child Psychiatric Epidemiology Group at New York Psychiatric Institute/Columbia University, to those at NASP/KI and everyone in the SEYLE and WE-STAY consortiums across Europe.

I am indebted to the people who appear in the citations of this thesis. Among them are many writers and scientists who have devoted much thought and effort to understand and describe youth, well beyond the scope of what I here make use of for the sake of my argument. Drawing from their work, sometimes critically, is my tribute and compliment to these writers, and I hope that the exchange will continue elsewhere.

I want to thank Lisa Bartfai, my best friend, who has been particularly valuable for her critical outlook from beyond the field of youth mental health. Lisa read through the entire thesis and provided suggestions and questions no one else could have given me; however, I am even more grateful for the continued conversations we have had about my research over time, that have helped me to structure my thoughts and encouraged me to put some of them on paper. Without you, this wouldn't be half as interesting to me.

Thank you to Tiffany Malakooti for helping me add a little bit of spice and perspective to this thesis by making it look better than most and for being such a loving and supportive friend.

Thank you to my whole family and to all my friends without whom, even when I kept you in the dark, I would not have made it: Clara, Nina, Mari, Emily, Lina, Leili, Ruxandra, Dina, Arielle, Hannah, Yael, Magda, Vera, Patricio and Lucas. Love you all. Thanks to Erykah Badu for inspiring me to think beyond this moment in time.

Lastly, I want to thank my mother, Danuta, for being an inspiration, not merely in the field of research, but most importantly through her love, support and patience and my father, Jerzy, for his analytical engagement, sharp wits and invaluable opinion. Pappa, you prove that one does not have to be young to be in solidarity with youth, and more particularly that 88 years of wisdom leads to the most on-point observations and advice. I love you and cannot thank you enough.

Preface

Considering risk and youth, together and separately

> This slight danger (for every thirty favorable numbers there was one unlucky one) awoke, as is natural, the interest of the public. Those who did not acquire chances were considered pusillanimous, cowardly. (Jorge Luis Borges, *The Lottery in Babylon*)

Jorge Luis Borges describes to us the citizens of Babylon, not only willing, but wishing, to risk their lives for the excitement of the unknown. Those who do not share this desire for sacrifice are treated according to their weakness of character. So the story goes, as the characters of Borges' short story face hazards so great as death in the quest of fortune.

> In a bronze chamber, before the silent handkerchief of the strangler, hope has been faithful to me, as has panic in the river of pleasure. (Borges, 1962)

Navigating life in the fantastical city of Babylon entails daily face-offs with risk. Over time, the destiny of the people is slowly taken out of their hands and without protest put in those of "the Company"; imposing a risk-filled lottery that grows in popularity as the stakes get higher. As ever more danger and risk infuse the lottery, the thrills accumulate. I will not attempt further analysis of Borges' short story, but wish to begin with these extracts to help us deliberate risk as it tickles our imagination and excites and threatens us on a daily basis. Risks are everywhere. They come at us from every angle and depending on who you ask they will tell you about the risks of biking without a helmet, acts of terror from Yemen to France and Mali, the crash of Wall Street, getting dumped by your partner, smoking weed or drinking a little too much, the Keystone-Excel pipeline, gun violence, sexual assaults, too little or too much

government control, Ebola, bumping into that neighbor you are trying to avoid, nuclear disasters, plane crashes, tripping on the sidewalk, sexually transmitted diseases and the list goes on. Risks threaten our bodies, health, well-being, safety, status, self-esteem, pride, children, financial stability and even our love. They can happen at any time as one-time occurrences or repeated events. Some risks are beyond our control. Others appear to be in our reach as we actively engage in them or avoid them on an everyday basis. Sometimes the effects are instant, but it is just as common that we do not suffer any consequence until much later.

Risk has been described as a threat of the integrity or health of one's body (Lupton, 1999). But, risk is slippery and such threats depend on context and who speaks of health or integrity. In mental health research, risk and youth are often studied in tandem. The kinds of risks that appear to be the up to the individual in question are those of primary interest to mental health researchers. Youth are usually studied though the lens of behaviors, attitudes, social relations and developmental paths (Powers et al., 1989) and risk behaviors in youth are considered a major public health concern (Blum et al., 2012; Merikangas et al., 2010; Patton et al., 2012; Shaffer et al., 1996). In the eyes of the adult world, the risks youth face are often associated with rebellion, irresponsibility, reckless behavior, insecurity, testing grounds, uncertainty and even delinquency. Risks in mental health research are considered decision-making situations with various probabilities attached to possible future outcomes (Lopes, 1987 cited in Lightfoot, 1997) for example the development of psychiatric disorders. From this point of view, the risks appear tremendous, much like the high stakes of Borges' lottery. But, here lies the heart of the matter, to whom are the risks so great and seemingly looming behind every corner? Is it quite so simple as the ubiquity of objective risk and the individual's choice in confronting it? In my own experience, risk is much looser and in fact does not necessarily contain such a clear line between hard facts and real life subjectivity. I decided to look closer at risk to understand the meanings it holds and actions it covers. To do

this, I examined those who study the risks of others and those others who perform these assumed risks: mental health researchers and youth respectively.

Mental health research here stands as an overarching description of the many fields that attempt to reduce the burden of mental disorders worldwide and to promote mental health (WHO, 2003) through basic and clinical research (NIMH, 2015). With the range of disciplines that converge under the umbrella of youth mental health many of them come together through compromise, masking discrepancies on the meaning of terms and concepts that exist in their midst. Oftentimes it is easier to assume the other party knows what one is talking about, or agree on certain definitions and forego others, especially since research is, for reasons beyond our power, conducted under time pressure and resource constraints. Risk is one of these concepts, filled of actions and understandings that may at times be contradictory depending if you ask an epidemiologist, psychiatrist, psychologist, anthropologist, statistician, sociologist or any other mental health researcher. The word is mobile, able to mean more than one thing, and always with consequence beyond its mere existence. There is not only a risk or two out there, but also risky behavior and risk correlated, concomitant or a consequence of mental ill-health, or even as an indicator of a disorder.

How do the research questions we ask define and limit what is found: What is risk, where and when is it risky, according to whom and subsequently, what happens to the individuals and groups that are considered ‘at risk’? Is there so-called objective risk? Who makes the calls about what is risky or not, and does it matter? Can risks be separated from a specific cultural context? If someone doesn’t think something is risky is that person actually engaging in risky behavior? And the questions multiply. Mental health research is increasingly focused on early detection and prevention of mental health problems, and risk has taken a stronghold as a predictor. Risk implies incertitude about what is to come; here the future of youth, and the study of its prevalence and correlations with psychopathology at times a bit like fortune telling.

First notes on my inquiry

I entered the field of public mental health research quite by chance. My degree was in anthropology, and during my first years of working in a department of child psychiatric epidemiology I intuitively applied the kind of ongoing scrutiny that anthropology had taught me every aspect of research should undergo. I turned new words, concepts and categories upside down, trying to understand what they actually meant, soon understanding this often depended on who pronounced them. However, the circulation and meaning of terms in public health as contingent on the social positioning of those using them has been scrutinized elsewhere (Prussing, 2014). In contemporary anthropology, so-called reflexive scrutiny of the research process as well as the academic and political powers of representations that are set in motion when "writing culture" (Clifford & Marcus, 1986) is considered necessary. Attention is paid to the effects and bias that anthropologists have on their research, the topics and people they select to study, the experience of fieldwork, the production of results and writing of ethnographies. Such inquiry draws inspiration from anti-colonial and feminist critiques. Today most social scientific and humanistic research attempts to account for larger political and structural processes that influence the world in which we live and by consequence the research we choose to engage in.

An emphasis on epidemiological, (neuro)biological and intervention studies is predominant in mental health research. Arriving in the world of mental health research, specifically psychiatric and epidemiological research, I encountered a lack of critical assessment and perspective on the research practice. Knowledge, be it academic or popular is actively produced by individuals and currents of thought located in the social, cultural, political, legal and economic contexts that surrounds them. According to Lynch (2006), epidemiology is an interdisciplinary endeavor as people from diverse disciplinary backgrounds practice it. Yet, biomedical institutions are central to both the training of epidemiological researchers and the funding of epidemiological research (Prussing, 2014). In practice, there is little attention given to how the populations studied organize and

create meaning beyond the behaviors and topics most frequently under investigation. Epidemiology has been described as a place of competing approaches and professional commitments (Inhorn, 1995) and perhaps this is exactly where I found myself, as I would pit social scientific and humanistic inquiry against biological, epidemiological and psychiatric methodologies. Over time, I have been persuaded that though simply identifying problems may be helpful, it will not lead to any significant change. Rob Whitley (2014) in an article about the anthropology of mental health argues that "an academic discipline cannot flourish and thrive if its primary activity is to criticize another academic discipline, however worthy such an activity may be" instead offering to counter-balance any critique with proposed solutions.

Interdisciplinary anthropological-epidemiological research is rare, perhaps due in large part to perceptions that anthropology and epidemiology differ in their topics of inquiry, epistemological assumptions, methods of data collection and notions of risk and responsibility for illness (Inhorn, 1995). According to Inhorn it is not useful to pit the disciplines against each other, with epidemiology considered "scientific" and "number-crunching" versus the more "interactive" anthropology that is "interpretive on the terms of the people studied", indicating that both are far more complex than what is described in such reductionist terms. This perspective appeals to me, and I believe I have been able to bring it with me to the research I engage in. Both the topics and populations of inquiry can overlap, as can the goals of better understanding youth with the motive to create meaningful impact.

A short note on the use of 'youth'

Words matter. In this dissertation I have chosen to use 'youth' when referring to the young people at stake. Depending on who you ask they will tell you that they prefer to say 'adolescent', 'teenager', 'teen' or 'youth' and the reasons are usually contextual or political but just as

often simply a question of habit. Much has been written on these topics elsewhere, and I am personally partial to Medovoi's (2005) depiction, placing adolescence and teenager in a historical and political context of collective identity making. The term adolescence is intertwined with psychological and biological transitions, please refer to section II for further clarification of this phenomena. Medovoi describes adolescence as both a condition and case for lengthening the state of dependency and adult supervision. The teenager on the other hand, came to being at the same time as the "rebel" in post-World War II United States, with a certain imagined autonomy, freedom, individuality and delinquency attached to it (Medovoi, 2005), though it has been traced even further back in time (Savage, 2007). 'Youth' on the other hand, while at times sounding a bit off-beat (after having written and pronounced it time and again) is not immediately classifiable as a specific age, considered as a dependent state or particularly rebellious. Instead, it has been described as a social position (Furlong, 2013). In my imagination, youth is a designation stretching beyond age, while at the same time being low-key enough to encompass the complexities of living, being, performing, acting and being classified and described as such. Nevertheless, you will find 'adolescence' interspersed among the 'youth' in this dissertation, primarily when I am citing or refering to the work of others, but sometimes simply because it sounded better.

Structure of thesis

In the following dissertation I will investigate the relationships of mental health researchers and youth and the type of research, prevention and promotion we choose to engage in, with particular focus on the category of risk. My research is located between disciplines and methods, combining qualitative with quantitative methods and health promotion, studying behaviors alongside the experiences of youth and their attitudes towards mental health and health promotion, but also investigating the gaze of mental health researchers on youth. The theories informing youth mental health research stem from a range of different disciplines,

hence such an investigation will by no means attempt exhaustiveness and for this I excuse myself in advance.

Some opening remarks concerning interdisciplinary mental health research shall follow in the introduction, delineating my own work that is located somewhere between anthropology and epidemiology and the research and method inquiries that arise from this encounter. In the second section of this thesis, the relationship between researchers and youth is contextualized, with particular focus on the development of youth historically and the implication of psychology, psychiatry and sociology in turning the gaze to youth 'at risk'. Next, in the third section, risk is in focus. First, by tracing risk in mental health where it holds varied functions from predictor, correlate to developmental indicator amongst many others. Risk is subsequently considered beyond mental health in its' everyday form. The epidemiological study of risk behaviors in youth in eleven European countries from the Saving and Empowering Young Lives in Europe (SEYLE) study is accounted for, followed by a discussion of the assumptions and knowledge that influence the methods and results presented. Section IV presents results from qualitative interviews with 32 youth in four European countries regarding two risk behaviors commonly under investigation: skipping school and drinking alcohol. Inviting youth who participated in a large-scale epidemiological study to express themselves beyond the structured questionnaires, the investigation centers on the actual meaning behind actions and practices that are considered risky by scientists. Subsequently, in section V, Youth Aware of Mental health (YAM) is introduced, a program for youth aiming to increase knowledge, reflection and conversation about mental health. YAM engages with youth beyond the risk versus protection model, focusing on everyday life experiences through role-play and discussions. The efficacy of the program in decreasing suicide attempts and severe suicidal ideation is demonstrated through the presentation of SEYLE data. Finally, two qualitative studies are presented, one relating to YAM in the field and the other concerning the relationship of youth to mental health researchers. These studies hopefully pave the road for future research initiatives encouraging mental health researchers to better

listen to the stories, contexts and topics of youth.

Once in a while, taking a step back to explore the questions and habits of one's practice can serve as an eye-opener to how knowledge is produced and re-produced. In *The Lottery in Babylon*, the narrator is no longer in Babylon, and only in exile, the story can be shared:

> I don't have much time left; they tell us that the ship is about to weigh anchor. But I shall try to explain it. (Borges, 1962)

I

Introduction

You should not try to find whether an idea is just or correct. You should look for a completely different idea, elsewhere, in another area, so that something passes between the two which is neither one nor the other.

— Gilles Deleuze and Claire Parnet, *Dialogues*

Deep in the psychiatric epidemiological study I found a clue

Working in the field of youth mental health, creating a health promotion program, designing studies and analyzing data, a lot of questions accumulated over the years. A few particular questions did not leave me, even as I turned the methods and topics of study on their head. After the data collection, beyond the epidemiological and demographic data, where were the actual youth hiding? I was not satisfied with the account of youth that the study of general behaviors typical to quantitative research provided me with (Bryman, 2012). Perhaps this attention to contextual meaning can be attributed to my background in qualitative research, but I could not find the stories youth themselves create and tell, the environments they frequent and the culture they use/live in/are attached to. And why so much focus on risk in psychiatric, psychological and epidemiological research? Risk, specifically in youth, was a mobile concept and difficult to pin down, holding a lot of different connotations, such as, but not limited to: a normal and important function of a developmental period (Jessor, 1991; Lightfoot, 1997); as leading to other risk behaviors (Jackson et al., 2012; Kipping et al., 2012); correlated with psychopathology (Flisher et al., 2000; Harakeh et al., 2012; Johnson S et al., 2009; Kim, 2011; Sarchiapone et al., 2014; Zhou et al., 2012); or even the sign of being a syndrome of problem behaviors (Donovan et al., 1988; Guilamo-Ramos et al., 2005); separating youth into clusters (Carli et al., 2014); affecting future mental health (Brunner et al., 2014; Kessler et al., 2010; Merikangas et al., 2003); and morbidity (Eaton et al., 2012; Kann et al., 2014); with more than one risk-behavior co-occurring in the same individual (Hale & Viner, 2012); creating peer allegiances and groups (Lupton & Tulloch, 2002a); and with intervention initiatives spanning from the prevention of risk to the promotion of so-called healthy or protective behaviors (Cusimano et al., 2011; Jackson et al., 2012; Romer, 2010).

One may call part of my research participant observation (Murray, 2003) by circumstance, working in the epidemiological and mental health research context for an extended period of time while also gaining a first-

hand sense of how knowledge is there constructed and put to work. Of course, my goals are not of antagonistic nature, nor am I really working on an ethnographic study of mental health research. Instead, by using the vantage point of an outsider privy to observe from the inside, I have over time grappled with some methodological and historical aspects of epidemiology and psychiatry. By actively participating in the research here described, new questions came to the surface and I here offer a continued analysis of some of the collaborative research studies that I contributed to. Instead of simply putting large data sets in motion by re-analyzing findings, I suggest an expansion of the research conducted, by studying similar topics using different methods and modes of inquiry. Such efforts, here through the study of risk and mental health in conversation with youth, hopefully infuse the scientific categories of risk with action and meaning while considering the relationships between researchers and those who they choose to study.

Youth, who are they (to us)? A little something on habit

Youth and their mental health provide us with infinite opportunities for inquiry as mental health researchers. Though the majority of youth do not suffer from mental health problems, most mental disorders are thought to originate in the period of adolescence and as such it is considered an important period for intervention (Eyre & Thapar, 2014; Kessler et al., 2005; Patton et al., 2014). It is common to not only study those most at risk for mental illness or those who are actually ill, but to approach youth mental health as a public health problem and to study the general population. It is also frequent practice to address youth mental health with public health intervention studies without engaging them in the conception and design of such studies or the interpretation and dissemination of results. Adult researchers sometimes appear to suffer from a preoccupation with the future, typically pitting the youth against what is to come. Correlations are expected, outcomes calculated and probabilities identified, allowing behaviors, habits or sociodemographic

attributes in the present define future moments, often losing touch with or overlooking more immediate experiences. Durkheim describes how an attachment to the future can lead to the inability to experience the past or the present as something other than hasty, something we have to get, or even rush, through to be somewhere else (Durkheim, 1893).

Researchers from many different disciplines study youth, everything from risky and healthy behaviors and patterns, hormonal upheavals of puberty, entry to the adult world and job market, independence from parents, to rituals and cultural practices and much more. The approaches are quite different, some more bleak than others, some with a tone of admiration, yet whatever the motives or interests, it is common, across the board, that these studies are approached as something that is done to youth (Tilleczek, 2011). A range of factors determines which research questions are thought to be interesting and worthy of funding in mental health (Horwitz & Wakefield, 2012). The assumptions about concepts and categories and which technologies are considered more objective to the potential application of findings is a cultural activity (Choudhury, 2010) that requires scrutiny. Much research conducted is driven by a mix of opportunity (what and who we can access, grants, research calls, ethical approvals) and assumption (variations of cause/effect paradigms, ideas of the prototypical youth that sets the standard, healthy versus risky behaviors) and habitually quantitative research methods are preferred.

Youth are often considered as innocent and in need of protection with adults having their "best interests" in mind (Gordon, 2000). I have come across scientists who, in conversation, will describe their research as attempting to find out what separates the youth who end up at the bottom of the income ladder versus those who succeed, with the underlying assumption that either outcome is as likely for all. We all carry with us expectations about youth, perhaps akin to the fascination the adult world has of adolescence, looking back with a hint of nostalgia to those, in retrospect, carefree years. Nostalgic or not, we often end up with an unforgiving gaze on the youth of today, waiting impatiently for them

to grow up, to mature out of the stage we place them in, perhaps even punishing them for what we did, could not do, or for what we cannot be.

There is a widespread lack of attention given to categories, meanings and scientific context in mental health research (Whitley, 2014), relating to everything from the language employed by researchers to the development of certain research questions over time. Neglecting to address these topics has lead to a compromise in the study of youth as a complex, fluid, and ambiguous action and performative category, and as cultural agents capable of desire, love, hate, hopes, struggles, language, dress, walk and so many other social and cultural practices (Ibrahim, 2014). Beyond a psychologically categorized group, the perspective should be switched to a culturally, socially and historically produced category of youth, exploring the intersectionality of gender, class, race, sexuality and ability (Ibrahim, 2014). Youth occupy the same world as adults and is an assemblage of many different forces and parts, thrown together or not:

> that might include acne, fast-moving limbs, sexual jokes, cruelty, idealism, too big, too small, awkwardness, laughter, threatening, familiar, physical ease, and disinterest (Lesko & Talburt, 2012).

Alternative research strategies and collaborations

In order to facilitate research and preventive work in mental health, youth is conceived as rather uniform an entity. On the other hand, in the practice of patient focused psychology and psychiatry, the culture of the individual teenager prevails. In a study of U.S. psychiatric faculties, Metzl and Hansen (2014) urge us to go beyond the monolithic group as well as the individual in order to understand cultures of adolescence, including that of gender, place, privilege, opportunity, racism and the many other structural determinates of physical and mental health. There is a conflict that sometimes seems unresolvable between neutralizing the research

environment through standardized protocols, minimization of contact and double-blind data collection while also focusing on socio-economic and cultural contexts (Willig, 2001). Yet, the possibilities need to be investigated, specifically in large-scale epidemiological research efforts. Another way to allow for a wider set of perspectives in youth mental health research would be for different research methods to approach similar topics and subjects, allowing for introspection through cross-disciplinary exchange and perhaps more informed research in the long-term. It is important that cultural sensitivity within mental health work is adopted in analytical as well as systematical practice. As an example, there is often superficial mention of culture without proper examination of what this entails both in relation to researchers and research subjects; as the anthropologist Clifford once stated, culture is often merely "adopted as images and metaphors" (Clifford & Marcus, 1986).

Developing questionnaires and interventions for youth would profit from the expertise of young people to boost the quality and relevance of such (Sawyer et al., 2012). Moreover, conducting such work in the community requires the trust and interest of those being studied and the community would not only benefit from the findings but also know how best to spread and make use of such knowledge. Oftentimes there isn't enough funding, time, knowledge or experience to engage in true Community-Based Participatory Research (CBPR), in which members of the community participate in the full spectrum of research (NIH, 2015), moreover ethical approvals for research involving youth can be difficult to navigate (Mawn et al., 2015). Patient and Public Involvement (PPI) has been recognized as essential for health service development and research and exists in some European countries and to a lesser extent in the U.S., but few examples of such practices exist in youth mental health (Mawn et al., 2015). According to Mawn and colleagues (one of which is a youth collaborator), research involving members of the public has been shown to be more robust, increase participation and facilitate translation of findings into practice. There are many ways to get closer to and involve youth and invite them to inform research about questions relevant to them. Unfortunately, meaningful collaboration is rare and

there is great risk for tokenistic and methodologically poor research collaborations. Public involvement is sometimes simply considered a "tick box exercise" without concrete plans (Mawn et al., 2015). By placing ourselves, as scientists, "beside youth", instead of observing them from above or putting youth in an overly optimistic light, then perhaps our study shall lead to a broader range of outcomes and affects including the element of surprise (Lesko & Talburt, 2012).

II

Background

They only want you when you're seventeen, when you're twenty-one you're no fun.

— Ladytron

Adults don't do anything. Adults just sit and talk and don't do a thing. Theres not anything duller in this world than adultery.

— A child quoted in H.A. Smith's *Don't get perconel with a chicken*

Youth and mental health, a history intertwined

Being young is filled with paradox in mainstream 'Western' culture. The biological aspects of youth and lifestyles of freedom from responsibility are highly coveted and there is a pervasive yearning to remain forever young, yet, the adult world decidedly hold the balance of power and often chastise youth for being irresponsible and 'young' (Tilleczek, 2011). These attitudes affect us as mental health researchers and adults alike. An investigation of the present moment in youth mental health calls for a historical contextualization of the relationship between researchers/adults and subject studied/youth. Such an investigation can help to elucidate certain research questions we today take for granted. One major shortcoming of such an undertaking is that it will not include the voices and views of youth themselves, rather the focus will be on the historical engagement of the mental health professions with youth. Moreover, the focus of my writing is distinctly Euro- and North American centric, wholly focusing on English speaking work. With this in mind, the purpose here will not be to provide an exhaustive account of mental health research in their dealings with youth. Instead follows a summary of currents that can be considered important in the development of mental health research on youth.

Youth, adolescents, teenagers as we know them

All societies have some way of grouping their members in terms of age, each with their own patterns of activities, rights, and duties, however loosely defined. Age is foremost an administratively convenient category, yet over time it has come to take on scientific, natural and even moral properties (Woo, 2012). In some societies these groupings are more numerous and rigidly demarcated (Gulliver, 1968; 1969), importantly they are not the same across the world. Depending on their age, members of society are valued differently (Woo, 2012). Young people

defined as youth are considered very differently from those defined as children, in both everyday, academic and political contexts. These conceptual distinctions are used by young people, their supporters and those who deprecate them; youth sometimes claim the label "child" to win sympathy, whereas those who wish to denigrate them may call them youth (Boyden & Bourdillon, 2012).

The UN definition of youth is 15-24 years old (UN, 2015), adolescence has been defined by the WHO (2001) as the period between 10-19 years old, while a child is between the ages of 0-18 years old according to the Convention on the Rights of the Child (UN, 1989). The term adolescence has been traced back to the 15th century (Bakan, 1972) but may have differed in meaning then. It is less closely related to physical distinctiveness than childhood, and is often described as a 'Western' concept (Jenks, 2005). Though certain biological and cultural features of youth may be considered universal, this does not conflict with the observation that the structures and activities of adolescent life and behavior are variable across cultures (Schlegel & Barry, 1991).

Today in Europe and North America, youth, adolescence, teenage, or however one refers to it, is considered unavoidable and a phase expected to arrive closely following childhood before adulthood. The anticipation is high in earlier years and one commonly hears parents moan about soon having teenagers in their homes. The period in between childhood and adulthood is important to us, and the age levels deemed to be within the youth range are increasingly expanding (Sawyer et al., 2012). However, this is quite recent a development. In pre-industrial societies the young moved rather quickly from childhood to adulthood. The pattern of prolonged adolescence is an economic question with sociocultural and political implications, as we shall see.

Separation and segregation according to age groups is characteristic of how our society is organized. The young are in schools much of the time and social life mainly occurs within their age group. Adolescents are not expected or permitted to work and they are to a large extent separated

from adults in their everyday lives. There is considerable difference between what is expected of youth depending on their social class, race, ethnic group, gender identity, sexual orientation, disability, culture or any other markers of difference, yet typically these expectations differ from those put on adults.

According to the organizational model described above, chronological age is considered as an index of development and belonging. However, much critique has been put forth to contest such a narrow interpretation of youth, simply focusing on age diminishes for example the significance of popular culture and style in constituting youth as a category (Bennett & Kahn-Harris, 2004).

Descriptions of youth

The category of adolescence emerged when many industrialized countries struggled with economic problems at the beginning of the 20th century. A new social problem surfaced at this time, a poor group of people between childhood and adulthood (Krausman Ben-Amos, 1995). The growing middle classes were concerned with the need to control not only their own offspring but also those of the working classes who were increasingly associated with danger (Finn, 2001). Adolescence was used to describe a period of storm and stress observed in young people mid-way between the dependency of childhood and the stability of adulthood (Conger, 1979). By means of social and educational reform, youth at this time became a life stage and policy question that required an age range, descriptions and psychological attributes (Talburt & Lesko, 2014). The period was considered one of inevitable psychological and social confusion. Youth were described by Eisenstadt (1964) as living on the frontier, with a love of mobility and going through sudden shifts from dependence to maturity and back again. By forming adolescents there was hope to mold the development of the modern nation state and create rational and disciplined citizens (Talburt & Lesko, 2014).

Youth came under deep scrutiny in post-WWII Europe and North America, representing visible manifestations of social change (Hall & Jefferson, 2006). Early youth scholars, Clarke and Hall, have described the moral panic and social anxiety vis-à-vis certain young people, particularly those who belonged to the working class or another race/ethnic group with particular focus on delinquency, crime, violence, vandalism, sexuality, the debate of the decline of the family, indiscipline in schools, school drop outs, drugs and so on (Hall & Jefferson, 2006). They tell us that official reports, pieces of legislation and official interventions, singled out youth as a social problem, something 'we ought to do something about'. Many of these themes still stand as important in today's mental health research and as we shall see they can overwhelmingly be found under the category of risky behaviors.

A perspective that has continued to be influential over time is that of adolescents' absence of control over biological development as subjects to raging hormones (Talburt & Lesko, 2014). Youth are considered a problem prone population we need to not just care for but also watch over. Defined by their age and at-risk for deviating from the proper development expected of them, they are considered as barometers of a society's and nation's social and economical well-being (Talburt & Lesko, 2014). According to Hine (1999), in his book about American teenagers, reforming behaviors of youth has become a surrogate for trying to deal with problems of society at large. Kelly (2000) argues that youth are increasingly becoming the subject of government policy and control. Youth are considered as "hormonal, easily influenced by peers, corruptible, and immature" (Lesko, 2012) and the focus is on how to protect youth or help them protect themselves against risks (Kelly, 2000). Kelly suggests that such anxieties are more telling about the world of adults and their fears than about youth themselves. The study of children and adolescents was initially conceived as a way of finding solutions to general psychological problems rather than concerned specifically with those studied (Jenks, 2005).

Early on, psychology and sociology were considered the prime experts on youth, and later psychiatry joined their ranks. Concepts and

categories remnant from early 20th century psychosocial research still influence how we look at youth, specifically in regards to their maturity versus immaturity and their tending towards risk behaviors. Youth mental health research has historically focused on puberty, antisocial behavior, crime, positive effects of schooling, youth organizations (Rutter, 1995) and autonomy, sexual development, intimacy, identity, achievement, socialization as well as the interplay of bio- and psychosocial processes (Adams et al., 1996) with a focus on behaviors, attitudes and developmental paths (Powers et al., 1989). Today psychology and psychiatry are increasingly bio-centered, and the quest to understand youth is more and more focused on the teenage brain within a developmental framework (Anderson J, 2011; Johnson S et al., 2009; Spear, 2010). The developmental framework has been described as bound up with a view of youth as a "less than" status (Talburt & Lesko, 2014). Instead of simply asking why certain young people are not developing according to the norm, Woo (2012) suggests that we ask what the possibilities for growth and different versions of adulthood are.

In the 1970s and 1980s, cultural studies formed, studying youth in context of social change, departing from the focus of psychologists and sociologists on the integration, coherence and discontinuity of youth (Besley, 2002). Cultural studies used ethnographic methods to describe a variety of youth culture and subculture with strong emphasis on socioeconomic factors. Contemporary critical youth studies draw from many different fields, like sociology, cultural studies, psychoanalysis, pedagogy and anthropology (Ibrahim, 2014). However, it has been argued that the use of qualitative methods does not automatically imply a critical perspective vis-à-vis the 'the storm and stress' model or other representations of youth as being in trouble (Griffin, 2001).

Youth, as part of life as a whole

In the brief contextualization of youth above, one comes to see that it has historically been bound up with anticipation, as a period thought of as

transitional. Erikson (1968), the developmental psychologist, articulated the importance of not isolating youth, instead reflecting on youth as part of life as a whole. As mentioned earlier, according to Durkheim, an attachment to the future leaves something out of the present. A desire for youth to mature out of the stage they are in, yet not too quickly, and certainly not by attracting all the vices of adulthood, saturates our outlook as adults and members of the scientific world. Maturity is anticipatory and within this framework it appears to be tainted by anxiety. Schlegel and Barry (1991), in their anthropological survey about adolescents across the world, point out that when the perception of youth by adults is less than favorable, they have to cope with that burden while at the same time preparing to enter the adult society that stigmatizes them. Is the failure to make a successful transition to adulthood more widespread in disapproving cultures than in those in which adolescents are regarded more favorable (Schlegel & Barry, 1991)?

The development of personality takes place in a social setting while coming to terms with conditions in society at large (Erikson, 1968). Youth is a time during which adult characteristics are tried out in a large majority of societies. Life becomes a serious business at this time, for young people are under observation as future productive members of society. In a paper on neuroscience and anthropology, Choudhury (2010) argues that culturally shaped ideas influence the development of cognitive and neural processing of self during adolescence. It is possible that culturally and historically shaped concepts of normal adolescence as a transitional period marked by risk-taking, that run through the scholarship on youth, create a space of possibilities of how young people should be, which may in turn be encoded in the brain (Choudhury, 2010). One might ask if "some of our youth would act so openly confused and confusing if they did not know they were supposed to have an identity crisis? (Erikson, 1968).

Beyond the transitional gaze on youth, a call to imagine human growth as less linear is made in this thesis. Instead of growing up, one always grows and learns, and perhaps by focusing less on what youth shall or can become it would be valuable to understand their present moment.

III

Risk is more than just prevalent

Sometimes it is not clear which is worse, the accident or its avoidance, the future-past of the event or the present.

— Brian Massumi, *the Politics of Everyday Fear*

Risk, beyond any one discipline

Mental health research carries a lot of expectation about youth, and much research produced places the youth of today in relation to future moments. One concept that is particularly correlated with future outcomes is risk, which holds under its' umbrella many models ranging from risk(y) behaviors, risk-taking, risk factors, to being at-risk and more.

Here, follows an analysis of risk, including assumptions and knowledge that imbue the concept beyond mental health and how these relate to and implicate research conducted. Next, the epidemiological study of risk behaviors in youth from eleven European countries is scrutinized. I introduce some of the reflexivity anthropology taught me and try to understand how the research questions define and limit what is, and can be, found.

Youth, a risky time according to mental health research

Our imagination is vivid as we couple youth and risk. Simply being young is sometimes considered a proxy for activities such as insecurity, risky experiences, reckless behavior, testing grounds and uncertainty. As noted earlier, adolescence has been equated with irresponsibility, rebellion and even delinquency. Risky or reckless behaviors are thought to be preceded by decision-making in which various probabilities are attached to the possible outcomes of future events (Lopes 1987 cited in Lightfoot, 1997) and have been considered a major public health concern (Blum et al., 2012, Patton et al., 2012). The aim is to reduce, modify or anticipate the extent or nature of uncertainty in decision-making processes relating to risk (Hayes, 1992).

Production of scientific knowledge evolves over time and in the past, epidemiological risk strategies tended to be directed at environmental conditions in the attempt to improve health at the population level. More

recent approaches emphasize individuals' behaviors and lifestyle choices in relation to health status (Lupton, 1995). The concept of risk in mental health research arguably stems from epidemiology as epidemiologists typically assess risk factors of all kinds at the individual level and then identify statistical links between risk/exposure variables and disease outcomes (Prussing 2014), subsequently intervening to change these causes to improve population health (Lynch, 2006). Typically risk and protective factors are correlated to the probability of occurrence and longer duration of illnesses and health problems (Coie et al., 1999).

Scientific papers dealing with the intersection of risk, mental health and youth often start their line of reasoning by attesting something along the lines of: “Many health risk behaviours are established during adolescence, and often maintained into adulthood, affecting health and wellbeing in later life” (Jackson et al., 2012). These kinds of statements rarely contain reference to research; the correlation between youth behaviors today and adult habits in the future appear as taken for granted with little room for fluctuation over time. Risks themselves, or risk behaviors, are usually depicted as well-established and with little descriptive detail. The purpose of this kind of research is often to “protect young people from…risky behaviour” (Jackson et al., 2012), seeing that “a young person's brain is too precious to waste” (Zeigler et al., 2005) and adolescence is considered “a sensitive time for social learning through imitation of behaviours, especially by peers” (Sawyer et al., 2012). Hence, the aim is to “reduce/discourage engagement in health risk behaviours” (Harakeh et al., 2012) with early prevention leading to large benefits in later years (Jackson et al., 2012; Romer, 2010; Voss et al., 2011). Youth are sometimes described as not quite in control of their emotions and easily influenced by their peers, stressful or exciting situations and involved in sensation seeking behaviors (Sawyer et al., 2012). By protecting and discouraging from risks, for the benefit of youth, the researchers wish to increase resilience and reduce exposure to negative influences all the while being watchful of the increased vulnerability in transition periods (Furlong et al., 2011; Garofalo et al., 1998; Jackson et al., 2012). Such aims draw a picture of youth as quite

passive and helpless in forging their own present (and future). The language used further weakens youth, as they are often described as "vulnerable", of "deprived backgrounds", needing to be "protected" and with interventions depicted as being done to, or performed on, the mostly passive youth at hand.

Risk in the mental health literature

As correlate and predictor and the case for prevention

Risk in youth is sometimes framed as a lifestyle choice affecting both current and future health and well-being (Bird et al., 2006; Costello et al., 1996; Jackson et al., 2012: Jiang et al., 2011; Park et al., 2008), current mental health status (Flisher et al., 2000; Harakeh et al., 2012; Johnson J et al., 2002; Kim, 2011; Sarchiapone et al., 2014; Zhou et al., 2012) and as leading to the development of mental disorders later in life (Brunner et al., 2014; Kessler et al., 2010; Merikangas et al., 2003). Characteristics, situations, and conditions facilitating the occurrence of risky behaviors are called 'risk factors', while those increasing immunity to 'risk factors' are called 'protective factors' (Copeland-Linder et al., 2010; Cairns et al., 2014). Among the many risk and protective factors commonly referred to in mental health literature, the most important are related to the family or school situation as well as the peer group and personality of the individual (Coie et al., 1999). The desire is to pinpoint the epidemiological, sociological and developmental correlates of youth risk behaviors by identifying specific causes so that risk can be both predicted and controlled (Lightfoot, 1997) and ultimately prevented. Given the complex web of interacting, multi-determinant risks likely to lead to the development of mental disorders, preventive interventions typically are the most effective when they consider multiple domains of intervention (Jackson et al., 2012; Jensen, 1998). Some risks are more commonly accepted as such, among lay people as well, like drinking alcohol or not going to school.

Then there are those that are “new”, for which epidemiological data is used to make inferences that are more difficult to observe like certain diseases that are weakly associated with multiple causes (Stewart-Brown, 2015; Wilson & Crouch, 2001).

Epidemiologists collect data on a range of behaviors considered as risky in order to inform policy, further research and targeted interventions. In the United States, since 1991, information has been gathered through the Youth Risk Behaviors Surveillance System (YRBSS) from more than 2.6 million high school students (YRBSS, 2015). YRBSS data indicate that many adolescents engage in behaviors that place them at risk for the leading causes of morbidity and mortality (Kann et al., 2014; Eaton et al., 2012). These include tobacco, alcohol and substance use (Kandel et al., 1999; Wu et al., 2006), being underweight (McCrea et al., 2012), obesity (Anderson S et al., 2007), sedentary behavior (Biddle & Asare, 2011), unhealthy sleep patterns (Johnson J et al., 2002), and school absence (Berg, 1992). Research today typically look at the co-occurence of these behaviors in the same individuals (Hale & Viner, 2012) though this is a rather recent development as is evidenced by Jessor (1991) insisting on its importance in the early 1990s. Psychiatric disorders have been correlated with risk factors (Kessler et al., 2010; Kim, 2011; Sarchiapone et al., 2014; Zhou et al., 2012) and for certain like conduct disorder, depression and substance abuse, substantial knowledge of risk factors exist and preventive interventions are considered useful (Jensen, 1998).

In context and of developmental importance

The worst possible outcomes are often imagined, predicted and identified in the case of mental health research on youth and risk, but some sensitivity to the experimentation that typically happens during these years can be found in the literature. Risk has been described as a relative concept and to fully understand the magnitude of risk in a given situation, Jensen states that the:

> context must be known, the degree of voluntariness, public acceptability, base rate of adverse outcome, potency or certainty of the relationship between the hazard and adverse health outcomes, severity of health outcomes and reversibility are all important factors in the public's perceptions and the acceptability of a health hazard (Jensen, 1998).

Dake (1991) poses the question of "Who fears what and why?" and places it in a political, historical and social context. As an example, experimenting with alcohol is common, even typical among much youth in Europe and the US, and some argue for the differentiation between getting drunk or smoking the occasional joint from more heavy drug use (Lightfoot, 1997). Others propagate for obtaining the general population's input concerning relative hazards (Jensen, 1998). According to Jessor's theory of problem or risky behaviors (1991), these have developmental importance, performing important functions in a young person's life such as satisfying the needs of security, love, acceptance, esteem, belonging, fulfilling vital developmental aims like identity- building and independence as well as coping with hardships by reducing fear and frustration. However, according to Lightfoot, not enough has been done to distinguish between normal transitional risk taking that is developmentally enhancing or behaviors that are, by frequency or intensity, expressions with little secondary gain (Lightfoot, 1997).

The scientific community often consider lay people to be responding unscientifically and subjectively to risk, over-estimating some and underestimating other categories of risk (Bradbury, 1989). Youth are deemed as "inaccurate in estimating risk" though as they age their risk identification appears to improve (Fischhoff & Willis, 2002). However, youth engage in risks despite undesirable consequences yet "do not perceive themselves to be invulnerable, and perceived vulnerability declines with increasing age" (Reyna & Farley, 2006). Comparative studies to investigate risk perception have been made (for a review of the

literature refer to Boholm, 1998), and risks have been found to contain both similarities and differences cross-nationally (Hinman et al., 1993)

Mental health research usually contrast risk against healthy or protective factors, but much less research is available on these topics (France & Utting, 2005). Protective factors are usually associated with lower likelihood of problem outcomes and as reducing the impact of risk factors (O'Connell et al., 2009). Factors and processes studied typically include strong social bonds between children, their families, schools and communities; and whether youth receive positive rewards and responses from adults who offer them models of positive behavior (Cairns et al., 2014; Collishaw et al., 2015; Copeland-Linder et al., 2010; Qian et al., 2015; Steptoe et al., 2015; Stirling et al., 2015).

For now, let us take a step beyond risk in mental health, as these models have roots beyond psychology, psychiatry or epidemiological research.

Danger, probability and values

Traced back to 16th century German and to the 17th century in the English language, risk excluded human fault or responsibility and was considered an act of God or a force majeure (Luhmann, 1993). In his treatise on risk, the sociologist Luhmann notices a change of meaning around the emergence of modernity with the development of the science of probability and statistics to calculate the norm and identify deviations. The mathematical development of probability theory in gambling is based on the idea that laypersons are weak when it comes to probabilistic thinking and has greatly influenced thinking about risk (Douglas, 1992). Risk is in fact commonly defined in mathematical terms:

> as the statistical probability of an outcome in combination with severity of the effect construed as a 'cost' that could be estimated in terms of money, deaths or cases of ill health (Boholm, 2003).

The modern study of risk began with the countable, like gambling, insurance, social problems and then moved to the novel, like species extinction and terror (Fischhoff & Kadvany, 2011). Methods like risk analysis, assessment, communication and management are all used to measure, monitor and control risk in areas as far ranging as medicine, public health, finance, law, business and industry (Hayes, 1992), using cost-benefit calculations, statistical probabilities and other methods (Wilson & Crouch, 2001).

Risk situated

The word risk in financial speak as well as in scientific inquiry is often treated as a unidimensional concept that refers to a numerical probability value, whereas in everyday popular use the term has many other layers of meaning (Hayes, 1992). The belief that public risk perceptions and risk management do not correlate with supposed objective quantitative rankings of risk are widespread (Parascandola, 2011). Boholm (2003) explains that what the risks are 'in themselves', and how they are defined by the scientific community, can certainly be highly relevant, but there is no simple translation from the way in which experts define and estimate risks in terms of a calculus of probability and effects, to 'situated risk', that is to say, risks as they are actually understood and contextualized by people in social settings. There is a conflict of authority as regards the translatability of concepts between scientific and lay language communities (Hayes, 1992). Risk is a bit looser than how the scientists conceptualize it: it is considered a threat, hazard, danger or harm or even a bit weaker, but not necessarily with a disastrous outcome (Luhmann, 1993). In everyday life, things are both more complex, and in some ways more direct, habits and experiences tell us intuitively what is potentially a risk. In fact, the perception of risk intersects with rights and obligations, loyalties and economic interests as much as scientific evidence (Dake, 1991).

Dake (1991) asks to what degree people are equally worried when facing the same dangers, or to what extent some perceive certain risks that other

do not care about. Risk decisions clearly do not occur in isolation, but are performed in the context of the many shared and perhaps contradictory norms and practices that surround that particular individual. Individuals may express solidarity with the socially shared values of a given society or culture, but they may also choose to deliberately not “get the values right” and break norms (Fischhoff & Kadavny, 2011). Purposely breaking the norms may be especially common in the case of minority members of a society. Cultural notions provide us with explanatory models that tell us why things play out as they do and moral guidelines regarding why certain things or actions are good or right while others are bad, promoting distaste towards subversive behaviors and leading to resentment against those who contradict the norms (Douglas, 1992). Boholm objects to Douglas’ collectivist approach to social relations and according to her, social relationships, power relations and hierarchies, cultural beliefs, trust in institutions and science, knowledge, experience, discourses, practices and collective memories all shape notions about risk or safety for the individual (Boholm, 2003). Risk is a relational term that depends on both context and conventionally established meanings; context and meaning that can also be found to influence the scientific community. To categorize something as risk implies a set of values (Boholm, 2003).

A preventable deviation from the norm

Societies develop strategies and beliefs to attempt to deal with, contain and prevent danger and according to the social anthropologist Douglas, societies define themselves by how they classify and manage danger (Douglas, 1966). In contemporary ‘Western’ societies where control is considered important, risk is widely used to explain deviations from the norm, misfortune and frightening events (Lupton, 1999). In the 1920s, the anthropologist Evans-Pritchard observed how the Azande in north-central Africa organized around its management of dangers and through witchcraft enforced societal norms, consequently naming it a risk-society (Evans-Pritchard, 1937). The risk society according to

the sociologist Beck is a place in which uncertainties regarding future expectations are transformed to rational and manageable strategies (Beck, 1992). Human responsibility and intervention are of importance as misfortune can be prevented.

We acknowledge that threats exist, threats of disorder, disasters, wars, loss of control of our livelihoods and of relationships with others. These threats are not left unchecked and measures are taken to deal with the anxieties to manage the danger at stake: national strategies, legislation, watching our diets, testing to diagnose disease early, self-help books, rational thinking, bureaucratic systems of prevention, ways of identifying threats before they take effect, etc. (Lupton, 1999). On societal levels a lot is at stake and oftentimes as is the case with environmental issues, politicians, nations, institutions and organizations are identified as causing, contributing or being responsible of disasters. The desire among scientists as well as policy makers to understand social problems and find solutions that not only achieve better outcomes, but that are also cost-effective has in fact grown into a major political project (France & Utting, 2005). France and Utting describes the focus on early intervention with children and young people 'at risk' of later problems. Risk is a central cultural and political concept by which individuals, social groups and institutions are organized, monitored and regulated (Boholm, 2003).

Identifying populations as high risk do not do justice to the diverse individuals behind such categories (Brownlie, 2001). The kinds of calculations that identify certain groups as high risk rely on rationalized and standardized assessments and predictions and perhaps also that individuals behave predictably, according to patterns of the wider population (France & Utting, 2005). Of course, individuals or groups oftentimes do not necessarily accept being assigned as a "risky group" and Hier and Greenberg (2002) has described the rejection of such categorizations.

SEYLE: MENTAL HEALTH PROMOTION FOR YOUTH

Saving and Empowering Young Lives in Europe (SEYLE) was a health promotion program for youth in European schools. Its main objectives was to guide youth to improved health through decreased risk taking and suicidal behaviors, to evaluate outcomes of different preventive programs and to recommend effective models for promoting health of youth in different European countries. SEYLE was implemented by a consortium of research institutions in twelve countries: Austria, Estonia, France, Germany, Ireland, Hungary, Italy, Israel, Romania, Slovenia, Spain with Sweden as coordinating center. Epidemiological data was collected in eleven of the countries on 12,395 adolescents. A Randomized Controlled Trial (RCT) was implemented in the ten European Union countries to assess the effects of three different health promoting and suicide preventing programs in 11,110 participating adolescents.

The three programs each had a different approach to mental health promotion, respectively empowering teachers and school staff, youth or mental health professionals:

1) Question, Persuade and Refer (QPR), a gatekeeper program, training all adult staff at schools (teachers, counselors, nurses etc) on how to recognize and refer youth with risk-taking behaviors or those suffering from mental ill health to mental-health help resources;

2) Youth Aware of Mental Health (YAM), a program for youth, promoting increased knowledge and discussion about mental health and the development of problem-solving skills and emotional intelligence;

3) Screening by professionals of at-risk youth through a standardized questionnaire.

All recruited youth were evaluated with a baseline questionnaire, completed in the classroom, followed up with post-intervention evaluation questionnaires 3- and 12-months post-baseline to study changes in attitudes, lifestyles, behaviors and mental health problems. The questionnaire included: 1) the Global School-Based Pupil Health Survey (GSHS), which assesses lifestyles

and risk-taking behaviors; 2) the WHO Well-being Scale (WHO-5), which evaluates mood (good spirits, relaxation), vitality (being active and waking up fresh and rested) and general interests (being interested in things); 3) the Beck Depression Inventory (BDI), which measures depressive symptoms; 4) The Zung Self-Rating Anxiety Scale (Z-SAS), which measures anxiety levels; 5) the Paykel Suicide Scale (PSS), which determines suicidal ideation and suicidal behavior; 6) the Strengths and Difficulties Questionnaire (SDQ), which collects information on emotional symptoms, conduct problems, hyperactivity and/or inattention, peer relationship problems and pro-social behavior; 7) the Deliberate Self-Harm Inventory (DSHI), which evaluates deliberate self-harm behavior; 8) the Young's Diagnostic Questionnaire (YDQ) for Internet Addiction, which measures Internet dependency; 9) specific items developed or modified for the SEYLE study, concerning reading, music, and Internet habits, as well as coping, trauma and bullying, stressful life events, stigma and discrimination, peer and parent-child relations, children's physical health, alcohol and substance use, and future outlook. For youth identified as high risk, the program included referral to mental health treatment and measures to ensure compliance.

The study received ethical approval from the European Commission as a precondition of funding approval. Ethical permission for the project, including permission to follow up individual youth, was obtained in each participating country through the respective research ethics committees. All requirements of obtaining informed consent from youth and parents were carefully followed. In order to maintain confidentiality and to allow for analyzing follow-up data on individuals, questionnaires included a specific code to identify each participant, allowing for data to be collected at individual and not only aggregate level.

Saving and Empowering Young Lives in Europe: collection of epidemiological data

Returning to the study of risk in youth mental health, on pp. 64-65, Saving and Empowering Young Lives in Europe (SEYLE), a health promotion study for youth is summarized. For the full protocol please refer to Appendix A. One of the aims of SEYLE was to gather epidemiological data about the participating youths' health, well-being and risk behaviors. A large database was created containing demographic information as well as commonly investigated health and health-risk behaviors including alcohol and drug use, smoking, sleep, nutrition, physical activity, and sensation seeking. Further, psychiatric assessments were performed including measuring suicidality, depression and other psychopathology.

Collecting epidemiological data on European adolescents: risk behaviors

In a paper published in World Psychiatry (Appendix B), a number of risk behaviors were analyzed in association with self-destructive behaviors and psychiatric symptoms based on the SEYLE data. The hypothesis of the paper rested on the clustering and prevalence of these behaviors varying in terms of age and gender and identifiable subgroups suitable for targeted interventions. A short summary of the paper appears on pp. 67-68.

Investigating risk: some questions left unasked

Psychological and epidemiological concerns

The study accounted for in brief on pp. 67-68, allowed for an opportunity to access a random sample of school-based youth in 11 countries. However, some unanswered questions remain. In lab tests, when youth are called on to think about a risky situation, psychological studies

PREVALENCE OF RISK AND PSYCHOPATHOLOGY

High school students (N=12,395; mean age 14.91±0.90, 83 missing; M/F: 5,529/6,799, 67 missing) were recruited in randomly selected schools (n=179) in eleven countries. A structured self-report questionnaire was administered to 12,395 adolescents. The data was sourced from the SEYLE database described in more detail.

The GSHS items were recoded to identify nine areas of risk behaviors: excessive alcohol use (drinks at least twice a week), illegal drug use (used illegal drugs at least three times during life), heavy smoking (smokes more than 5 cigarettes per day), reduced sleep (sleeps 6 hours per night or less), overweight (body mass index (BMI) above the 95th percentile for age), underweight (BMI below the 5th percentile for age), sedentary behavior (performs physical activity less than once a week), high media use (uses Internet, TV and video games for reasons not related to school or work for 5 hours or more per day), skipping school (skips school at least once a week without being ill or having another legitimate excuse). A dichotomous variable was generated for each risk behavior.

Psychopathological symptoms were recoded to stratify the adolescents into dichotomous categories: subthreshold depression (BDI-II score <20 and positive on items assessing core symptoms of depression, i.e., sadness and loss of pleasure; depression (BDI-II score ≥ 20); anxiety (Z-SAS score ≥ 60); subthreshold anxiety (Z-SAS score between 45 and 59); emotional symptoms (SDQ subscale ≥ 7); conduct problems (SDQ subscale ≥ 5); hyperactivity (SDQ subscale ≥ 7); peer problems (SDQ subscale ≥ 6), lack of prosocial behavior (SDQ subscale ≤ 4); non-suicidal self-injury (DSHI score ≥ 3); suicidal ideation (positive on at least one PSS item); and suicide attempter (lifetime history of suicide attempts). All psychopathological measures, with the exception of lifetime suicide attempt, referred to the past two weeks. All measures regarding risk behaviors and psychopathology were further stratified by gender and age. On the basis of the recruited sample, three age groups were identified: 14 years or less (n=4,007), 15 years (n=5,350), 16 years or more (n=2,955).

A chi-square test of independence was used to statistically define the differences between genders and age groups for socio-demographics, risk behaviors and psychopathology. Latent class analysis (LCA) was applied without any a priori assumption about the nature of the latent categorization, thus identifying and characterizing clusters of students with similar risk behavior profiles.

The results indicate that the prevalence of risk behaviors and psychopathology

among European adolescents is relatively high. Almost all studied risk behaviors show an increase with age and most of them are significantly more frequent among boys. The only exceptions are sedentary behavior and reduced sleep, which are more frequent among girls, who also had more internalizing (emotional) psychiatric symptoms, such as depression, anxiety and suicidal ideation.

Three risk groups were identified in the LCA. Individuals who scored high on all examined risk behaviors clustered in the "high-risk" group (13 percent of the adolescents). The "low-risk" group (58 percent) consisted of responders who had no or very low frequency of risk behaviors. But in addition to these two perhaps expected groups, a third group labelled the "invisible risk" group, was identified. Youths in this group shared behaviors of high media use, sedentary behavior and reduced sleep. These behaviors are generally not associated with mental health problems and recognized by for example teachers and parents. However, adolescents in the "invisible" risk group had similar prevalence of suicidal thoughts, anxiety, sub threshold depression and depression as the "high" risk group. 29% percent of the adolescents clustered in the "invisible" group that had a high level of psychopathological symptoms. While the "high" risk group is easily identified by for example alcohol and drug use, parents and teachers are probably not aware that adolescents in the "invisible" risk group are at risk.

have found that they are just as cautious as adults and children. The difference between the lab and the real world, Figner and Weber (2011) say, is partly the extent to which they involve emotion. Risk has been described as a relative concept, and when writing about the increase of risk prevalence rates among youth, Jensen (1998) explains that to fully understand the magnitude of risk in a given situation the context must be known. He argues that the perceived likelihood of personally experiencing an adverse health outcome is low and urges scientists to obtain citizens' input concerning relative hazards. Inhorn (1995) faults epidemiology for merely identifying behaviors without explaining or contextualizing them culturally, especially since there is considerable cross-national variation in risk perception and evaluation of hazards. The comparability of social and psychological phenomena across nations and cultures in fact present many methodological problems (Berry, 1980). In this study, eleven countries participated with youth from large cities and countryside alike yet there was little attempt to consider their perceptions of said risks. The amount of cigarette intake per day was the only measurement that was adjusted after concern from some of the participating sites that the low threshold suggested by the German SEYLE site would put a large percentage of the participating youth in their countries in the group believed to be 'at risk'.

In cross-sectional studies correlates or variables associated with psychopathology are commonly referred to as risk factors, something that is both incorrect and misleading (Kraemer et al., 1997). In effect, the risk factor needs to precede actual development of the disorder; otherwise the term is more appropriate to describe a correlate, concomitant, or possibly consequence of psychopathology Kraemer explains. In view of such concerns, from an epidemiological perspective, a study over time could possibly help elucidate such correlations. Though we stay away from turning correlations into causalities in the present study, at times the undertones comes close to that kind of assumption and language; measuring behavioral variables in relation to psychopathology and expecting certain behaviors in this moment to lead the way to pathology later on. From an epidemiological perspective, not having more specific

individual socio-economic data on the participating youth impede better understanding of the relationship of such factors with risk behaviors and psychiatric symptoms.

The risk factors in this study are accounted for by age, gender and clustered into subgroups, and subsequently grouped with psychopathology. As mentioned earlier, mental health researchers oftentimes expect correlations and probable outcomes and to some extent the present moment is used to define the future of those studied. Calculations based on large-scale datasets about the likelihood of youth engaging in risky behaviors and the probability of them developing certain psychopathologies may be enforced in everyday settings (France & Utting, 2005). In a worst case scenario one could imagine that those who do not take steps to decrease their risk behaviors or exposure to risk or those who develop health problems because of their risk behaviors will be blamed for their ills, or if they are considered as potential threats, become subject to monitoring, control and intervention by the state (France & Utting, 2005). Yet, though mental health research and epidemiology may appear to at times decry the individuals studied, Inhorn (1995) claims that “epidemiology does not identify and blame the individual for their health-demoting behaviors since the data is population-based and explicitly concerned with a level of analysis above and beyond that of the individual”.

From the perspective proposed in this thesis however, the framework of unanswered questions needs to be slightly turned, instead focusing on which questions were asked, how they were asked as well as the questions that were not addressed. Youth are complex, fluid and ambiguous and it is a performative category capable of a wide range of interpretations and practices beyond a simple risk versus non-risk perspective. Risk is not simply calculations of cause-effect correlations or probability of future outcomes; by simply focusing on such analyses, we stand the risk of not identifying or measuring what youth themselves perceive as risk.

Risk assessment and the creation of at-risk groups

In mental health research the nature of risk is oftentimes taken for granted. In the case of the present study, a wide range of different behaviors were considered as risky in the analysis: excessive alcohol use, illegal drug use, heavy smoking, reduced sleep, over/underweight, sedentary behaviors, high media use and truancy. These risk behaviors were identified as such by researching the literature (Eaton et al., 2012) and identifying behaviors previously correlated with psychopathology (Kokkevi et al., 2012; Saban & Flisher, 2010) while using previous calculations of risk and correlations as predictive models. However, such risk calculations tend not to acknowledge the role played by the subjective perspective on the part of the experts themselves that produce such calculations (Lupton, 1999). Risk assessment is not a value-free enterprise, yet the calculation of risk is often considered as 'objective facts' or 'absolute truths' in the scientific community (Bradbury, 1989). So-called objective risk descriptions are constructions of their own and have been shown to change over time and when unexpected events take place (Latour & Woolgar, 1979); such unexpected events could quite simply be new study findings that challenge risks we today consider as such.

Admittedly, as was evident in the discussions during the construction of the standardized questionnaire as well as regarding cut-off points for the youth 'at-risk' to be used in SEYLE, the youth themselves may not identify or be able to calculate the level of risk at stake or the future effects of such risks, but this did not diminish the hypothetical neutrality of the risks stated as such. Even in the conversations preceding the writing of the manuscript, when relativizing the risks and scrutinizing the data to further understand the perspectives of those studied, the subjective probability of health hazards was pitted against the objective probability and actual degree of risk (Jensen, 1998). Yet, risks are multidimensional and risk-taking can be valued positively as well as negatively (Tulloch & Lupton, 2003). The perception of risks and risk-taking are closely bound

up with identity-formation (Tulloch & Lupton, 2002), as is particularly important in the case of youth.

The value or worth of identifying an action as risky should be considered. The 'health belief model' that is often adhered to in mental health research and especially important in the fields of health promotion and health education in relation to risk perception, considers human action as both voluntary and rational; with risk avoidance thought of as rational and risk-taking as irrational (Bloor 1995 cited in Lupton, 1999). Taking a risk implies intent according to this model, but the intentions are either not culturally adjusted for, studied or sometimes even acknowledged. The scientists judge risk behaviors as harmful or even dangerous without considering the real or perceived benefits (Dake, 1991; Hayes, 1992), observed likelihood of experiencing adverse health outcomes (Jensen, 1998), desire to break the norms (Fischoff & Kadvany, 2011), symbolic meanings created in the social world (Lupton & Tulloch, 2002a) or previous experience or practice (Boholm, 2003) of smoking, eating unhealthy foods, drinking on weekends, playing computer games or chatting for hours, skipping school or smoking marijuana occasionally.

Conflicting interpretations of risk

In fact, the very premise of study needs further scrutiny. It is not clear what kind of risk is under investigation in much mental health research: Is the aim to investigate youth who engage in risks categorized as such by mental health researchers and the correlations with psychopathology. Or, is it postulating that youth who engage in risks recognized as such by the youth themselves are more likely to develop (or already have) psychopathologies? Much of the risk studied takes as point of departure that of objective risks and dangers, yet as has been described above and as shall be discussed in section IV, what is considered a hazard in one historical or cultural context may not be identified as such elsewhere (Lupton & Tulloch, 2002b). Of course the interpretations of risk between the lay and scientific communities are interrelated and oftentimes

overlap, yet the hypothetical risky activities here studied may not always be considered as *wrong*, *dangerous, hazardous,* or as something even being at stake by the individual youth in question. Then, what is actually being studied? Is the analysis focused on youth who engage (or not) in activities they actually consider as risky or dangerous and then to study the correlations of such behaviors? Or is the focus infused with morality, measuring youth's response to activities considered as risky by the scientific community and possible correlations and related outcomes? As has been stated previously, actions that may be considered as risky by scientists are looser in real life, and do not necessarily only relate to risk as they are contextual and fluid. Risk decisions do not take place in the isolated world of ticking boxes in a standardized questionnaire, but needs to be located where they belong: in a particular context infused with layers of meaning within contradictory norms and practices.

When the outcomes and probabilities are fairly unknown, as is the case with some of the risks clustered in the *invisible risk group,* behaviors that "parents and teachers are probably not aware of" (Carli et al., 2014) and activities that the youth maybe themselves do not consider as risky or dangerous, then what exactly is being measured? If the behavior or activity is not necessarily recognized as risky, and the actual risks are only identified as such and correlated with psychopathological symptoms in a latent class analysis, performed away from the real world, then engaging in such behaviors is probably far removed from navigating, understanding and managing risk in everyday life. Risk aversion has been related to fear in numerous psychological studies (Lench & Levine, 2005; Ellsworth & Scherer, 2003); then, if the risky activities measured are not considered as actually threatening or dangerous to the youth in question, this can partially explain why they are not avoided. Of course, as mentioned earlier, benefits, likelihood of adverse outcomes, symbolic meanings, experience, as well as intended norm breaking also play an important function in the consideration and management of risks in daily life.

Risk and risk aversion as described in qualitative interviews by youth who participated in a large randomized controlled trial follow in the next

section. We here stand in front of the divide between the objective vs. subjective view of risk and a more complex view of the matter, inclusive of the meanings youth give to events, feelings and performative actions in the social world.

Framing, management and prevention of risk in society

By investigating how risk is studied and defined, we are able to reflect on how risk decisions are framed and what our priorities are (Fischhoff & Kadavny, 2011). Among the priorities of public health research and interventions lies the wish to improve health and quality of life by promoting healthy behaviors. One way of doing this is to influence practices and policies in society. Such strategies attempt to decrease uncertainties, but oftentimes have what Boholm (2003) calls the "paradoxical effect of increasing anxiety about risk through the intensity of their focus and concern". Designating a population as prone to risk, or 'at risk' often reinforces their powerlessness and marginal status. Lupton (1999) describes how children and young people have been singled out as 'at risk' of a constellation of harms.

> The 'at risk' label tends to position groups as particularly vulnerable, passive, powerless or weak, or as dangerous to themselves or others. In both cases, special attention is directed at these social groups, positioning them in a network of surveillance, monitoring and intervention. (Lupton, 1999).

As discussed in section II, youth has long been considered a period of storm and stress and over time developed into a policy question (Talburt & Lesko, 2014) with much focus on what we today group under risky behaviors. They are considered as problem prone and are increasingly the subject of governmentality (Kelly, 2000). It so may that the designation of invisible risk behaviors leads to additional monitoring

of youth, even if this is not necessarily the aim of the research. When mental health researchers present evidence of for example "what works to prevent multiple risk behaviours" in youth, they address themselves to policy makers, practitioners and academics, but not directly to the youth themselves (Jackson et al., 2012). Methods identified do not include the active participation of youth, rather the goal is usually to "reduce the exposure of (...) negative influences" through legislations, intervention programs and responsible media (Jackson et al., 2012). A concern sometimes voiced by mental health researchers and laypeople is how to responsibly work with issues relating to risk without facilitating the further medicalization of everyday life (Inhorn, 1995)?

Governmental initiatives to influence individuals into making better choices consider the individual to frequently misjudge decisions due to inherent biases, irrationality and weak distinction between short-term pleasure and long-term benefits (Burgess, 2012). Such initiatives do not necessarily lead to consultations and examinations of individuals by health professionals, instead Lupton (1995) describes the use of mass-targeted media campaigns relying on the individuals to identify themselves as 'at risk' and doing something about it. According to Burgess (2012), the relationships between behavior and health are more complex than is proposed in many campaigns and policies, as are the connections between risk and benefit to the individual and society as a whole. This concept of a danger-consequence society (Japp & Kusche, 2008), does not allow for the complexity of real life risks and once again pit lay-people against so-called objective risks.

IV

Risk expanded: qualitative interviews with youth

He knew that the young people had changed some of the words to the songs. He had scarcely listened to the words before and he did not listen to them now; but he knew that the words were different; he could hear that much.
— James Baldwin, *Going to Meet the Man*

Lemon lust mixed with ice cubes cuz the feelin strong, lurkin social media now the feeling's gone.
— Junglepussy, *Nothing For Me*

The meanings of risk: qualitative interviews with 32 European youth

Traveling across four European countries, my colleague Vita Poštuvan (VP) and I met with youth in seven different towns and cities in Estonia, Italy, Romania and Spain, inviting them to speak about some activities that mental health researchers define as risky behaviors. In conversation, glimpses of a fluid social world grew, in which these actions take place for reasons of sometimes contradictory nature. The risks under scrutiny are located between the scientific and real world and consequently the question of the relationship between the two surfaced, with an emphasis on the significance and consequence of these practices in everyday life. For further scrutiny of the relationship between researchers and youth, I refer you to the study described at the end of section V, *Youth positioning in relation to mental health interventions* on p. 120. Here, the focus stays on the following topics: Which social conditions are expressed and performed when doing or acting in a way that is considered risky? Does risk contain the meaning of these actions, or is something else at stake when performing supposedly risky acts? Which situations can be considered as risky, or even protective for the youth themselves, and which practices are not necessarily related to such ways of seeing the world?

Risk in mental health research has been discussed at length in other sections of this dissertation, whereas that of protective or healthy behaviors, have not. These have, in short, been described as an action, behavior or often "characteristic at the biological, psychological, family, or community (including peers and culture) level that is associated with a lower likelihood of problem outcomes or that reduces the negative impact of a risk factor on problem outcomes" (O'Connell et al., 2009). We cannot a priori pathologize forms of behavior, be it risky, protective or none of the above. Instead, here behavior is considered a response of rational and emotional nature to social conditions; with the aim to understand some of these conditions.

We invited youth who participated in a large-scale epidemiological study: Working in Europe to Stop Truancy Among Youth (WE-STAY)

— described on p. 81 — to express themselves beyond the structured questionnaires. In order to better understand the actions identified as risky by mental health researchers, we attempted to pick some of them apart in conversation. By speaking directly to youth, we can better determine if the assessment instruments used to investigate risk are actually capturing this phenomena, and subsequently improve the design of such measures (Vogt et al., 2004) and hopefully contribute to the conceptualization and content of future research on the topic.

In semi-structured interviews, the youth spoke about a wide range of topics relating to mental health. Here we shall focus on two risk categories which are often in focus in mental health research: drinking alcohol and skipping school.

Method: transparency of protocol

Qualitative interviews were conducted with 32 randomly selected youth in Estonia, Italy, Romania and Spain who had participated in the YAM program during the WE-STAY RCT. The four countries were selected according to the feasibility on their part to conduct a qualitative research study, pertaining to previous permissions of their respective ethical committees. The main inclusion criterion was that the youth had participated in the YAM program as part of the WE-STAY study. 16 females and 16 males between the ages of 15-17 (14-16 at the time of the baseline WE-STAY questionnaire) were interviewed. The sample size was decided on as it was considered adequate for the scope of the study; large enough to allow for variability in experience and positioning of the adolescents yet small enough to allow for the two researchers to perform thorough interviews and extended analysis of the content (Guest et al., 2006; Morse, 2000).

In order to allow for a more diverse sample of youth in relation to our research questions, WE-STAY self-reported rates for skipping school were used for inclusion: 25% of the adolescents had low rates, 50% mid

WORKING IN EUROPE TO STOP TRUANCY AMONG YOUTH (WE-STAY)

The Working in Europe to Stop Truancy Among Youth (WE-STAY) project was a Randomized Controlled Trial (RCT) that examined the effect of interventions on truancy and the psychological well-being of 9,600 school-based adolescents (WE-STAY, 2013). The WE-STAY Consortium was made up of the following ten countries: Estonia, France, Germany, Hungary, Israel, Italy, Romania, Slovenia, Spain and Sweden.

Skipping school is considered a serious public health problem; however, little is known about the short- and long-term outcomes of underlying psychological problems. Outcomes and possibility of improving mental health through interventions aimed at reducing truancy are lacking. The existing studies on truancy are scarce; they all have methodological shortcomings that make evaluation of efficacy difficult. Many of the findings are based on samples of insufficient size and inadequate sampling. The main objectives of the WE-STAY project were to gather epidemiological data on truancy, risk-behaviors and mental health among European adolescents; to perform school-based interventions aimed at reducing truancy rates and improving the mental health of students; to evaluate outcomes of the interventions in comparison with a control group from a multidisciplinary perspective including social, psychological and economical aspects; and to recommend effective, culturally-adjusted models for preventing truancy and promoting mental health among adolescents in different European countries.

The WE-STAY project implemented and evaluated the outcomes of three different interventions: a) the ProfScreen screening intervention; b) The universal awareness intervention Youth Aware of Mental Health (YAM); and c) a combination of both intervention models. A mechanistic intervention was utilized as a control group. The efficacy of interventions aimed at preventing truancy was assessed by structured questionnaires that were administered to students at baseline, 1-month and 12-month follow-ups.

rates and 25% had high rates of skipping school. The gender distribution was 50:50 in all subgroups. The adolescents were selected from schools that were randomized as the biggest YAM schools participating in the WE-STAY study in each country. Skipping more or less school was used as an inclusion factor because the WE-STAY study had special focus on this theme and the authors were interested in understanding more about skipping school from the youth themselves.

The creation and use of a semi-structured interview: the interview guide

VP and myself, together developed a semi-structured interview. Notes made by the YAM instructors during the implementation of the program in both SEYLE and WE-STAY informed the creation of the interview. These field notes from classrooms across all participating countries gave insight into themes and queries that surfaced during the program.

A five-hour focus group was conducted with six adolescents ranging from 13-18 years old from different schools in the New York area attending an after-school program. The aim of the focus group was to develop the content and improve the format of the interview, to understand how mental health topics and skipping school could best be approached, and specifically what kind of language should be used when speaking about these issues. In addition to the focus group, a 1.5-hour conversation was held with a 16-year old girl in Slovenia who proved very helpful in fine-tuning some of the language and questions to be posed.

An interview guide was created to allow for comparability of interview style between the two researchers carrying out the fieldwork. The interview had three main parts and is attached in section VII of this dissertation on p. 155. However, as is the nature of semi-structured interviews, the process of interviewing was not the same for all. Directions included to not transform open-ended questions into closed-ended ones (Sofaer, 2002). The guide was structured according to topic areas

to create a good flow, starting with clear open-ended questions about the content, impressions and recollections of YAM. The questions about the program contained query about what the youth enjoyed the most and least about the program, the influence on dynamics in the classroom, evaluation of the different parts of the program (lectures, role-play, booklet, instructors, etc.), general understanding of what the program was about and if it was perceived as useful, etc. A more detailed description of YAM can be found in section V. Next, an association game with mental health vocabulary was used to approach studied topics in a different way and to break up the interview format a bit. The association game is based on social representation theory, which aims to explore meanings we assign to social reality (Clemence et al., 2014). Word associations are a useful way to study the meanings that people assign to a certain word and here alcohol was included as one of these words. Thorough questions on skipping school, including questions on the different reasons for skipping school, the school's policy on skipping school, adolescents', parents' and teachers' opinions and actions, personal experience of skipping school (first time, why, how often, what they do, etc.). Finally, questions were posed about the WE-STAY questionnaire.

The semi-structured interviews did not specifically target or assess the personal mental health of the participating youth, rather, themes related to the understanding of mental health issues. Nevertheless, debriefing was done after the interviews with additional help offered if needed. None of the participants needed additional attention.

Fieldwork

The two investigators travelled to two sites each to conduct the interviews in the schools (VP to Estonia and Romania and CW to Italy and Spain). In each site one translator was chosen based primarily on the person's interest in conducting such interviews with youth. Cognizant of Kvale's checklist for a quality interviewer, we sought out

to collaborate with translators who to our knowledge fulfilled as many as possible of these criteria, most importantly being good listeners, knowledgeable, open and clear in their language (Kvale, 1996). Moreover, one of the main authors was able to understand languages from two of the participating countries, namely Spanish and Italian. It turned out that a large portion (75%) of the adolescents in Estonia and Romania understood enough English so that the interviews could be conducted in mixed languages. The adolescents were at all times free and encouraged to go back and forth between languages and appeared to have no problem doing so. However, the translators were very important in both understanding and conveying more complex ideas and words and to clarify any misunderstandings, or in some cases in conducting large parts of the interview.

The youth were informed of the purpose of the interview and its confidentiality prior to agreeing to participate, and those who participated all agreed to the recording of the interview for study purposes. The actual interview varied in length depending on the person interviewed, ranging from about 1.5 to 3 hours in length. The researchers as well as the translators took field notes after the interview was completed about the school, the environment and impressions from each interview.

Ethical considerations

The study was covered under the WE-STAY ethical approvals by the following ethical committees: National institute for health development in Estonia; Comitato bioetico de Ataneo of the Universita degli studi del Molise in Italy; Comisa de Etica Universitatea de Medicina si Farmacie; Comité Etico de Investigacion Clinica regional del principado de Asturias. The WE-STAY protocol stated that the participating adolescents could be invited to take part in follow-up interviews. In all countries parents or guardians signed written informed consent on behalf of the minors participating. The adolescents were informed about the aims of the interview and gave additional oral assent at the time of the interview.

The interviews were recorded for study purposes only. If the recordings need to be shared with anyone outside the research project they will be stripped of any identifying information. If needed, the recordings will be destroyed after a period of 10 years. The study results will be reported on in a completely confidential manner with no data that could lead to the identification of a participant. I have decided to refer to the adolescents without reference to their gender, age or the country they live in, as those factors did not influence the results directly.

Data treatment

Transcription

All the interviews were transcribed according to written guidelines, prescribing the manual transcription of the entire interview, including what all participants said and did, including significant pauses, laughing, and interrupted speech. Strict notation rules were described. In this manuscript (...) signifies a significant pause in speech. The transcribers were urged to keep incorrect grammar intact, as well as unusual expressions, sentence structure and word-usage to correctly represent the speaker

Translation

Transcripts were translated into English, keeping the pauses, incorrect grammar, and other irregularities. The translations were by no means an "improvement" of the language used. In a separate document, translators were asked to make note of unusual expressions, incorrect use of grammar, sentence structure or any problems they had with the translation. They were asked to use more than one word in English in the event that they could not find one that corresponded to the original word used. The same notation rules as for the transcription were used. Upon completing the translation, the person who had participated as translator at the time of the interview was asked to double-check the translation, comparing it to the transcript.

Data analysis

Theory and method

Grounded theory was used to analyze the data, with the authors identifying emergent topics and ascertaining meaningful and broader themes (Charmaz, 2004). CW and VP began by breaking down the data into component parts as described below, in order to extract as much as possible from the material. In the next stage, concepts were identified and categories emerged. In dialogue, exploring the relationships between these concepts and categories, while constantly referring to the data, and contrasting the codes of the two researchers, initial hypotheses came about. As such, in parallel to coding bottom-up, a more analytical global discussion about the interviews developed over time.

An internet-based data analysis software for qualitative and mixed methods research called Dedoose (Dedoose Version 5.0.11, 2014) was used for the coding of the data.

Coding and analyzing the data

As recommended by Charmaz (2004), the transcripts were initially coded "line by line" in order to not lose contact with the data. The transcripts were marked into units in the software, following shifts in the storyline, in each unit several codes, sub-codes and even sub-sub codes were created and/or identified. Themes were found throughout the text, staying very close to what the participant, interviewer and translator were saying and not adding much analysis or interpretation when identifying descriptive words, emotions or even whole sentences. All surprises, revisions, and discoveries of misassumptions were coded. Beyond the unit breakdown, reflections and categories not necessarily close to the text were written down as memos. Such memos often prove to be helpful in helping researchers crystallize ideas and not lose track of their thinking on various topics (Bryman, 2012). Halfway through the

coding of the transcripts, the researchers reviewed the codes together, seeing how they could consolidate different words and phrases that described similar phenomena. Next, commonalities between codes were identified, combining some of them into higher order and more abstract codes (Charmaz, 2004).

Throughout the process, VP and CW discussed their impressions of each interview, including the readability and flow as well as general thoughts on the circumstance of the interview and the interviewee, in addition to noteworthy units and themes. From these discussions, considerations for future analysis and significance of certain aspects of the data were established. These conversations were also a way of not losing sight of the context of what was being said (and coded) as well as keeping the narrative flow close at hand during the analytical process (Coffey & Atkinson, 1996).

At the end of the coding process the field notes, memos, interview guide, initial protocols and many of the transcripts were read through again in order to confirm the focus on certain themes and to return to the data to explore the validity of the theoretical framework described in the results.

Quality criteria of the research conducted

Transparent research requires detailed description of the research process while paying attention to reliability criteria as articulated by other researchers (Cohen & Crabtree, 2008; Yardley, 2000). As delineated in the widely used 32-item checklist for interviews and focus groups, the Consolidated criteria for reporting qualitative research (COREQ), emphasis was put on describing the sampling method, setting and method for data collection, method of recording data, description of the derivation of themes and inclusion of supporting quotations (Tong et al., 2007). Other important criteria shaping the research were; “sensitivity to context” in which the interviews were conducted; “commitment and rigour” in relation to data collection

and analysis; and “transparency and coherence“ with research methods clearly specified and a reflexive stance informing the analysis (Yardley, 2000). “Thick description” of the context, as described by the anthropologist Clifford Geertz (1973), is foundational in conducting reliable qualitative research. Here, we take thick description to mean the regular reflexive discussions between the two researchers about the data, pertaining to the analysis joint with great descriptive detail about the context of the different interviews and schools, including sensitivity to circumstance and account of the researchers’ roles and bias in relation to the youth in question. Close readings and evaluation of the protocols, the interview guide and continuous note-keeping throughout the analysis and during meetings in person and over video-conference also contributed to the *thickest* possible view of the data at hand. These procedures helped us understand the contextual uniqueness of this study while allowing for possible transferable findings to surface.

Results: navigating risk *In Real Life* (IRL)

Though the distinctions between *In Real Life* (IRL) and experiences online are these days quite blurry, the acronym remains popular in everyday speech. Here I have chosen to use IRL a bit differently by presenting how youth themselves confront risks in their everyday (real) lives, be it on- or offline.

In the preliminary analysis of risk IRL, focus lies on two “experience-near” risks (Geertz, 1983) that all the participating youth relate to in one way or another: drinking alcohol and skipping school. Skipping school without a valid excuse and drinking alcohol were among the risk variables under scrutiny in the SEYLE and WE-STAY studies. Alcohol was one of the topics in the association game and we afforded a large portion of the semi-structured interviews to the topic of skipping as you can see in the interview guide found under protocols in section VII.

The accounts reveal how choices are weighed against each other and made due to a variety of reasons, some in regards to potential risks, others not. Habits and experience inform whether to drink alcohol or skip school or not, as do context and sets of values. These conversations give us some insight into how assumed risk behaviors are infinitely complex for today's youth and tell stories beyond a simple risky/healthy or risk/protective factor dichotomy. The youth are well aware where risks are situated and navigate them daily, sometimes in apparently contradictory ways.

Alcohol: what's drinking all about?

An air of maturity

Alcohol was a word in the association game that animated most of the participants and very few of them hesitated in sharing their opinions and experiences on the topic. There seemed to be little taboo in speaking about drinking and an air of maturity permeated what some of the youth had to say about alcohol. It is "something that's not good for your health, but everyone drinks in order to have fun supposedly and other people to escape their problems and stuff". Drinking appeared to be a lot about monitoring habits, of others and yourself, and scientific knowledge on the matter permeated the conversations. To drink or not is about exercising control and about learning your limits: "drinking is happiness but also responsibility" and "before I used to drink every Saturday with my friends, now I don't get drunk anymore, it's too much". They reflect on how much is okay to drink for their health, with social acceptability/acceptance in mind and weigh these factors carefully. Someone says they "drink a little too much", while some never drink, or "I only indulged once". Drinking, in these conversations was colored by stories of trial and error. Drinking or not, or how much one drinks, or when the drinking happens is about former experience.

It is expected of us!

Yet, drinking is deeply entrenched in youth (and adult) mainstream culture in the countries we visited around Europe, and the youth tell us about the contradictions at stake: “since it is absolutely forbidden it is the first thing that happens”. There is definite temptation in testing boundaries, and since everyone else is doing it, why not? Many of them would say something along the lines of: “everybody drinks, no one tells you it’s [a] good [thing] so you wanna break the rules, it’s fascinating and fun”. They point to peer pressure and social acceptability, specifically if they themselves do not drink: “People do it cause they think girls will like them”, but also how commonplace it is: “the majority in my class drinks”. “People are shy by nature and it helps them open up and be fun and when they see they can be popular they start drinking more”. Drinking can bind people together and allow for new acquaintances and experiences. Deciding to drink may pose a risk in the far-away future, but more importantly to many of the youth, not drinking has its consequence in the present and near future.

But, there’s a time and place for drinking

Societal codes and norms were discussed in relation to when it is okay to drink and what the acceptable reasons for drinking are. There is a time and place for drinking, “a glass once in awhile is ok” on “weekends”, or just “Saturdays and national holidays”, in fact, “you should [start] to think about it if you do it all the time”. Drinking is sometimes considered as something not related to risk, but simply a social activity like any other: “you should live your life and when you’re having fun it’s fine to drink”. Drinking could even be considered a protective factor, an accepted way to socialize and to have fun with your peers and not be excluded from social contexts. Yet, it is important that the fun is not at the expense of you, one of them told us that one should not “make a laughing stock of yourself”. Another risk one runs is that of “embarass[ing] yourself and throw[ing] up”, but then again that could

be turned into a good story over time and be used as social capital (for or against you). Drinking stories, make for great stories they say, and some tell us too. Not drinking you run the risk of losing friends or not finding new ones and sometimes the loss is so great that it is clearly worth drinking at least a little bit.

Drinking to forget your problems was again and again brought up as a bad reason to drink, a risky one in fact. They told us about older people in their towns or families with sad life stories who would drink too much: sometimes “older people drown their sorrows” and “there are people who get addicted, it’s a balance”. No one wants to be the one who drinks too much: “if you continue to get drunk your friends are going to say, stay with your bottle I’m leaving (...)”. Hence, carefully navigating social acceptability is at times the biggest risk the youth describe in relation to drinking.

We need more information than simply “it’s bad for you”!

The role of parenting is evoked by many of the participants, and some think that parents are not taking enough responsibility in educating their children about the subtleties of drinking; like when it is in fact acceptable to drink, or the art of drinking moderately, or how one should act when drinking, instead avoiding the topic altogether. “Parents should tell you that you should drink water [when you are drinking alcohol], but parents don’t cause ‘their kids don’t drink’ (...)”, though of course their kids do, one of them tells us. Some of them are more specific about the risks one run when drinking: ”parents should tell you to only drink what you see on the table and if you’re with a solid group of people so no one slips anything into it [your drink]”. Yet, many of them fear their parents disappointment and would not want to tell them about drinking, in effect doing everything in their power to keep their drinking, and that of their friends, from their parents.

The experts say...

The youth are well aware of the many risks surrounding drinking as they are influenced by the flow of information and public concerns about alcohol and how it affects our bodies and health. They worry, and tell us that alcohol is "harmful and damages your body" and "it's a circle (...) alcohol, drugs" and in "today's world unfortunately too many kids are attracted to drugs, alcohol and so it is an important issue". Some of them describe sometimes ignoring, or perhaps avoiding, to think about the consequences of drinking, especially since examples of people around them who drink abound. They tell us that they know about people who drink but live to an old age and seem to be happy with their lives. And abstaining from alcohol altogether doesn't seem to guarantee no harm, so why not indulge a little?

Skipping school

When deciding whether to skip or not, many aspects, from interpersonal relationships, to responsibilities such as schoolwork, parental relationships, rules and opinions matter. As do the specific rules and regulations of the school in question, relationships with the teachers, a person's ability to catch up with school work, positioning in social networks and more. Missing class is about waging the losses and gains against each other.

The art of skipping

Missing school to a large extent concerns navigating the consequences, especially in terms of school results, such as grades and attendance records, but also about how others, your parents, the teachers and your classmates perceive you. Distinctions are made between skipping school and sleeping in, which would be to miss the first class but show up for the rest of the school day. Certain of the youth interviewed do not consider

sleeping in the same as actively leaving a class in the middle of the day or not going to school for an entire day, though the attendance records will, in most cases, not differentiate between the two.

There is an art to skipping and it is important not to overdo it. You may lose out on materials distributed, or perhaps something important regarding an assignment, or an upcomoing exam is being discussed in class, and "maybe you cannot recover all the information".

> It's about your image to your classmates and your teachers. Because when you skip a lot, it, it's naturally, like naturally to say that okay she, he or she is just wasting their time and not doing anything and they're just (...) yeah losing it. But when you skip one hour or two per week you [give a different] image (...) because you are practically, almost always at school.

Classmates always know if someone is skipping, but some skip so much that no one cares any more or expect that classmate to show up. There are those who never skip and consider it either a waste, weakness of character or simply something they would never consider doing. But there is always a difference between those who skip a lot and those who perhaps just miss a class once in a while:

> I mean, in my opinion, at the end they are also a little bit (...) I mean, they don't do the duty that has been assigned to them (...) I mean, maybe they don't have good character.

> [you] might skip because you dislike the teacher or something. And I think (...) they're just not interested. Because if you're really interested in what you're doing, no matter how little you fancy going to class, or because you find it stressful or whatever, you're going to keep going.

Maturing and testing boundaries

Often, skipping is described as a maturing process, when they were younger and skipped for the first time a majority of the youth who had skipped (and most of them had at least once or a few times), described the fear of parents and teachers finding out. Skipping then was about seeking out the risk, to feel that fear, right on the edge, testing the boundaries. Being younger was all about "emotions", also in regards to skipping; we used to "think less but feel more". These days they reason more and think about previous experiences and what the possible outcomes of skipping are, "we are more responsible now". However, some of the adolescents also explain that they understand that skipping isn't so dangerous after all and with experience under their belt they explain what it means on an everyday basis.

Managing school as your work environment

School, as described by many of the interviewed youth, is the work environment of youth and skipping hence appears to be considered through the lens of managing their working conditions. As with many jobs, school brings about a lot of stress and in the association game many of the youth speak about school when asked to give their free associations on "stress". Much of their daily lives occur in school, since they were small children in fact, and they mention everything from exams, teachers and classmates as sources of stress. Small lockers, small food portions, teachers with little respect, too much work, exams and boring classes are all conditions mentioned as straining. Hence, skipping can be considered an activity to avoid stress, at least for now, when you skip, "you postpone todays activities to tomorrow" one of the adolescents tell us.

Skipping doesn't always mean missing

Skipping does not necessarily mean you cannot catch up with what goes on in class though, one student tells us that "it depends, if you're interested

in that class and you've skipped it just because you say 'Ugh, I don't fancy going to class, I'm leaving', then you say, what did you do in class, and stuff (...) on the other hand, if you don't go to class simply because you don't want to and the subject does not interest you, then obviously it won't interest you what they did in class". Skipping today is weighed against missing out on something important later on, like an assignment, or being punished or not. Deciding which class to skip matters and can depend on "whether they're going to give out study material or not. If they are, then I stay", otherwise I would leave "because in the end you're just sitting". Some of them told us they used to skip more but now that school is more serious and they are older, one of them puts it like this: "I skip less this year because I don't have the time [to]". This seemed to be the case with many of the youth who were studying for their final exams like the *bachiller* in Spain (equivalent of high school diploma). Some of the students believe that different classmates have greater or lesser ability to miss a bit of school and hence some should be allowed to not participate in all the classes, some have it easier in "catching up with classes".

What are the consequences?

Regulations and modes of punishment for skipping are popular topics and stories were shared about attendance records of different kinds, how attendance was being kept in their school and by specific teachers or administrative personnel, exactly how many classes per semester were considered as too many to skip in their specific school and about parents being informed about their children's attendance. Opinions abound about what the consequences for skipping should be, and they currently feel left out from such decisions. Many of them pondered on the state of other schools, often considering them as laxer than their own because students there "are more serious about going to school". Every school is different and there is much talk and rumor about experiences their friends or people they have heard about have from other schools. In a neighboring school "they do not need to be forced as they do in this school, by a lot of rules regarding skipping, registry etc.".

Skipping sometimes has higher stakes and can directly influence your grades and your moving along to the next school year. During some periods of the semester or some school years the teachers pay more attention than other:

> Last year there were warnings for absences, I mean, like proper warnings. They sent me one. And it was because (...) because I had surgery in December and missed two weeks, and for that, I mean – no, I missed a week and I missed a bit more later because of more hospital visits I had to do and stuff, and they sent a warning to my home, saying: 'This is the first warning, on the third one you'll be expelled' ((laughing)). And I'm like (...) I'd presented all the doctor's notes about the operation and such, like. But of course, since you have to bring one for every day ((laughing)).

Yet, records of absence can be worked around. Some of them tell us that their parents help them write notes to cover their absences: "Mom writes notes when exams are over, she doesn't care about me going to school [then]". Moreover, we were often told that:

> the teachers don't care because they have very little time to focus on students and maybe if they ask if someone skipped they get too long answers (...) about stuff they don't care about or have time for.

To some of the youth, skipping is not so much about self-interrogation or thinking about the risks, rather it has become a habit and part of everyday life. The students who show up to school but never go to class are mentioned, everyone knows who they are. Many believe these students will not finish school as they don't care about it anymore. Yet, a few admit to having been one of those students in the past but now having moved past that stage. They reflect back on those times of bending the rules to an extreme and often describe them being over as having to do with maturing.

What we do? We do whatever

When asked why one would skip school, many different reasons are accounted for, the main being to miss or skip an assessment, because class is boring, or the teacher is bad, to simply spend time with friends, to have time to study for other subjects or exams, because you have a job outside of school you have to take care of, or because you need to help your parents or friends with something. For the social skipping, one may hang out at the local café, walk around the city or just go home when the parents aren't there. Skipping is often described as an everyday practice, quite mundane, or a way to make everyday life a little less repetitive. Someone says that skipping is "difficult to describe, what do you mean what we do? We were doing nothing, whatever, sitting on a blanket, doing whatever" and another tells us that whether you skip in a group or alone depends on how you feel:

> When I have to, well, when I (...) am tired or something I do not do it, I skip alone. But when I'm well [I do it] with friends.

Having a little fun at your teacher's expense

Certain say that the teachers usually know if someone is skipping but "they don't care about it, the main thing they're interested in is that everybody gets their things done". Yet others detail how they avoid the teachers finding out or how they make up lies to tell the teachers or school staff. One student tells us about bumping into a teacher outside of school:

> And I said: 'I'm going home to get some photocopies'. 'Ah, well, okay, okay'. I didn't have a bag with me or anything, so maybe he didn't say anything because of that, because he's my teacher and he knows I'm not going to go home and stay there. He had class with me later, so if I'd skipped that one he would have told me off ((laughing)).

Perhaps the teacher wouldn't notice that the student in question didn't have their bag, but these kinds of situations came up quite a lot in which the youth face teachers who would potentially know they are skipping another class or who question them about having missed their class at some point, but the youth do all in their power to dupe them. They make up stories about what they are doing or make sure to show up for the next class that day or never to skip that particular teacher's class again.

Everyone loves a good story

Many memories were shared with us about skipping with classmates to grab a coffee at a café or to hang out with friends from another school, or perhaps the first time they ever skipped sneaking away from the school premises terrified, or when the whole class skipped class together and went to the park (otherwise they would never skip). Skipping can bind you together and the adrenaline rush it can bring make for good stories. Sometimes it isn't your classmate who asks you to cover for them in class, one student tells us of an encounter with a teacher missing class.

> Student: you would say, skipping is bad, nobody does it. No! It's a lie, everybody does it, all the school does it, even teachers ((laughing))
>
> Interviewer: now you're talking! That's a first!
>
> Student: she said that she wasn't feeling so good. And I went home because it was the last class. And before I went (...) uhm in another part of the city, and before I went, I live in the centre, where there's a lot of plazas and a lot of places to go, something like that, and I went to buy myself a coffee because I was really really really tired, and at the coffee shop next to me was my teacher, she was a young one and she was with a man, I guessed boyfriend, husband, something like that and I guess I didn't know what to (...) and I went ((everybody laughing)) is that seat taken? And she said it's ok, it's fine, of course ((interviewer laughing))

> and the moment I left I was like, that's my teacher! She lied to us! But that wasn't a problem, one hour it's not that big, it was religion or something, so it's not important
>
> Interviewer: so it wasn't bad
>
> Student: no, it wasn't all that bad or something

A decision I make for myself

The difference between valid excuses and skipping is described as: "When you skip school you do it for your own sake ((laughing)) that's the difference in my opinion". Taking the risk of skipping then, is something you may be doing for yourself, and not for (or in relation to) others, your parents, your teachers, or even to be accepted in the eyes of your friends. Youth may sometimes choose to deliberately not "do the right thing" and break rules on purpose, defying the standards that are set out for them.

Some reflections on the data presented

The accounts are not specified by gender, country or participating school as this study did not aim to explore such differences but instead to infuse scientific risk categories with (real) life. Moreover, the interviews were conducted in schools during regular class hours, something that may have influenced the atmosphere and content of the interviews, specifically in relation to the questions about skipping school. Importantly, the data collected do not allow for exploration of the many structural, cultural and political aspects of youth, such as race, gender identity beyond the female/male dichotomy, ethnicity, social class, sexual orientation, disability, or any other markers of difference. Such markers may directly influence the youths' expressions of their history, expectations, desires and thoughts about risk. Of course, such variables do not only influence the lives of youth, but those of researchers as well.

Risk: let's problematize it!

Risk as experience

These conversations turn the perspective on skipping and drinking alcohol by showing interest in the actual meaning behind these actions and practices. Instead of asking how many risk behaviors youth engage in, or why, or correlating risk to other factors, an interpretive approach is pursued. The meaning of different actions and choices are investigated. Risk is here intertwined with habit, choice and with the uncertain. Geertz (1983) articulated the "experience-far" versus "experience-near" risks, with the former being out of the ordinary experience with consequences appearing more distant and abstract. Experience provide the youth with precedence as they decide how to act in the present. Yet, actions are not merely about the choice of an individual but they are deeply entrenched in culture, and this is expressed by the youth in their rich descriptions of, for example, drinking alcohol or deciding if to skip school in light of interpersonal relationships, social acceptability, responsibilities such as schoolwork, parents, health concerns, economy, and status amongst others.

Deliberating and navigating contradictions

Youth worry, much like adults they are influenced by similar information and concerns about risks in media, schools and other channels of information. However, these worries are not the same among all youth worldwide and need to be interpreted according to cultural variability. And much like other members of society, they notice that life doesn't always turn out as one might expect. In fact, many people who smoke or drink a lot, live longer than they are supposed to, and perhaps someone they know who is very healthy dies young. As such, expert advice about 'healthy lifestyles' can sometimes be interpreted as misleading, or simply unimportant as there is little guarantee of a protected, good or long life. The toll of alcohol on your body, or perhaps the risk of not

getting a job later in life because your grades are not good enough, in short, the speak of health professionals, the media, your parents or teachers, may be hard to digest or even unimportant in what intuitively and by habit appears as risky.

Though a certain self-interrogation pervades the decision to drink or skip, some of the youth consider these practices as part of everyday life and not necessarily as risks. Drinking and skipping are performed in the midst of much contradiction and as the interviews show us, it is perfectly common to express an understanding of the risks an activity may bring, yet still engage in it. Youth are not ignorant of the risks at hand, instead they deliberately ignore certain calls to risk as it actually does not seem to matter much in their daily lives. It can create peer allegiances and allow for group belonging (Lupton & Tulloch, 2002a). Hence, youth may deliberately engage in risk, drinking alcohol for example can result in strong social rewards like easing social inhibitions, encouraging acceptance from peers and individuals may even enact self-control to overcome aversion, fear or distaste for alcohol to gain such rewards (Rawn & Vohs, 2011). In fact, going to school day in and day out may be expected of youth and look good on paper, but the reality is much more complex, and deliberately avoiding certain rules and regulations may be a coping strategy or simply a way of life to avoid for example over/under stimulation, monotony, boredom, difficult relationships or stress. Skipping and alcohol is even considered as quite ordinary and even unexciting activities by some of the youth.

The youth we spoke to are well aware of the climate of unemployment across Europe, certain with parents who lost their jobs, and some of them even said that there is really no point to studying if it will not lead to a job in the end. Youth today face a discontinuity between the years of preparation and experimentation for adult occupation and participation, and there is an absence of assurance that society can provide the place for one to actually practice adulthood (Fuchs, 2011).

Control and pushing the norms

The ways youth here refer to skipping by using the language of school regulations is revelatory. This language prescribes ways of talking and thinking about the risks of skipping while excluding other ways. The greatest risks when drinking or skipping are those of being 'found out' by adults around them and any potential punishment that ensues, or the social embarrassment that drinking can bring about. Drinking to forget or postpone your problems are not considered as socially acceptable and one's self-image is always important in relation to drinking or skipping (too much or in a way that isn't conventional). Hence, social control and punishment are perhaps the most important themes when considering whether to skip or drink. Yet, it appears, sleeping in and missing class every once in a while does not cause the same concern, as it is framed more as a 'right', at least every once in a while.

Risk is highly contingent on personal experience and many of the adolescents add a developmental twist to their stories of skipping or drinking over time. Perhaps they perceived the risks as higher when they were younger but now, as they are more mature, they know better how to skip and drink more wisely and perhaps also more moderately. Rejecting norms of the majority culture is common, but in fact, since most youth around them engage in these activities, the question of norm breaking appears to be less important. Youth look to adults, and much like they are taught, they try to mature, they drink alcohol *comme il faut* and similarly to many adults who sometimes call in sick when they are actually not, the adolescents decide to skip once in awhile.

Risk versus quality of experience

A normative ideal of a risk-free youth permeates mental health literature. Though, of course, few of us would admit to not having engaged in risky behaviors, as adolescents or adults. Such practices are performed in the intersection of individual, sociocultural, moral

and political frameworks. It is unlikely that someone purposely would avoid a potentially pleasurable activity if they perceive no risk in doing so. Moreover, as we see in these interviews, simply perceiving risk may not be a reason to avoid an activity, instead the benefits and severity of different negative and positive outcomes are weighed. To drink alcohol may be against the law for some of the youth we spoke to, yet the immediate risks one runs when drinking seem to be quite low in their eyes. Skipping school is about navigating rules and regulations and making choices about priorities. Hence, risk is often a wager of assessing losses and gains and here lies a whole field of study to be considered.

Bringing qualitative experience into quantitative territory

Examining empirical data through semi-structured interviews assist us in revisiting assumptions that form the basis of some youth mental health research. By bringing qualitative analysis where quantitative study is traditionally conducted, I attempt to show that risk is shaped by social relations, experience, societal norms and structures. The wish is not to discount personal responsibility and accountability, but simply to place risk behaviors, and how they have been studied, in a larger context. The current study does not allow for an analysis of most of the factors mentioned above, including the influence of political and economical structures on the risks or dangers we face in everyday life. However, as was pointed out in section II, there is a history of considering youth as a group ‘at risk’, and even to pathologize youth because of their position in society and their age. The risk behaviors commonly under scrutiny in psychiatric, psychological and epidemiological studies are oftentimes similar to those historically studied when youth were considered as problematic members of society that needed to be controlled and watched over. Allowing youth in mental health research to break out of the narrow frameworks of adolescents as problem-prone or deviating from the developmental path set out for them will benefit our study. Further analyzing different actions, beyond those labeled as risky,

could give youth the opportunity to evaluate their actions and actively point us to situations they consider to be risky or dangerous. Perhaps this could even direct us to events in which youth act in a way that they themselves consider as lowering their quality of life or with no apparent secondary gain.

Reflections beyond the risk/ protection paradigm

Risk is frequently opposed to being safe, protected, or that of protection, protective factors, or at times to health. According to the anthropologist Paul Rabinow (2007), this hierarchical order wishes to discredit what is thought of as risky. In fact, it suggests that there is a clear choice between a secure state of affairs and one that is not. It would then be difficult to understand how anyone could choose the undesirable conditions rather than the desirable ones; Why would an adolescent drink, have unprotected sex or skip school if they know it puts them at risk? If wishing to be safe, or "choosing security", is a "fool's paradise", another way to examine risk is to shift the focus from a quest for security to that of possible future loss (Rabinow, 2007). It is here that the 'real' risk lies, the link between a potential loss and a string of decisions that might lead to it, to quote Luhmann: "the risk of decision" (Luhmann in Rabinow, 2007). How much choice do we really have? In the end, there is no risk-free behavior. Depending on our actions there is always a risk of loss in the future, while not acting also carry its consequences.

The literature of youth mental health, puts risk in a binary opposition; either you engage in risky behaviors or you choose a more healthy way. However, inserting a third category beyond the risk/health binary is helpful in understanding how real life can actually play out: one may choose neither. Doing nothing is also doing something and it provides the conditions of possibility for doing something according to Ahmed (2010). Not drinking or not skipping is of importance, and not merely because it is the opposite of drinking and skipping. By treating risk in

isolation while neglecting its broader context, we fail to see the texture and qualitative difference in how people experience drinking versus not drinking (or skipping versus not skipping), and that one may quite easily switch from doing the one to not doing the other (Ahmed, 2010).

V

Youth Aware of Mental health (YAM): youth in play and dialogue

Mental is like, I can't explain, physical is what you can touch and feel but mental is thoughts and internal things.
— Girl interviewed

Each moment is like this - before
it can be known, categorized
as similar to another thing
and dismissed, it has to be
experienced, it has to be seen.
—Claudia Rankine, *Citizen, an American lyric*

Mental health promotion

Beyond the collection of data on youth, mental health research is committed to the prevention of mental disorders and mental health promotion programs for youth. The WHO's (2015) definition of health promotion acknowledges determinants of health that are embedded in social structures beyond the individual's control, in addition to those factors over which the individual may have control. This definition puts emphasis on individual as well as community empowerment to address both types of determinants. Stigma is considered an important factor in the neglect of mental health and also plays part in the discrimination of those with mental disorders and the violations of their rights (Susser & Patel, 2014; Pickenhagen & Sartorius, 2002; Thornicroft et al., 2007). Culturally sensitive and well-targeted efforts have been employed to alter perceptions of mental health and influence the conversation about such issues in society (Hegerl et al., 2003; Hoven et al., 2009; Jorm et al., 2005; Paykel et al., 1998; Regier et al., 1988; Titelman & Wasserman D, 2009; Westerlund & Wasserman D, 2009).

Youth Aware of Mental health (YAM) is a mental health promotion program for youth focused on the awareness of mental health through play and discussion. The theoretical background of the program is here presented along with brief information about content and method. Next, the efficacy of the program is demonstrated with a summary of results from the SEYLE-RCT, a multi center cluster-randomized controlled trial of 11,110 students in European schools. The study shows that YAM effectively reduced the number of suicide attempts and severe suicidal ideation, described in brief on p. 118 and published paper attached in Appendix C. However, YAM relies heavily on the active participation and personal engagement of youth. It is a program that boosts emotional intelligence, includes role-play and learning about mental health, emphasizes empathy, listening to and helping your peers; all components that can quite possibly be challenging and vary depending on the circumstance. We wondered, what was the response of the participants, beyond the success of the program in decreasing suicide attempts and suicidal ideation?

YAM was created by public mental health researchers and is based on common psychiatric and psychological concepts and categories. As a creator of YAM, responsible for producing the materials and developing the methods, including writing the manual and training the YAM instructors, over the past few years I have worked with improving the program. Speaking at length with YAM participants and instructors across Europe has informed my practice beyond the drawing table and office chair, helping me to fine-tune the content and delivery to fit youth and to create a YAM instructor training that reflects the diversity of the participants.

An initial qualitative effort was made to investigate the successes and failures of the program implementation by interviewing the YAM coordinators in the SEYLE study. You will find a brief description of this study on pp. 121-122, and find the published paper in Appendix D. Next, a more open-ended inductive research study was conducted by interviewing some youth who had participated in the YAM program. This research resulted in the study of the positioning of youth vis-à-vis mental health interventions and researchers and is described at the end of this section starting on p. 120. These qualitative studies were conducted in the quest for description, texture and experience beyond the cause-effect relationships that epidemiological data provides us with.

Youth in the present moment

In mental health research, particularly in preventative and health promotion work, focus is on a risk and protection based model. Sometimes the risks appear so great that one would almost imagine the youth to navigate through a minefield filled of temptations and dangers, of Vodka Red Bulls and cheap wine, joints offered to them from strangers, riding in cars with drunk drivers and skipping class to have unprotected sex. Yet, as we have seen in previous sections of this dissertation, the meaning of risk is not always the same and risks are by no means simply negative.

YOUTH AWARE OF MENTAL HEALTH (YAM)

YAM is a program for 14-17 year olds promoting increased knowledge and discussion about mental health and the development of problem-solving skills and emotional intelligence. The program offers a hands-on and non-judgmental approach to everyday problems youth face in school and beyond. Mental health issues such as stress, crisis, depression and suicide are explored through role-play, reflection and discussion. Youth learn from each other and are encouraged to practice empathy and solidarity. All participants obtain an instructive booklet, *Affect and improve the way you feel*, covering a range of mental health topics and information about health and support resources in the community.

In YAM, scientific assessments of risk or mental health are not pitted against the everyday experiences and meanings of the participating youth, instead these are both up for discussion in a rich and context-based program. YAM, attempts to put youth in focus, not for being in and of trouble, or needing to be taught how to properly act, but instead emphasizes reflection on the present moment and a less linear idea of human growth. When developing YAM, we purposely wanted to step away from the risk versus protection model of mental health (Mrazek & Haggerty, 1994; Resnick et al., 1997) and instead engage in a discussion with youth about the situations they face in their everyday lives. Attempting to break with the history of mental health research and practice described in section II, YAM does not aim to change youth into becoming better citizens and contributors to society. By focusing on the problems important to the participating youth, YAM invites debate and a more fluid approach to mental health topics through role-plays picked and enacted by the participants. Based on empathy building and finding solutions as a group, the YAM youth reflect and analyze their actions through play and dialogue By discussing different responses to problems, the participants learn that that they, as individuals, are not alone responsible for solving their problems and that they can help themselves and others around them to feel better.

A supportive platform for experience and discussion

The reasons for creating mental health promotion and prevention programs and their methods vary quite a lot. YAM is a program for all kinds of youth and was created with this heterogeneity in mind. The aim is not to reform an at-risk population. Its flexible nature allows for the contextualization of youth in social, political and relational contexts beyond sheer markers of biological age and difference (Talburt & Lesko, 2014). Evidence in stigma research supports starting from "what matters most" within a particular group in order to effectively combat stigma (Susser & Patel, 2014). The YAM instructors are instructed to allow discussions to blossom and not intervene too much, acting mostly

as mediators, summing up the content of the role-plays and discussions in an intelligible and supportive way. With focus on the issues important to the participants, YAM encourages debate and a more fluid approach to mental health topics. Learning and listening actively to each other, a climate of empathy and support is fostered. Building on resources in the community and the connection of individuals and schools with such organizations, YAM should not leave any individual adolescent, parent or teacher feeling burdened or isolated. The program relies on rigorous planning of identifying suitable and cooperative resources in the community in mental and general health, alongside organizations working with youth rights and empowerment that can be contacted in case of need.

Genesis of YAM

YAM was originally developed for SEYLE and modeled on previous universal school-based programs in schools in Stockholm, Sweden in the 1990s (Narboni & Wasserman D, 2000; Ramberg & Wasserman D, 1995; 1996; Ramberg et al., 1999). Role-play stands at the core of the program, as a powerful tool to explore and transmit knowledge and experience. Play offers the possibility to see and think about contradictions of the past, present and future in ways that allow for different forms of action (Snaza & Weaver, 2014). In YAM we do not try to teach youth to be docile, better in school and emotional control or academic achievement are not monitored, instead the program departs from the idea of empathy, learning to listen to your peers and accepting that there are many solutions to different problems.

The three hour-long role-play sessions are filled with content chosen by the participating youth themselves. Though methods and efforts to solve problems are discussed, no specific set of skills or rule-based discipline are propagated to promote improved mental health and reduce social conflict (Boler, 1999). The program allows for a multitude of outcomes, depending on the participating group and individual.

YAM does not expect the youth to become resilient to mental health problems, optimistic about the future, or confident that they can solve any situation. Reflection stands at the core of YAM and runs through the experiential components of the program as the youth discuss and compare their different perspectives and experiences.

YAM departs from a small place, the classroom in which that particular program is taking place, and every context influences the program to take a slightly different direction. The limited time and flexibility of the program, could potentially be one of its successes, since YAM does not look to change the participants ways of life, instead simply offering them discussion and advice and perhaps some tools to consider if they confront mental health problems in everyday life.

Risk in YAM

In the program, instructors are taught to pay attention to and respect the collective and personal meanings of risk. Risk-taking is both future oriented and goal directed (Lightfoot, 1997). The YAM instructors approach risk as serving a variety of functions highly dependent on circumstance. It is considered as "interpretive activity, as meaningful action, as experience" (Lightfoot, 1997). Different perspectives surface in each YAM program and the idea of risk as defining one's sense of self and one's relationship with others often turns out to be very important.

YAM: a hands-on approach to mental health empowerment and solidarity

YAM brings different learning methods together with the fundamental components of the program being as follows: Five interactive sessions that are one school hour each, with three role-play sessions at the core, backed by one opening and one closing session.

Figure 1. YAM timeline

In a non-judgmental atmosphere, confidence and knowledge about mental health is boosted. Through conversation and active play, protective factors beyond pre-mediated adult standards take form. Learning from both a professional and each other through a mix of cognitive, emotional and experiential learning the personal experiences of the participants influence the content. Role-play offers tools to explore situations that could otherwise appear threatening or difficult. In play, youth train to feel empathy, to understand other people's perspectives and to stand up against peer-pressure. An important takeaway of the YAM program should be that it takes time, patience and practice to understand what works best for each and every one of us in order to feel better.

Method and content: in brief

The YAM materials are pedagogically designed to convey information about mental health, coping strategies and emotional intelligence while at once not overwhelming the participants with too much information. In addition to the YAM sessions the themes are communicated through physical and visual materials as seen below. All participants are given a booklet to keep that contains age-appropriate straightforward information describing the topics of the program, functioning as a reference for the participants while also containing information about

where to seek help in case of need. For the duration of the program, six posters covering the main themes of the program are hung on the walls.

Figure 2. YAM materials

1. Booklet 2. Posters 3. Selected slides for the opening session

4. Dilemma cards for the first role-play session

YAM consists of a combination of cognitive, emotional and experiential learning. The opening session, a kind of lecture based on a series of images is of interactive emphasis, stimulating cognitive processes. The three role-play sessions are designed to integrate cognitive perceptions with emotions in order to work through the process in an expressive and experiential way. In these sessions adolescents get to enact different difficult situations they pick or come up with and think about how they would actually react or act in such a situation in real life. The role-play sessions cover the following three themes with the content ultimately decided on by the participating group: 1) everyday choices and the outcome of one's actions, 2) becoming aware of

one's feelings and how to manage stress and crises situations, 3) listening to others and speaking about depression and suicidal thoughts. The closing session serves as a rundown of the themes brought up in the other sessions and the cognitive processes take center stage again. The closing session is very contingent on the climate, questions and concerns of that particular group and is used to summarize their specific YAM experience.

Validity, strengths and weaknesses

The quantitative evaluation of YAM's effectiveness, summarized on p. 118 and found in Appendix C, has several strengths. First of all, RCTs are the golden standard for evaluating the effects of interventions as it provides the best method to control for confounding factors. Moreover, the methodology of SEYLE was highly standardized and included protocols for quality control of the fidelity of the interventions and of the collected data. Last but not least, it was possible to recruit a very large sample of youth which is a requirement when the objective of the research is a relatively rare outcome such as suicide attempts. Of course, strengths often correspond to weaknesses. The main limitation of SEYLE is that all data were collected through self-report. This is commonly done in large studies in public health because it is the only feasible way to gather data from such large populations. Even if it has been shown that self-report data have high validity, we cannot discount memory bias and that some questions might have been misunderstood by some or that others might have preferred not to be honest in answering the questions. Moreover, the effectiveness of the interventions was not compared to a plain control but to a minimal intervention due to ethical reasons. The minimal intervention might have had some effects in preventing suicide attempts and this might have affected the results. Notwithstanding these limitations, greatness in power and meticulous statistical analysis has lead to important findings about youth mental health outcomes.

Statistical relationships reveal connections between factors and outcomes and provide possibilities for effective intervention (Prussing, 2014) with

YAM: PREVENTING SUICIDAL THOUGHTS AND ATTEMPTS

The effectiveness of YAM in reducing suicide attempts and severe suicidal ideation was evaluated in a large RCT within the framework of the SEYLE project (see box on pp. 67-68 for a summary and Appendix A for the full protocol). A sample of 11,110 adolescents (mean age=14.9) was recruited in schools across ten European Union countries. Schools were randomly assigned to one of three active interventions or to a control group.

The primary outcome measure was the number of suicide attempt(s) made by the 3-month and 12-month follow-up. Analysis included all adolescents with data available at either points in time, excluding those who had ever attempted suicide or who had shown severe suicidal ideation during the 2 weeks before baseline. No significant differences between intervention groups and the control group were recorded at the 3-month follow-up. At the 12-month follow-up, YAM was associated with a significant reduction of incident suicide attempts (odds ratios [OR] 0·45, 95% CI 0·24–0·85; p=0·014) and severe suicidal ideation (0·50, 0·27–0·92; p=0·025), compared with the control group. 14 pupils (0·70%) reported incident suicide attempts at the 12- month follow-up in the YAM versus 34 (1·51%) in the control group, and 15 pupils (0·75%) reported incident severe suicidal ideation in the YAM group versus 31 (1·37%) in the control group. No participants completed suicide during the study period. These results show that YAM was effective in reducing the number of suicide attempts and severe suicidal ideation in school-based adolescents and underline the benefit of universal suicide preventive intervention in schools.

the goal of improving individual and population health (Lynch, 2006). However, it is common that greater attention is given to biological pathways than to possible social antecedents such as contextual perspectives, social disparities or explicit discussions of race in epidemiological studies (Prussing, 2014). Advocates within the field of epidemiology call for more contextual approaches that clearly conceptualize the social, cultural and environmental settings in which adverse exposures emerge and interact to produce population patterns in health outcomes (Krieger, 2011).

Exploring the field: texture and quality of the YAM experience

The findings presented above has generated many more questions, as they should. I wonder, what do the results described actually tell us about YAM and the youth who participated in the program? It has been argued that quantitative data possess an artificial sense of precision and accuracy (Bryman, 2012). Bryman details Cicourel's (1964) critique of the quantitative measurement process that operates under the presumption that members of a sample responding to a questionnaire will interpret key terms in a similar fashion. Cicourel further argues that simply providing fixed-choice answers creates a distance between research and everyday life. What youth think, know and how much they care about mental health topics will differ greatly, as will their understandings of the questions. There are many parameters that matter when designing a quality measure, such as the understanding of the construct and population being studied, and recognizing the interaction between the two (Vogt et al., 2004). It is standard for researchers in epidemiological studies to make use of assessment instruments that have not been created with or tested on members of that specific population (Vogt et al.,2004), and in this regard the SEYLE study was no different. One may then wonder, to what extent do the answers of the youth actually relate to or reflect their everyday lives?

Qualitative research can help widen the perspective, both when conducted independently and in conjunction with quantitative studies. In fact,

when different research methods approach similar topics and subjects, perhaps more informed research shall follow in the long-term. In the context of topics that relate to youth mental health, interpretations of certain concepts, and a more textured account of experience beyond cause-effect relationships are lacking. Qualitative research can do a lot to elucidate the meanings attributed to events, behaviors and experience. Below follows additional insight into the YAM experience as told by the YAM youth and coordinators. In the summary on pp. 121-122, the point of view of the YAM study coordinators is summarized and the published paper can be found in Appendix D. In the article, YAM is referred to as the "awareness program". Below, in the text, follows the study of youth positioning vis-à-vis mental health topics, interventions and researchers.

Youth positioning in relation to mental health interventions — qualitative interviews with YAM participants

The role of youth in mental health research

Over the past few years, in different capacities, I participated in the implementation of two large multi-center research projects in Europe (Carli et al., 2013; Wasserman D et al., 2010; WE-STAY Report, 2013) that have been described earlier in this dissertation. Working for several years to conceptualize, prepare and implement these two large RCTs that focus on the mental health of youth, and later by presenting results in more than twenty publications (Balazs et al., 2013; Barzilay et al., 2015; Brunner et al., 2014; Carli et al., 2014; Cotter et al., 2014; 2015; Durkee et al., 2012; Fischer et al., 2012; Kaess et al., 2013; 2014; Kelleher et al., 2012; 2013a; 2013b; Ruutel et al., 2014; Sarchiapone et al., 2014; Sisask et al., 2013), the youth remained surprisingly absent throughout the process. Of course, many thousands of them participated, to be exact 12,395 in SEYLE and 11,186 in WE-STAY. Yet, the youth, as often is the case in large-scale research endeavors, had to wait at the periphery until the study protocol was set and

LESSONS LEARNED FROM THE YAM INSTRUCTORS

In a descriptive study all coordinators of the SEYLE YAM program answered an open-ended evaluation questionnaire at the end of the project implementation.

Nuance and flexibility in the classroom

The coordinators, who were also YAM instructors, told us that the program cultivated peer understanding and support. The participating youth not only learned about mental health, but the majority of them also greatly enjoyed the experience. The major strength of YAM as proclaimed by the coordinators is its' subtlety in content and execution. When addressing sensitive issues such as mental health, risky life-styles and suicide, it is important not only to be cautious and sensitive to cultural differences, but also personal histories. Awareness programs for youth that are both effective and culturally adaptable need to be carefully developed, considering attitudes towards suicide and mental healthcare in general.

A preventive effort specifically tailored for youth needs to be thorough in its approach; yet open to flexibility, allowing the youth to express themselves freely in a safe environment. YAM is highly contextual and the feedback from the coordinators shows that the local context significantly influences the outcome of the program; every classroom is different, and consequently flexibility is central to a successful implementation.

The coordinators feedback helped us put together a list of important points for future programs of this kind:

• Prepare a well-structured program with clearly defined aims, but allow flexibility and an individual approach.• More time should be allocated to the variety of topics raised and to role-play and discussions with at least an additional five hours added to the program, resulting in a ten-hour program.

• Instructors need to have proper professional background and training, but also certain personality traits (e.g. openness, ability to listen and make quick decisions) help to create a safe environment.

• Topics should be addressed in a way that gives an opportunity to develop problem-solving skills and empathic attitude whilst creating an enjoyable and inspiring experience. Difficult topics should not be avoided, rather need to be addressed with care and close involvement of the participants.

• The key messages need to be disseminated through different materials and tools of interaction.• Cooperation, understanding and support from stakeholders are crucial for success; the school system is the most effective system to use. Therefore, logistical issues (schedules, size of group, etc.) need to be tailored according to the needs and available resources.

• Evaluation of the program should be done with pre-post assessments and also with process- evaluation.

A challenging and welcomed diversion to the school environment

YAM was developed for SEYLE and thus with a large heterogeneous group of youth in mind. The main goals, to increase general mental health awareness whilst encouraging youth to help their peers, develop empathy and solidarity and to self-recognize the need for help, were, of course, very ambitious. In such large-scale efforts, it is difficult to ensure that the needs of all participants are addressed and that all topics raised are adequately explained and actually understood. However, reports from the SEYLE sites in eleven European countries show that the role-play sessions and ensuing discussions were a welcome diversion from ordinary classes and a good tool for communicating knowledge and diminishing stigma. Different from many other school endeavors, the program engendered understanding between students, encouraged peer support and allowed the classmates to get to know each other better

they were invited to participate. Standardized questionnaires invited them to answer questions about all kinds of behaviors they are likely to engage in, moods they may experience, everyday choices they have to make, all in the quest to better understand who the youth in Europe are and what they are up to in the twenty-tweens. Next, during the analysis and interpretation of results, the youth were once again not approached. Of course, many of the researchers have extensive expertise from working with adolescent populations, and there is no doubt that many of the research questions asked and interventions created for the study worked well to address adolescent mental health (Wasserman D et al., 2015).

We therefore decided to speak directly to some of the youth that had participated in the WE-STAY YAM in order to inform the data collected and analyzed until now. Below I present the analysis conducted by VP and myself.

Method

Please refer to the method described in section IV on pp. 80-88. The only difference in methodology is that in this study, the youth are referred to by gender to facilitate the reading flow as there are many quotations; and as a factor perhaps to be considered in future analysis.

Results: Mental health — youth and researchers communicate

Breaking the transcripts into meaningful parts and allowing for codes to surface, certain patterns emerged over time, while others disappeared the deeper into the coding we got. Over time we noticed that the youth tended to navigate towards a few distinct positions in relation to mental health topics and their memories and impressions of the YAM program. In the figure below, the interplay between the adolescents' response to and interest in the interview, their experience of the YAM program

and the interviewers' intent and means of interacting with them is illustrated. The active positioning of the youth vis-à-vis mental health and participating in an interview about such topics stands to the left of the figure and will be described in more detail below. The associations between the positioning, the kinds of responses and the interviewers' methods are not linear and there is no real intent to speculate about their causality. Nevertheless, a few central patterns were observed during the analysis, originally relating to how easy or difficult it was to conduct the interviews.

We all have favorites: "Interested"

While discussing the interviews we realized that among them were some that made us feel happier and more at ease both as readers and researchers, simply put, they flowed better. These were the interviews in which the interviewer seemed the most content and where the interviewees were comfortable enough or cared enough to take the time to speak about themselves, at times even open up beyond our expectations, and who clearly had the experience and vocabulary to do so. Many times these were youth who voiced an interest in "psychology", or who "talked to their friends about these things [mental health, emotions etc.]" and who with ease used many of the YAM buzzwords: stress, depression, bullying. Besides, many of them told us they help their friends when in need. At the time of the interview, these adolescents sometimes became our "favorites", as they were easy to speak with, already with some fluency and training in the language we use, oftentimes providing a relief from previous more difficult interviews. These adolescents, referred to as "interested" in the figure were without any problem able and willing to answer open questions and hold up a conversation without much interference on our part. When giving their opinions on YAM they oftentimes would break down the program, telling us what they liked and didn't like, or what parts of the program worked for what kinds of young people. One girl explained it like this:

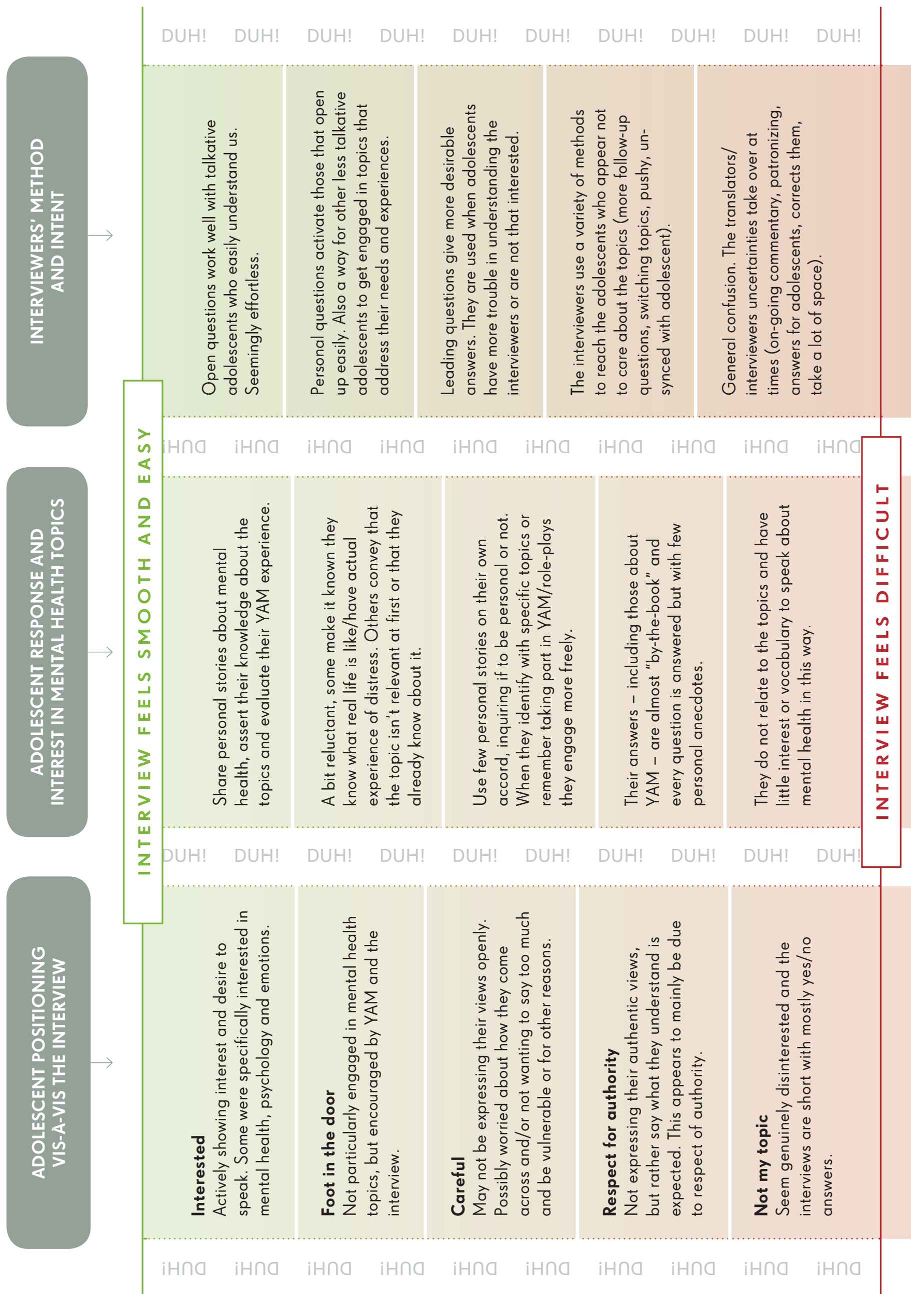

Figure 3. The interplay of positioning, response and method between youth and interviewers

> It's good to have these booklets, because you can read it too, but I think it's good to talk, also. It's very important that you can and know how to talk, because everyone knows to ask, but nobody knows (...) I mean nobody (...) lots of people don't know how to say something like ahh to express themselves in a better way or to try to communicate, they just talk (...) it's hard to find your voice to fully express them [emotions]. I think that.

Let silence speak: "Not my topic"

Some of the other youth, however, had a harder time not only with YAM but also with our interview. It appears that when the agenda of mental health is set it was difficult or not of interest for some to actively participate. These adolescents, grouped under "not my topic", were not used to talking about emotions, not fluent in mental health vocabulary, perhaps they had no personal experience of the topics, did not care, were indifferent or the topics were too abstract. It is possible that these young people would prefer to express their thoughts on mental health in a different way than proposed by us, that is, verbally and with unknown adults, who happen to be professionals in mental health at that.

Sometimes these interviews made us feel inadequate or ill at ease; they were usually quite difficult to conduct as the adolescents weren't very talkative and oftentimes they were shorter than the other interviews. Over time as we stayed with the material, refusing to give up on these seemingly data sparse interviews, their importance became increasingly clear. These were youth that we did not hear at first, because they did not use many words that we could put into meaningful units per se, however; the coding of long silences, prompting and leading questions of the interviewers, as well as many "yes" and "no" answers tell a story beyond verbal clues. Besides the uneasiness with the interview setting, the YAM program did not speak to them. Therefore, the interviewers

were more often adding additional explanations to the questions, looking for clues from non-verbal signs, were not synchronized with the interviewee and would sometimes appear pushy. The interviews occasionally created confusion, and in general the cooperation between the interviewer and translator seemed to be failing in these specific instances. If the interviewers were struggling, it appears that the youth too were uncomfortable, and in addition to simple monosyllabic answers they would say things like "I don't know", "I never experienced anything like that", "that's all". One boy put it in a very frank manner when asked about the association game:

> Boy: Hmm ((laughing)) ahh (...)
>
> Interviewer: Are these hard words, difficult words?
>
> Boy: Yes
>
> Interviewer: Why are they difficult?
>
> Boy: I don't know ((laughing)) I don't know what to do with these words...

In regards to the YAM program, their comments mainly concerned if they remembered the program or not or whether the activities were fun or not. There was not a lot of motivation to participate in YAM and they reported taking part because others did or because they preferred these kinds of activities to regular classes.

Give me a little time and let me speak the way I like: "Foot in the door"

Then there were those adolescents who at first did not seem to be interested and whose interviews at the beginning and in some regards were similar to the ones described above, but who slowly opened up to us the deeper we got into the interview. Grouped under "foot in the door", these girls and boys were at times reluctant, some of them were perhaps too mature for the questions we were asking, sometimes disinterested, especially in generalities and for some it was hard

to answer questions that weren't personal. Yet, it seemed that the style of the YAM program, using role-plays with everyday examples, remaining open to their personal experiences as well as the more personal questions during the interview allowed them to identify with the topics. They were simply taking a while to gauge our intentions in order to eventually feel comfortable enough to share some stories. It may not always be obvious that these adolescents were actively participating or listening, one boy told us that he didn't remember anything from YAM:

> Because I was listening only with one ear and in the other one I had headphones! ((laughing))

Though, in fact he then went on to speak in great detail about some topics from YAM that mattered to him, namely about marijuana, a topic on which he had many opinions and some experience. Others in this group appeared to be quite mature for their age and one girl told us that she wasn't interested in "cheesy self-help talk", showing sensitivity to how the topics are presented. Every interview in this group was quite different and after having finished the interview it wasn't always obvious that we had just completed an "easy" or "difficult" interview, but only in the analysis did some of the above-described themes arise. Once youth and interviewer found common ground, the exchange altered somewhat and at the end it seemed like quite a special relationship had developed.

Can I trust you?: "Careful"

Some of the youth were careful or possibly a bit guarded when discussing with us. Perhaps they did not want to share their thoughts about YAM, or for others it was difficult to remember or find words to speak about the program with us. These adolescents used few personal stories, even though they were able and willing to answer more questions than those in the silent group, and hence are here grouped as "careful". Some

of them asked over and over whether to be personal or not in their responses, one girl asked us "are we still talking in general or not?". In some instances this appeared to be a way to find out what we were after, and whether to comply or not, but could also be interpreted as the interview questions causing some confusion. Certain youth were a bit suspicious but perhaps mainly not ready to share such information in this setting. When they identified with some topic or remembered something specific from YAM or the role-plays they were more easily engaged. In these interviews a lot of leading questions were used. At the time of the interview we probably felt that they were withholding information or not sharing enough, so leading questions were used in the attempt to get closer to them and even offer them with alternatives how to respond.

Perhaps the youths' lack of trust in the interview was due to worrying about how they came across, or not wanting to express their views, or not wishing to expose themselves too much. One boy told us:

> In public you are even less likely to tell the truth than maybe in the questionnaire (...) for me, in the questionnaire, at least, that's true, for example I've got 5 brothers and sisters – that's true – but when I have to say it in public maybe I say I have just one (...). What does it matter to people how many I have? I think the truth comes out in writing even more (...)

Am I doing alright?: "'Respect for authority"

Some of the youth, whether talkative or not, seemed to be answering with our expectations in mind and hence we decided to group them under "respect for authority". These interviews often seemed smooth at first but at the end we had the feeling that we did not get any closer to the youth interviewed.

Some of them spoke because they were expected to, telling us what they thought we wanted to know or perhaps to impress us and they seemed pressed to answer every question asked, though at times they would make it known that they were not sure what to answer. One girl told us that “so many thoughts will come to mind after”, a bit upset that she could not answer the questions in a way she deemed adequate. A few of them expressed that they were happy to have been asked to participate, one boy spoke about the “odds to be chosen” to do such an interview and that he was very happy to be one of those, even as we explained the random process of being asked to participate. These adolescents made an effort to tell us everything they could remember from YAM, naming the different program components.

Distribution of the youth: a reality more complex than the data

The distribution of the interviewed youth into the above-described groups was quite even: Seven, four females and three males were considered “interested” while six, all male were in the group “not my topic”. Eight, with an even split between females and males were characterized as “foot in the door”. Five adolescents, four female, one male, were grouped under “careful” and finally, six, four females and two males under “respect for authority”.

This study did not aim to explore gender differences, yet it can be noted that there are some possible trends. When considering these trends, it should be mentioned that the interviewers were both female, which might have played a role in the data collection. Moreover, the interviews were conducted in schools during regular class hours, another aspect that may have influenced the atmosphere and content of the interviews. Importantly, the data collected do not allow for exploration of the many structural, cultural and political aspects of youth.

We are all human — Duh!

Besides the positioning of the youth vis-à-vis YAM, mental health and ultimately our interview, a few other noteworthy themes emerged from the analytical process. As can be seen in the figure, the word *Duh!* floats between the themes described in the three columns. *Duh* is a word used in common parlance, especially by youth, to express that something is actually quite obvious. Duh or D'oh is an American expression popularized by the Simpsons TV show, commonly used sarcastically by adolescents when someone states the obvious and defined by Merriam-Webster as: 1) used to express actual or feigned ignorance or stupidity 2) used derisively to indicate that something just stated is all too obvious or self-evident (Merriam-Webster, 2015).

Here *Duh!* hovering in the background represents the opinion of many of the youth, as expressed in the interviews, that mental health is common knowledge since we are all human. This position is in response to a two-fold state of affairs: the first being the tendency of researchers to sometimes ask questions bordering on the obvious and at times act as if the adolescents know less than them, not listening fully or respectfully, staying too close to professional concepts and language. The second being a bit more contentious, relating to the common attitude of youth, whether they care about the topic or not, understand it or not, they might say that they understand. Even if the youth did not always express this sentiment by using *duh* specifically, it was noticeable in most of the interviews, sometimes verbally and sometimes non-verbally, that they most certainly knew about these topics and sometimes that our questions were, to say the least, redundant.

> Interviewer: Do you think young people have a lot of probems like that, like we had in this proje—
>
> Girl: Yeah
>
> Interviewer: Yeah? Which ones are those?
>
> Girl: Most of them. Well, the thing with the vices, drugs.

> How can I say, with alcohol, with depression, with broken hearts, a lot (...) But, mostly all, and the ones with the parents. So, everything, others (...)
>
> Interviewer: Everything? It's (...)
>
> Girl: ((laughing)) It's normal, this is why the course was made, right?
>
> Translator: What?
>
> Girl: I'm saying that this is the point, because this is the purpose of the course, right?

In the above conversation, the girl says "Yeah", followed by the answer that obviously young people have mental health issues, which in fact is the reason we are discussing these topics in the first place. This "Yeah" could easily have been exchanged with a *duh* had she been speaking with someone she knew better, someone her age or if English was her native language.

Duh! here epitomizes the importance of not minimizing or disregarding the complexity of human emotions. This is especially important in view of youths' tendency to express themselves beyond standard mental health vocabulary that researchers might be used to.

Mind-set and method of the interviewers

The mind-set of the interviewers, influenced by commonly used psychiatric and psychological concepts and categories that informed the design of the SEYLE and WE-STAY study protocol and the YAM program, shaped many of the expectations and some of the content of the semi-structured interviews. We noticed that the techniques used to get "more" out of the interviews changed according to the perceived interest and ease of the youth being interviewed. In the analysis, many memos and some of the codes relate to how appropriate the interview questions and methods were. Some of these observations can be found

in the rightmost column of the figure. On the one hand we found tendencies of positive reinforcement and asking very personal and direct questions when an interviewee was speaking freely and giving much of themselves, sometimes responding with words like "perfect". The interview atmosphere was highly contingent on both the interviewer and translator and their intentions and interpretations. Many times, the collaboration between translators and interviewers allowed for a more relaxed follow-up to difficult topics, with the other party taking up the thread and continuing the conversation in a more laid-back way. In the following excerpt, one girl told it to us bluntly and not void of humor, making the translator laugh which lead to a smoother continued tone in the interview.

> Girl: Some people are weird, they start drinking in the morning and then get sober for the evening so they can go back home.
>
> Translator: ((laughing))
>
> Girl: ((laughing))

On the other hand there were instances when the interviewers seemed to be less in sync with the adolescent, steering the interview a lot, changing the subject too rapidly and sometimes impatiently answering for them or posing closed-ended questions. In one of the interviews when talking about taking part in the YAM role-plays one of the translators attempts to answer for the adolescent:

> Girl: eh I mean (...) it was nice, I mean, they felt comfortable, because it was interesting.
>
> Translator: a little bit embarrassed or not?
>
> Girl: eh, at the beginning no one wanted to do it, but at the end (...) we did them.
>
> Translator: ((laughing))

At times, the agenda was obvious and despite aspirations to have an open conversation with youth, previously formulated ideas were

not always relinquished, sometimes to the point of not accepting unfamiliar definitions, sometimes even disagreeing with the adolescent. In the more difficult interviews, when the youth had little to say, the interviewers and translators sometimes took up a lot of space. Below, a boy does not know what to say about depression during the association game and the translator and interviewer react in a somewhat patronizing way:

> Boy: Difficult one (...) Well, not sure what to say (...) It's really difficult. Don't know what to say about depression.
>
> Translator: Why is it so difficult?
>
> Boy: I don't know (...) because I can't think of any words to (...)
>
> Translator: Nothing comes to mind.
>
> Interviewer and translator: ((laughing))
>
> Interviewer: Well something comes to mind, that you don't understand (...) something, doesn't it?
>
> Boy: Well (...) you, you can get depressed for a reason, I don't know, I've never had those kinds of changes, I don't know.

A more creative understanding of mental health

Qualitative research methods can provide an alternative to standardized questionnaires by giving youth an opportunity to speak for themselves, using their own expressions and actively answering questions or not. By speaking directly to the researchers these young people offered us new points of understanding and conceptualizations of mental health and the relationships between the research world and its subjects.

Meaning of words: experience and interpretation

Mental health topics as approached and even named by mental health professionals are oftentimes quite different from how youth express themselves on these very same issues. In the interviews, particularly the mental health association game, we asked youth to blindly enter language and description that some of them were not familiar with and then to try their best to find words that we could understand or that they deemed acceptable to use with us. Usually stress came to mind as an over-sweeping word to describe discomfort, mental ill-health or to compare and contrast with other mental health related words. One girl explained that "stress and depression are mainly the same." And one boy used stress to explain the following situation to us:

> For example a moral crisis is losing something for example a friend goes abroad like my friend went to live in England. For example this is a loss for me and crisis to me means losing something. I wasn't stressed, I can't call it stress, it is just crisis. Crisis to me is like losing something.

This does not necessarily mean that that they should learn the "real" meaning, or rather psychiatric definition of these words. Instead, it is important to take their word use and description of certain moods seriously and to allow for mental health preventive efforts to be inclusive of youths' wide range of experiences and language. What is important with a program like YAM is not necessarily the learning of concepts and words that belong to the world of psychiatry and psychology, instead the aims are manifold, including learning empathy, skills to handle difficult situations and that there are many ways to talk and think about mental health. In YAM and in these interviews it was obvious that experience plays a big role in remembering and speaking about a topic. Allowing youth to speak and think for themselves gives us interpretations far more imaginative and true to their realities. One girl described mental health to us:

> Mental is like (...) I can't explain, physical is what you can touch and feel but mental is thoughts and internal things.

YAM and the different groups of youth

These conversations teach us that future mental health promotion programs need to implement content and method that directly addresses and involves a heterogeneous population of youth. Most of the adolescents are willing to participate in programs like YAM and interviews like these, and perhaps even actively so if they are enjoying themselves or simply if the activity is "not boring".

Without speaking directly to youth one can speculate about those that may not be interested in the topics or who would not voluntarily participate in a program like YAM. In line with such assumptions, the "interested" adolescents would be the most likely to engage in a mental health intervention as they are oftentimes the adolescents seen and heard in the classroom during such a program. But as our findings show, the adolescents that we grouped under "foot in the door" or "careful", who may be mistaken as not interested, took active part in the interviews and as described by them, in YAM as well. Most of the adolescents reported that they signed up for YAM because they did not have to take part in regular classes, because other classmates decided to take part, or even because the program seemed more fun than regular classes. YAM managed to invite, and by extension include, those who are not necessarily interested in mental health topics. As expressed in a previous article by myself and VP (Wasserman C et al., 2012), the heterogeneity of the participants is in fact one of the reasons for the program's success.

The "interested" youth as well as some of the ones with "respect for authority" expressed that taking part in YAM reinforced their knowledge about mental health and empowered their capacities for

active problem solving. The ones with a "foot in the door" or who were "careful" might require more attention in terms of mental health needs than the participants from the more talkative and more silent groups. These adolescents may need less standardized programs that stray away from generalities, and that are open to complex realities and a more varied language. They became interested because the topics related to their situations, and perhaps their needs had not been met before. It is important to actively work with adolescents to think about ways that they can be reached in even more effective ways, closer to their language and experiences. The group of youth most difficult to reach is the one who actively appear disinterested in mental health topics or these kinds of activities, even if they may participate if given the opportunity and do not have to participate in regular school activities.

These interviews and YAM were conducted in the school setting, with the many limitations such an environment can bring. In further analysis and future work of this kind it would be important to critically understand the context of schools, the environment of many public mental health interventions.

An important factor to not take lightly is that of having fun. A motivating force in many of the interviews, as well as in YAM, was that of humor, which was a lot more effortless in the cases when the adolescent understood English, or the main interviewer spoke the same language as the interviewee. Jokes and laughter helped to overcome language difficulties, agree on something, leave a difficult topic, enter a lighter one and in some instances to digest sensitive information as well as many other not immediately observable uses.

Advice for future YAM activities

Looking back at the research process and the discussions we have had throughout the data coding, the importance of having investigators with

different educational and research backgrounds collaborate is clear. However, in addition to this, especially when speaking with youth, certain skills like empathic and careful listening, being reflective to respond with additional questions and expressing genuine curiosity about their experiences are needed. Besides, the same openness is needed for the persons who help with the field-work or engage with youth in the field, here as translators and in YAM as instructors.

We should ask ourselves about the goals of large-scale research endeavors that are aimed at the promotion of mental health among adolescents. Since such research initiatives include the general population and not just youth who are struggling with mental illness, it is important to try to be as inclusive as possible. Mental health research would benefit from genuinely interdisciplinary work that includes study of context as well as experience, socialization, the role of economy and family and breaking down culture beyond notions of geography and ethnicity (Choudhury, 2010). Research, promotion and prevention that wishes to hold an honest and open dialogue with youth about their concerns should be self-reflexive, and investigate the culture and history of research practices. Such analysis would contribute greatly to the public health approach of mental health promotion.

VI

Concluding remarks

In attacking an ill-founded theory the critic begins by paying it a kind of respect. The phantom which is imprudently summoned up, in the hope of exorcising it for good, vanishes only to reappear, and closer than one imagines to the place where it was at first.

— Claude Lévi-Strauss, *Totemism*

Mental health both engages and concerns the entire population. Psychiatric and psychological language typically lifts experiences out of sociocultural and historical contexts to name and categorize them in universal terms. However, when employing such vocabulary, it's origin cannot be forgotten , and in the study of the general population, we have to find a way back to those experiences. The Western Apache tell us that in order to encourage others to partake in explaining and naming the world, a narrator should not demand of others to see the world as they do:

> Persons who speak too much insult the imaginative capabilities of other people (...) blocking their thinking [and] holding down their minds. (Basso, 1996).

Perhaps we can learn from this call to cooperation. Though standing at the core of much published materials in mental health, youth are often not taken into account as potential collaborators in the study design or interpretation of data. Instead, mental health research carries a lot of expectations about youth. Adolescence is often considered a transitional stage occupied by youth who do not know their own best interests. Narrow interpretations of youth based on age diminishes the heterogeneity, performativity and ambiguities of those lumped together in this psychologically and biologically categorized group. This perspective is not unique to scientists, as adults well beyond the scientific world seek continuity through "patchy memories, harked back to a more settled and straightforward past" (Hebdige, 1979) when thinking about youth in the present. Being a *punk, emo, jock, tumblr girl, ghetto goth, seapunk, belieber, cybergoth,* or *nerd* today, despite sometimes cultivating similar habits and visual expressions as youth and subcultures in the past, do not represent the same thing in 2016 as it did in 1970, 1996 or even 2012. Each moment is distinctive and in response to the circumstances currently at hand.

Beyond anticipation: exploring our research questions

The expectations we as mental health researchers have, often place the youth of today in relation to future moments, more or less positive ones. We anticipate for them to safely exit the transitional phase they are currently in, only to find good standards, healthy behaviors and a minimum of risk-taking, or if worse comes to worse, the opposite. By identifying individuals believed to be 'at risk', (cost)-effective interventions and policies to counter social problem are sought after. How does this perspective alongside the kinds of research questions we pose define and limit the findings at hand?

In this dissertation, risk is in focus. What risk is, can be, when or where it is risky, to whom and subsequently; what happens to the individuals and groups that are considered to be 'at risk'? Attention in mental health research historically has been on populations considered 'at risk', with new risk behaviors and populations still being identified. There is an urgent need to investigate different behaviors identified by researchers as risky and what these actually mean to youth. The expressions, categories and labels used to describe experiences shape our findings, as certain answers or ways of thinking are rendered invisible by certain questions. Speaking with youth, breaking down the questions asked in assessment questionnaires, asking them how they interpret these questions and how they would ask them differently, or which questions they would ask in the first place, slowly we can begin to identify meanings attributed to risk. Beyond such assessment tools, a more explorative practice could help inform our practice, results and future research methods. It is important to not fetishize any particular procedure or empirical method, instead remaining open to different tools and techniques for gaining new knowledge.

Genuine steps towards changing perspectives involve a range of factors beyond mere dialogue between youth and researchers. Alas, powerful constituencies and institutional factors play a big part, in aspects

from availability of funding, shaping the education of mental health researchers and the readiness to develop measures and methods to meet such needs. One way to push for change would be to use different research methods (including in the same project) to approach similar topics and subjects and allowing for introspection through cross-disciplinary exchange and hopefully more informed research in the long-term. Paying attention to political and structural processes that influence the topics of research, who we choose to study, the production of results and the funding that can be had will benefit future inquiry.

Risk expanded

Risks are everywhere. They take the form of disease, accident, threat, war, climate, finance, relationships, and affect us in different ways and by varying degrees. Risk decisions clearly do not occur in isolation, but are performed in the context of the many shared and perhaps contradictory norms and practices, which surround that particular individual. Differing perspectives on risk among youth themselves as well as amid mental health researchers clearly point to the phenomenon as one of culturally and socially contextual knowledge. Scientific classifications of risk behaviors change over time and so-called “objective risks” are constructions in their own right. Defining risk is an enterprise steeped in value. As we have seen, cultural beliefs, norms, habits, social relationships, trust and fear in institutions, power relations, the spread of scientific knowledge, personal experience and more, all influence risk perception, risk knowledge and risk taking. Rarely are the benefits, symbolic meanings or real experiences of risk accounted for.

Youth over and again reject norms for what is considered healthy by the scientific community, or decide to do the opposite of what they are told to do, without necessarily being ‘unhealthy’. Risk cannot be considered as primarily negative or with only negative outcomes, instead, risk can be quite neutral, or even positive. In fact, the relationships between behaviors and mental health outcomes are more complex than is

proposed in many studies and the correlations made between risk management and its benefits to society are not so clear cut. Many colleagues of mine will readily admit that a large proportion of youth risk behaviors are both common and normal developmental behaviors, and that there are other and possibly better ways to predict who will or will not face mental health problems later in life.

Risk exists in relation to something else and a combination of perspectives on risk coincide in the individual and in society. As this thesis has shown, risk is best considered in context and in investigations of relativist nature. When outcomes and probabilities are unknown to the individual, choosing to engage or not in such activities is not necessarily related to management of risk. Further, if the outcomes and probabilities are inconsequential to the individual, then studying the choice to engage in such activities also has limited value. If not limited, then at least one should clearly state the objective of such study, being somewhat different than risk management.

To some young people, drinking once in awhile or skipping a few classes is not necessarily considered as risky, but rather as part of daily life. As we have seen the meaning of such activities relate to a number of factors, previous experience, peer allegiances, social acceptability or social rewards for example. Instead of simply focusing on risk and pathology, I suggest investigation of so-called risky and healthy behaviors as symmetrical, both in need of explanation. By not treating risk in isolation, but instead as an equal to 'health', stories in-between the two will surface as well. Here lies the risk of making decisions and the consequences that matter to different adolescents as they navigate through life: be it relationships with friends, classmates or adults, issues at school, discrimination, prospects for the future, status, the home environment, power relations, who you are in the eyes of others, how you feel, what your experience tells you and much more. By considering the risk of making decisions, any decisions, we leave the risk/protection binary behind and allow for the qualitative and textured experiences of everyday life. Navigating through life, we know that there is always a risk of loss in the future and that there is no truly risk-fee behavior.

Youth defining the present moment

It can be difficult to consolidate different research questions and methods but ultimately a space should be created for more complex and inclusive questions to be posed in youth mental health research. More than extensive knowledge of psychiatric and psychological symptoms or epidemiological data about the prevalence and incidence of mental illness is needed when engaging in meaningful conversation about risk and mental health issues with youth while remaining sensitive to their positioning and experiences.

In the Youth Aware of Mental health (YAM) program, by putting the participating youth in focus, beyond a transitional focus, a more fluid approach to their everyday lives and mental health topics takes center stage. YAM does not individualize the responsibility of youth to overcome obstacles, instead it invites reflection and allows for different responses to problems, acknowledging that solving some can be out of their reach. Mental health promotion is here not connected to morality or deciding exactly which activities are healthy and positive. Teaching solidarity, empathy and finding solutions together, the YAM youth reflect and analyze actions beyond the paradigm of risky/protective behaviors. In the process, they actively point us, and each other, to situations they consider to be risky or dangerous. However, speaking freely about mental health topics was not as effortless or appealing to all as we saw in the qualitative interviews conducted. The naming of such topics should be made in dialogue with youth and be inclusive of their everyday experiences. Yet, most of them told us they are willing to participate in programs like YAM and perhaps even actively if they are enjoying themselves or simply if the activity is "not boring". An important factor to not take lightly is that of having fun and feeling connected to the topics and individuals around you. Jokes and laughter can help overcome language difficulties between adults and youth, to digest sensitive information, to understand other people's perspectives and probably many other not immediately observable uses.

It is possible that youth would relate to the topics presented in this thesis and in the YAM program differently in another context or if the study was conducted by other researchers. The analysis of risk and youth positioning here presented should be treated as one of many possible representations instead of a final description of reality. Beyond the framework of risk or psychiatric disorders, youth exist out there, in the real world. Instead of waiting for adolescents to grow up in order to speak with them, we need to make sure that we do so in the present moment.

Youth of the new millennium occupy cyber-, hyper- and *real life* realities that may be quite difficult for some of us scientists to understand. It is in fact possible that the risks described as invisible, such as high media consumption and related activities, are filled of coping strategies that we do not notice or know about. The question of how risk-related discourses and strategies operate, how they may be taken up, negotiated or resisted by those who are subject to them is today under examined. Contemporary youth is doing a lot of work defining their own generation, while facing everyday risks and the challenges of finding a place in declining economies, surviving threats of war and ecological collapse and coping with mental health problems. They are the first generation to grow up with the Internet, video/computer games and social networking, and their technological skills allow them opportunities to create their own cultures and even control how and what of this they communicate among themselves and with the adult world.

It would greatly benefit adult researchers to look deeper into emerging technologies and cultural sites beyond real life (an increasingly blurry distinction is today made between "in real life" versus on the Internet/ cyberspace). Navigating the Tumblrs, Instagrams, Snapchats, Vines and wherever youth can be most readily found, read and seen beyond the bias of the adult world could be a valuable addition to speaking with and collaborating with youth *In Real Life*.

The inquiry continues: future research

A lot of questions have arisen from the inquiry here undertaken. Some questions posed have been left unanswered while others have emerged. The main being how best to combine the many different motives and interests of youth and researchers in developing research categories and experiences truer to the ambiguities of youth. Dialogue needs to be created on equal terms, and perhaps not always with the goal of consensus, but simply with the goal of 'hearing each other out'. Such dialogue should occur within the research paradigm, but I believe it would be helpful if it also took place outside of research ventures in order for community members and scientists to practice speaking with and learning from each other over extended periods of time and with other goals than to conduct research.

I envision future research endeavors to be truly inclusive of the real life conditions of youth, including socioeconomic, cultural, historical and political aspects. Collaborative efforts should take place, not just on paper, but in the design and implementation of studies as well as the dissemination of study results with actual efforts to make changes in the community, to the benefit and not merely increased control over youth. Mental health researchers would benefit from collaborations with researchers from other disciplines, exploring the intersectionality of gender, class, race, sexuality and ability, and how they impact youth. Moreover, collaborations with adults close to youth like parents, family members and those who work with youth on a daily basis in the community and other salient adults. On this topic, it is critical to scrutinize the context of schools where much mental health prevention and promotion work is being done. The schools are a place for reformation and preparation, training youth to perform and conform to standards (Martin, 2010), a context that in many ways influence the very work we set out to do.

Finally, I imagine a more self-reflexive research practice, maintaining a critical approach to the meaning of categories and methods in all steps of the research process. Specifically, cultural adaptation of assessment tools and mental health promotion programs, the use of different research methods to explore similar topics, a more nuanced and less normative stance on risk will hopefully lead to research results reflecting the complexities of everyday life.

Bringing this dissertation to a close, I leave you with these humorous illustrations of how to deal with everyday experiences in school. The images below are heavily circulated among young people on the Internet.

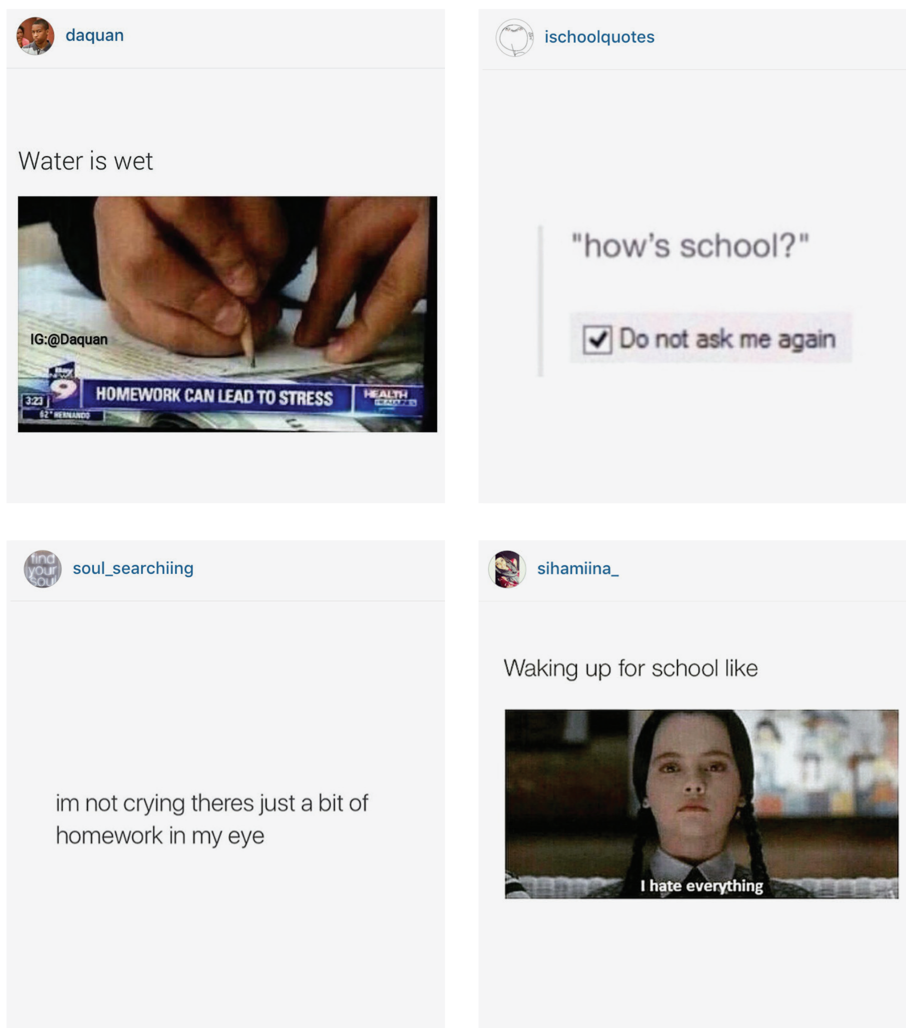

Image 1-4. Four humorous illustrations

VII

Protocols

Semi-structured interviews with YAM youth: interview guide

ICEBREAKER

I. WE-STAY STUDY/YAM
Remembering the study
YAM program
Intro
Workshops/role-play
Instructor
Materials
Evaluation of the program

II.MENTAL HEALTH
Association game
Emotional and related topics: adults & youth
Help

III.SKIPPING SCHOOL
Skipping school — the who, why and how
Classmates
School and teachers — awareness, consequences
Parents and skipping school
Personal experience
Questionnaire
Understanding of questionnaire
Specific questions regarding the questionnaire
Closing

Questions and themes: the actual questions are general guidelines of what will be asked, but all the themes below should be covered in the interview. Words in parenthesis are to be used as prompts if the student does not remember or has difficulty to speak).

ICEBREAKER
We are interested in hearing your opinions beyond the questionnaire format where you fill in boxes and to talk to you more freely about some of the questions and issues that were raised in the recent "WE-STAY program" in your school.

Tell the student about local interviewer and Camilla/Vita. Where we are from, that we like to talk to the students directly to hear their opinions, we have done interviews like this in the past, that we will talk to students in four European countries, their age. By listening to the students directly we hope to make better programs for youth in the future. Set the tone for a warm climate.

Everything you say to us will remain confidential and we will not tell anyone about what you are telling us, only in case something you say shows that you are in danger of harm in some way. We

will ask you some questions and if you do not want to answer some of the questions you don't have to tell us or even tell us why you don't want to tell us."

"We would like to record this conversation so that we can go back to it later and listen to your answers, especially since I don't speak xxx it will be very helpful to have the conversation on an audio recording to later better understand what was said. Is this ok with you? Of course only the research team will listen to this recording and no one else like your teachers or anyone from school. Often when you do research projects like this to understands adolescents, it is not easy to get a feeling for what they actually think if they are simply ticking off boxes or answering yes or no to questions, by talking to you directly we hope to better understand how you feel about the issues that we raised in our program. There are no right or wrong answers, we are just interested in your opinions.

Ask student what they were told about this interview. Ask about their school year, current grade/class, their age and how long it was since the WE STAY (if they remember) and then go to question number 1.

I. WE-STAY STUDY

REMEMBERING THE STUDY

1. Off the top of your head, what do you remember from the WE-STAY study?
2. (Questionnaire, YAM program, what specifically from the program, the instructor, the atmosphere in the classroom, etc).

When they mention the YAM program (role-plays/workshop) we ask them, or if they do not mention the YAM program, then we remind them and ask them the following question:

3. What would you say the YAM program was about?

Note the language they use for Mental Health issues and continue using it in the rest of the interview.

YAM INTRO

4. We talked a bit about YAM earlier, let's continue a bit with that, please just tell us what you remember, and if you don't remember something that is also ok.

a. Was there something you did not understand?

b. Liked? Did not like?

5. How well do you remember the YAM/Awareness Program in the WE-STAY project on a scale with 1 meaning you remember it very poorly and 7 that you remember it very well.

Very poorly	1	2	3	4	5	6	7	Very well

The questions below about the workshops, instructor and booklet are quite specific, but we expect that we will not need to ask them all in this way, since they may be covered by just allowing the student to talk freely. If the student does not seem to remember much, do not probe too much, simply skip to the next section.

WORKSHOPS/ROLE-PLAY

6. Tell us about the workshops. Is there anything specific you remember?
7. What did you think of the opening lecture?
8. What did you think of the role-play?

9. How much did you enjoy the role-play on a scale with 1 meaning you did not enjoy it at all and and 7 that you enjoyed it very much?

No, not at all	1	2	3	4	5	6	7	Yes, very much

10. Which topics do you remember from the role-play sessions ? Give examples (help the student out if needed).
11. Can you tell us a bit how the role-play sessions were in your classroom?
12. Was this the first time you did role-play like this? Was it difficult?
13. Was it embarrassing to do the role-plays? Fun?
14. Did you also have discussions about the role-play? What did you say in these discussions?
15. What did you think of the closing session?

INSTRUCTOR

Take note if the interviewer was the instructor
16. What did you think of the YAM instructor?
17. Did the instructor explain everything to you in a good way? Did you feel comfortable, safe? Was she/he fun, nice, easy to get along with?

MATERIALS

Show the booklet to help them remember.
18. Did you read the booklet that was given to you? Was it easy/difficult to read?
19. How much of the “Awareness Booklet” did you read on a scale with 1 meaning you didn’t read it at all and 7 that you read everything.

I didn't read anything	1	2	3	4	5	6	7	I read everything

20. Did you like the way the booklet/posters looked?
21. After the end of the program, did you look at the booklet again?
22. Do you know where the booklet is now? (Did you throw it out?)

EVALUATION OF THE PROGRAM

23. Did you know about the list of contacts to health professionals at the end of the booklet? Was that list helpful in any way?
Show the contacts at the end of the booklet hand the booklet to the student so that they can look on their own.
24. Did you think about contacting any of these professionals for help? (in case of need...)
25. Did anyone you know contact these professionals for help?
26. Thinking about the entire program, with the seminars, role-play, booklet, what would you want to be different if you did it for the first time? Would you like more or less of something? Any other topics to be covered?
27. Use your own words to describe how you found the program (interesting, helpful, not relevant, not important, boring, difficult)?
28. Was the program too short or too long?
29. Have you participated in any other similar programs in your school (not YAM) about well-being and emotions?

II. MENTAL HEALTH UNDERSTANDING

We might go into some examples that they list in this part of interview. That is not specified, but the aim is to get stories of mental health issues they came across. The timing might be a bit longer in that case.

MENTAL HEALTH – INTRO

30. Association "Game" - the words will be on sheets of paper showed to the student.
With each word, if possible ask a few follow-up questions.
We are going to show you some words, please tell us anything and everything that crosses your mind when we say these words: For example "professor": "strict" "school" "every day" "easy to talk to"/"difficult to talk to" "different every year" "too many different professors" "classroom" "summer vacation", etc etc. Please talk as much as you can as anything you have to say is interesting to us. Do you understand?

1. Friendship
2. Stress
3. Shyness
4. Crisis
5. Self-esteem
6. Relationship with girl or boy
7. Bullying
8. Emotions
9. Loneliness
10. Drinking alcohol
11. Taking drugs
12. Relationship with parents
13. Relationship with siblings/other family members
14. Depression
15. Mental Health
16. Broken heart
17. Psychologist
18. Feeling sad

When they finish the "flow of consciousness" we ask them: Would you use this word yourself? What else would you use if not? Would you use any of these words to describe yourself? Are any of these words closer to you than others, and why? Do you remember any of these words from the We-Stay program?

EMOTIONAL AND RELATED "PROBLEMS" OF ADULTS & YOUTH

Thank you for doing that short game, with those answers in mind, I want to ask you some more related questions.

31. What do you think about those topics - is it common for adolescents to have emotional or mental health problems?
a. What kind of problems?
32. What about adults? Parents?

HELP

When talking about Mental Health/emotional problems, use the words the adolescent is using, maybe it's feelings, or how I feel or something else.

33. Do you think that problems like these can be helped? How?
34. What do you or people you know do when you/they have a problem?

III. SKIPPING SCHOOL

SKIPPING SCHOOL - THE WHO, WHY AND HOW
The questions below about skipping school are quite specific, but we expect that we will not need to ask them all in this way, since they may be covered by just allowing the student to talk freely.
Now we would like to talk to you a little more freely and ask your opinion about skipping school. We do this to understand the difference between schools, cities, countries. This does not have to be about you specifically, but we want to know what you think about skipping school in general. We are interested in what students themselves think about skipping school, and not just adults or teachers or researchers like us.

35. So, tell us, what comes to mind, when I say "skipping school"?
What do you, the students, call "skipping school" in this school, city, region?
What do you think about skipping school, is it bad, only bad, sometimes good, when?
36. Who skips school?
37. Is there a difference if you only do it a few times or more often?
38. What would you say is a lot of skipping school and what is a little?
39. Why do people skip school (different reasons)?
40. Do the people who skip school have any specific problems? (be careful not to put this as leading question)

CLASSMATES
41. Do other students know if someone is skipping school?
42. What do you/others think about classmates, who skip school?
43. Where do students go when they skip school and what do they do?

SCHOOL AND TEACHERS
44. Is it difficult or hard to skip school in your school, grade, class?
45. How do teachers, the school, the headmaster think about skipping school?
46. How do they know that a student is skipping school? Do teachers always know?
47. What do they do if they know you have skipped school?
46. How do you perceive your teachers? Do they have authority or not? What differentiates teachers, especially in relation to skipping. (What are their rules, do you follow their rules, wishes, etc).
49. What would make students come to or stay in school more (if you could make any change you want)?
50. Do you think skipping school has any effect on the future?
51. Do you think that people skip school as much at your school as any other school in the city, region, the country, Europe?

PARENTS AND SKIPPING SCHOOL
52. What do your parents think about skipping school?
53. Did your parents skip school?
54. Do they sometimes cover when you're absent by writing an excuse?
55. If you ever skipped school, did they find out? How did they find out?

56. Would you get punished if they found out you were skipping school?
57. Do you think all parents are the same when it comes to their children skipping school?
If not, tell us about some different approaches that you can think of.
58. Do you think the relationship with parents is important when it comes to skipping school?
And if so, how?
59. If you have siblings, do/did they skip school?
60. Do you think a sibling skipping school influences someone to skip/not skip?

YOUR EXPERIENCE

Even if they have not skipped school themselves, we want to get an idea if it is difficult or hard to skip school, what if... or ask about a student that skips: which classes they skip, if it is easier to skip classes with some teachers, what these teachers are like, if it is easier to skip in a group, why the skip, etc.

61. Have you ever skipped school?
62. Do you remember the first time you skipped school? Can you tell us about it?
63. If you have skipped school, what did you do, where did you go, etc?
64. How often do you skip school?
65. How do you feel when/if you do it? (feelings of guilt, courageous)
66. Do you skip school alone or with others?
67. Do you usually skip the same classes?
68. Did you skip school more or less in the past?
69. Do you want to skip school more or less?
70. How different is it to skip other activities (e.g. music lessons) that are not a part of school curriculum? (easier/harder to skip?).
71. Which classes are more or less acceptable to skip?
72. Which extra-curricular activities are more or less acceptable to skip?
73. Is there anything else you can say about skipping school?

QUESTIONNAIRE

74. Do you remember if there were any questions about skipping school in the questionnaire you filed in during WE-STAY?
b. If you remember these questions, what did you think of them?
75. Do you remember anything else from the questionnaire that was given to you during the WE-STAY study?
76. What would you say the questionnaire was about?
77. What did you like? Not like?

UNDERSTANDING OF QUESTIONNAIRE

Bring the questionnaire with you and show it to the student (questions 25 – 27)

78. Do you think the questionnaire was easy to read?
79. How did you feel about completing the questionnaire that was used in the in the "We-Stay" study, on a scale with 1 meaning you did not like it at all and 7 that you liked it very much?

I didn't like it at all	1	2	3	4	5	6	7	I liked it very much

80. Do you remember any questions that you did not understand or did not like?

81. Was the questionnaire difficult or easy to understand on a scale with 1 being not difficult at all and 7 being very difficult?

No, not at all	1	2	3	4	5	6	7	Yes, very difficult

82. Do you remember the period when you were filling out this questionnaire and what you answered about skipping school?
a. How honestly did you answer?
83. What about the rest of the questionnaire, how did you answer the questions (did you read all the questions, did you answer honestly, randomly, did you answer some questions in a different way, why?)
84. Have you filled in questionnaires like this before in school? or elsewhere?
85. Is there any other way that you would prefer to tell us about the issues covered in the questionnaire (use the words/language the adolescent is using)?
SPECIFIC QUESTIONS REGARDING THE QUESTIONNAIRE, IN CASE THERE IS TIME
Show them the skipping school questions and get feedback about how to ask about skipping school, cut-offs etc. Go over some other questions which were difficult to interpret.

CLOSING

86. Is there something I did not ask and would be important for us to know regarding the program or youth problems or skipping school?
87. What did you think of this interview? Was it fun? Interesting? Boring? Long?
88. Anything that made you feel uncomfortable? How do you feel now?

XIX

Published papers

List of published papers

Appendix A

Saving and empowering young lives in Europe (SEYLE): a randomized controlled trial.

Wasserman D, Carli V, Wasserman C,...Hoven CW. BMC Public Health. 2010 Apr 13;10:192. doi: 10.1186/1471-2458-10-192. PubMed PMID: 20388196; PubMed Central PMCID: PMC2880291.

Appendix B

A newly identified group of adolescents at "invisible" risk for psychopathology and suicidal behavior: findings from the SEYLE study.

Carli V, Hoven CW, Wasserman C,...Wasserman D. World Psychiatry. 2014 Feb;13(1):78-86. doi: 10.1002/wps.20088. PubMed PMID: 24497256; PubMed Central PMCID: PMC3918027.

Appendix C

School-based suicide prevention programmes: the SEYLE cluster-randomised, controlled trial.

Wasserman D, Hoven CW, Wasserman C,...Carli V. Lancet. 2015 Apr 8 ;385(9977):1536-44. doi: 10.1016/S0140-6736(14)61213-7. Epub 2015 Jan 9. PubMed PMID: 25579833.

Appendix D

Suicide prevention for youth--a mental health awareness program: lessons learned from the Saving and Empowering Young Lives in Europe (SEYLE) intervention study.

Wasserman C, Hoven CW, Wasserman D... Poštuvan V. BMC Public Health. 2012 Sep 12;12:776. doi: 10.1186/1471-2458-12-776. PubMed PMID: 22971152; PubMed Central, PMCID: PMC3584983.

Wasserman *et al. BMC Public Health* 2010, **10**:192
http://www.biomedcentral.com/1471-2458/10/192

BMC Public Health

STUDY PROTOCOL **Open Access**

Saving and Empowering Young Lives in Europe (SEYLE): a randomized controlled trial

Danuta Wasserman*†[1], Vladimir Carli†[1,13], Camilla Wasserman[15], Alan Apter[2], Judit Balazs[3], Julia Bobes[4], Renata Bracale[13], Romuald Brunner[5], Cendrine Bursztein-Lipsicas[2], Paul Corcoran[6], Doina Cosman[7], Tony Durkee[1], Dana Feldman[2], Julia Gadoros[3], Francis Guillemin[8], Christian Haring[10], Jean-Pierre Kahn[9], Michael Kaess[5], Helen Keeley[6], Dragan Marusic[11], Bogdan Nemes[7], Vita Postuvan[11], Stella Reiter-Theil[12], Franz Resch[5], Pilar Sáiz[4], Marco Sarchiapone[13], Merike Sisask[14], Airi Varnik[14] and Christina W Hoven[15]

Abstract

Background: There have been only a few reports illustrating the moderate effectiveness of suicide-preventive interventions in reducing suicidal behavior, and, in most of those studies, the target populations were primarily adults, whereas few focused on adolescents. Essentially, there have been no randomized controlled studies comparing the efficacy, cost-effectiveness and cultural adaptability of suicide-prevention strategies in schools. There is also a lack of information on whether suicide-preventive interventions can, in addition to preventing suicide, reduce risk behaviors and promote healthier ones as well as improve young people's mental health.

The aim of the SEYLE project, which is funded by the European Union under the Seventh Framework Health Program, is to address these issues by collecting baseline and follow-up data on health and well-being among European adolescents and compiling an epidemiological database; testing, in a randomized controlled trial, three different suicide-preventive interventions; evaluating the outcome of each intervention in comparison with a control group from a multidisciplinary perspective; as well as recommending culturally adjusted models for promoting mental health and preventing suicidal behaviors.

Methods and design: The study comprises 11,000 adolescents emitted from randomized schools in 11 European countries: *Austria, Estonia, France, Germany, Hungary, Ireland, Israel, Italy, Romania, Slovenia and Spain*, with *Sweden* serving as the scientific coordinating center. Each country performs three active interventions and one minimal intervention as a control group. The active interventions include gatekeeper training (QPR), awareness training on mental health promotion for adolescents, and screening for at-risk adolescents by health professionals. Structured questionnaires are utilized at baseline, 3- and 12-month follow-ups in order to assess changes.

Discussion: Although it has been reported that suicide-preventive interventions can be effective in decreasing suicidal behavior, well-documented and randomized studies are lacking. The effects of such interventions in terms of combating unhealthy lifestyles in young people, which often characterize suicidal individuals, have never been reported. We know that unhealthy and risk-taking behaviors are detrimental to individuals' current and future health. It is, therefore, crucial to test well-designed, longitudinal mental health-promoting and suicide-preventive interventions by evaluating the implications of such activities for reducing unhealthy and risk behaviors while concurrently promoting healthy ones.

Trial registration: The German Clinical Trials Register, DRKS00000214.

* Correspondence: danuta.wasserman@ki.se
[1] National Swedish Prevention of Mental Ill-Health and Suicide (NASP), Karolinska Institutet, Stockholm, Sweden
† Contributed equally
Full list of author information is available at the end of the article

BioMed Central © 2010 Wasserman et al; licensee BioMed Central Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/2.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Wasserman *et al. BMC Public Health* 2010, **10**:192
http://www.biomedcentral.com/1471-2458/10/192

Background

Suicide is one of the leading causes of death worldwide, and the third leading cause of death among people aged below 25. Globally, every year, there are nearly a million deaths from suicide -- roughly one every 40 seconds [1,2]. Each year, in the 27 EU member states, approximately 63,000 Europeans commit suicide [3]; and, in 2006, suicide mortality exceeded the number of deaths due to traffic accidents [4]. Europe currently includes seven countries among the top 15 with the highest suicide mortality rates worldwide [5]. Moreover, among the 15-24 age group, it is estimated that approximately 100 to 200 suicide attempts take place for every completed suicide [6]. Research has demonstrated that suicidal behaviors are underestimated [2,7]: the actual prevalence of suicidal behavior is much higher than the reported rate. Unfortunately, comprehensive knowledge of the many risk factors associated with suicidal behavior in young people is lacking. It is, therefore, essential for research to focus on understanding the multiple underlying factors that contribute to or prevent suicidal behavior.

Suicidal behavior does not consist of isolated acts. Rather, it is the outcome of a long process usually associated with a psychiatric disorder [8-11] that, in many cases, goes undiagnosed and untreated [12]. There is, thus, evidence that suicidal behavior coincides with many underlying psychological and psychiatric conditions, ranging from depressive episode [13], anxiety [14] and alcoholism [15] to psychotic manifestations [16]. Psychological factors, though substantially interrelated with suicidal behaviors, are far from being the sole causes. In addition to psychiatric illnesses, certain risk behaviors have also been identified. For example, suicidal behaviors have been shown to be strongly associated with various types of risk behaviors, including peer victimization [17-19], risky sexual behavior [20], delinquency [21], substance abuse [22], non-suicidal self-injury (NSSI) [23], physical inactivity [24,25] and poor nutrition [26]. Risk behaviors rarely occur in isolation; rather, they tend to be integrated and often overlap in what is known as a '*risk behavior syndrome*'. Studies have demonstrated that risk behaviors are significantly correlated with one another and often appear in clusters [27-30]. Since unhealthy behaviors are significant predictors of subsequent mental health problems, and often occur in clusters, there is a paramount need to promote the adoption of healthy and positive lifestyles, especially during the early years of life.

Where unhealthy and risky behaviors are established in adolescence, the risk of health problems in adulthood is elevated. The association of such behaviors, with the leading causes of mortality and morbidity, underscores the importance of carrying out preventive interventions, particularly among young people [31], for the purpose of modeling healthy behaviors.

Effective prevention strategies should comprise measures that specifically focus on defined target groups. They should include evidence-based efforts designed to address an immediate problem, and, its underlying factors, through long-term follow-up. Accordingly, those few suicide prevention studies, which have been pursued among young people have included (i) gatekeeper training programs in schools [32] (ii) awareness-raising training among school pupils [33], combination of both [34], and (iii) professional screening [12,35,36] with subsequent clinical referral [37].

There is an ongoing debate in the scientific community about which strategy represents the most effective and efficient approach [38]. Reports indicate that suicide-preventive interventions in adults can reduce suicidal behavior [38,39], but well-documented and randomized studies for young people are still lacking.

The SEYLE (Saving and Empowering Young Lives in Europe) longitudinal research project is, therefore, based on a multi-site mental health promotion and suicide prevention program; studying the three above-mentioned strategies separately to understand which approach is the most effective and pragmatic across the participating schools, and considers cultural and national differences; as well as recommending evidence-based, combined and multifaceted interventions.

Objectives

The key objectives of the study are:

(i) to collect baseline and follow-up assessments of the mental health and well-being, alongside demographic data, information about lifestyles, values, risk behaviors and other psychosocial information of European adolescents and compile an epidemiological database;

(ii) to carry out an evaluation of three types of interventions: gatekeeper training involving referrals by teacher and school staff, awareness-raising training for pupils encouraging self-referral and professional screening with subsequent clinical referral among adolescents; in comparison with a control group that comprises self-referral;

(iii) to focus on reducing risk-taking and suicidal behavior while simultaneously promoting improved mental health;

(iv) to evaluate the intervention outcomes (in terms of the efficacy, maintenance, effectiveness and cost-effectiveness of the programs), in a multidisciplinary (i.e. social, psychological and economic) perspective, in comparison with a control group;

(v) to evaluate treatment and social support outcomes for referred pupils.

Wasserman *et al. BMC Public Health* 2010, **10**:192
http://www.biomedcentral.com/1471-2458/10/192

Methods

Study design

The study is a randomized controlled trial (registered in the German Clinical Trials Register, DRKS00000214) that assesses three different types of intervention strategies in comparison with a control group. Using a factorial design, the study estimates and compares the effects of different suicide-prevention programs on unhealthy lifestyles, in the form of risk and suicidal behaviors (Table 1).

This 12-country study comprises a random selection of schools in 11 European countries, including *Austria, Estonia, France, Germany, Hungary, Ireland, Israel, Italy, Romania, Slovenia and Spain*, with *Sweden* serving as the scientific coordinating center. The interventions are implemented in the school premises and coordinated by each country's respective SEYLE center. The general study design of SEYLE is illustrated in Figure 1.

Population and sampling procedures

The target sample for each intervention 'arm' as well as for the control 'arm' is 250 pupils, i.e. 1,000 subjects in each participating country (totaling 11,000 subjects overall).

In each study site, a catchment area is identified and a list of eligible schools generated. Eligible schools are categorized by size as (1) **small** (less than or equal to the median number of pupils in all schools in the study catchment area or region) and (2) **large** (greater than the median number of pupils in all schools in the study catchment area or region). Every class in each school selected (regardless of size) where 15-year-old pupils make up a majority is surveyed. This age group is selected because of its risk propensity and the feasibility of performing 12-month follow-ups. Schools are randomized on the basis of their size category and sequentially assigned to respective intervention and control arms, comprising both large and small schools. The remaining large and small schools are then sequentially numbered.

To avoid contamination and confounding, only one type of intervention is performed in each school. Given the insufficient evidence of effectiveness of the interventions, equipoise can be assumed so that no institution or group will be put at (dis)advantage systematically. Schools are only aware of the respective intervention arm implemented at their facility, i.e. pupils are not informed of the other types of intervention performed in other schools. The effect that information could eventually spread through informal suggestions can be neglected; in case this becomes a topic, project members would apply a strategy to openly give appropriate additional information. A coordinator is assigned to each intervention arm and its implementation. Coordinators in the respective schools for each arm are instructed only on how to implement their own intervention arm, and have no prior experience of the procedures for the other interventions. Informed consent to participate in the study is obtained from all the adolescents and their parents.

Inclusion and exclusion criteria

Schools and adolescents in the study areas are eligible to participate if they meet all the following criteria:

(1) the school authority agrees to participate;
(2) the adolescents attend non-specialist public schools;
(3) school contains at least 40 pupils aged 15;
(4) school has more than two (3+) teachers for pupils aged 15;
(5) no more than 60% of pupils are of either sex;
(6) informed consent from parents and pupils is obtained.

If the school-based adolescents meet the following exclusion criteria, they are ineligible to participate:

(1) the school authority refuses to participate;
(2) the adolescents attend a specialist and/or independent or private school;
(3) the adolescents attend single-sex schools;
(4) a school has fewer than 40 pupils aged 15;
(5) the parents of pupils in a participating school, or the pupils themselves, have refused to sign the consent document.

Table 1: Factorial design of interventions

ARM (*n = 250 subjects per arm in each country*)	Gatekeeper Training (QPR)	Awareness training	Professional Screening
I	X		
II		X	
III			X
IV		Control Group/Minimal Intervention	

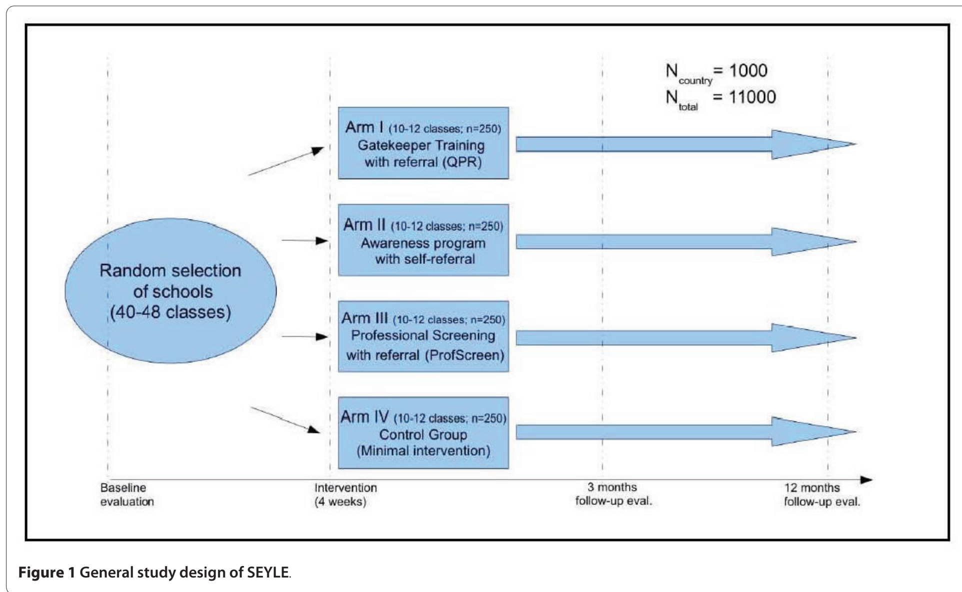

Figure 1 General study design of SEYLE.

Identification of referral facilities

In the SEYLE project, healthcare facilities that are available to receive the referral of pupils and provide treatment are identified within each respective community prior to the commencement of the project. Pupils who are categorized as high risk for mental ill-health or suicidal behavior are remitted to the local healthcare facilities for professional treatment. Pupils who do not meet the criteria of high risk for mental illness or suicidal behaviors, but necessitate changing or improving their lifestyles, are referred to a non-clinical healthy lifestyle group for social support and development.

Healthcare services

Prior to the launch of the SEYLE project, all local healthcare services in each respective center are identified, including general practitioners, public healthcare facilities and specialized psychiatrists and psychologists. Personnel is informed about the project and notified regarding the possibility of subsequent increases of pupil referrals. Information describing the SEYLE project is provided to all local healthcare services, including contact information for SEYLE researchers, and information on suicide prevention interventions [40,41]. All adolescents ascertained to be at-risk are referred by professionals, or self-referred, to the local healthcare facilities for treatment.

Healthy Lifestyle Group

Pupils who are referred by teachers, or by themselves, for perceiving to have at-risk behaviors, but who are not in need of professional help, are recommended to a non-clinical healthy lifestyle group. The healthy lifestyle groups comprise facilities in which pupils are positively encouraged to adopt or improve healthy behaviors. On the local level, this could be a boy scouts club, organized sport activities and other local activities in the community. On the national level, healthy lifestyle groups could be national adolescent self-help programs, etc. Moreover, SEYLE centers unable to identify sufficient healthy lifestyle groups are encouraged to create their own version of a healthy lifestyle group in which they choose the topics and involve local volunteers to organize the meetings. The concept of the healthy lifestyle group is to provide a positive and uplifting localized atmosphere for adolescents who are not classified as high risk and do not fit the criteria for professional help; however, do need positive support for adopting healthy behaviors and changing unhealthy ones.

Baseline assessment of pupils

The baseline evaluation questionnaire, completed within the confines of the classroom, is followed up with a post-intervention evaluation questionnaire 3- and 12-months post-baseline to study changes in attitudes, lifestyles, behaviors and mental health problems of pupils. The baseline assessment obtains data on lifestyles, behaviors, values, mental health and suicidality. Data are collected by means of structured questionnaires, including:

(i) the *Global School-Based Pupil Health Survey* (GSHS) [42], which assesses lifestyles and risk-taking behaviors;

(ii) the *WHO Well-being Scale* (WHO-5) [43], which evaluates mood (good spirits, relaxation), vitality (being active and waking up fresh and rested) and general interests (being interested in things);

(iii) the *Beck Depression Inventory* (BDI) [44], which measures depressive symptoms;

(iv) the *Paykel Suicide Scale* (PSS) [45], which determines suicidal ideation and suicidal behavior;

(v) the *Strengths and Difficulties Questionnaire* (SDQ) [46], which collects information on emotional symptoms, conduct problems, hyperactivity and/or inattention, peer relationship problems and pro-social behavior;

(vi) the *Deliberate Self-Harm Inventory* (DSHI) [47], which evaluates deliberate self-harm behavior;

(vii) the *Young's Diagnostic Questionnaire* (YDQ) [48] for Internet Addiction, which identifies Internet dependency among adolescents;

(viii) questions from the *European Values Study* (EVS) [49], which examines values, such as religion, family, marriage, work and friendship;

(ix) specific items developed or modified for the SEYLE study, concerning reading, music, and internet habits, as well as coping, trauma and bullying, stressful life events, stigma and discrimination, peer and parent-child relations, children's physical health, alcohol and substance use, and future outlook.

Emergency cases

A specific procedure to evaluate and immediately assist emergency cases is compulsory for all pupil participation of the SEYLE project. Emergency cases are identified by means of two specific questions prompted in the baseline questionnaire. Pupils are considered emergency cases if they respond "sometimes", "often", "very often" or "always" to the question "*During the past two weeks, have you reached the point where you seriously considered taking your life or perhaps made plans how you would go about doing it*?"; and/or if they respond "Yes" to the question "*Have you tried to take your own life during the past 2 weeks*?". Pupils identified in the baseline questionnaire as emergency cases are immediately referred for clinical evaluation and directed to healthcare services for treatment if necessary. However, once evaluated, and even when subjected to treatment, pupils are permitted to continue in the intervention arm to which they were originally assigned.

Interventions

The preventive interventions comprise: Gatekeeper Training (QPR), training of pupils in awareness of mental health and crisis management (Awareness Training), and screening of at-risk pupils by health professionals (Professional Screening) with subsequent clinical evaluation. These three types of intervention arms are compared with the control group. Interventions are designed to promote overall healthy behaviors; raise awareness; improve lifestyles; refer subjects who demonstrate signs of suicidal risk and mental ill-health for treatment or to a non-clinical healthy-lifestyle group; and ultimately, enhance psychological well-being while reducing suicidal risk and mental illness.

I. Question, Persuade and Refer (QPR)

The QPR 'preventive intervention' program, developed in the US http://www.qprinstitute.com/, focuses primarily on training gatekeepers to identify and intervene when individuals are engaged in risk behaviors. It involves asking the individuals questions concerning their behavior, *persuading* them to seek help if they are displaying suicidal warning signs and, when appropriate, *referring* the individual to a treatment facility. In medical ethics, the doctrine of Informed Consent and respecting the individual's rights does not preclude persuasion [50,51]. Gatekeepers, in this study, are teachers and school staff who are in daily contact with the subjects concerned. Teachers and school staff in the randomly selected schools are trained by staff in the SEYLE project that have undergone the official QPR training program in the USA, or online, and are certified trainers of this method. Training consists of a two-hour interactive lecture and a one-hour role-play session. Teachers and school staff receive a QPR booklet on suicide prevention with education that focuses on describing the epidemiology and risk factors of the phenomenon of suicide; deals with common myths and facts about suicide; provides detailed guidance on how to recognize young people at-risk; and gives basic information about how to support pupils who are contemplating suicide and persuade them to get help. SEYLE has, however, modified one aspect of the QPR intervention in order to fit the needs of the project. In the original QPR intervention, business cards with information concerning contact information for local healthcare services are distributed to the gatekeepers during the training, in which case, gatekeepers keep the business cards on their person in the occurrence they need to utilize the information when referring someone presumed to be at-risk.

In the SEYLE modified version, the business cards contain contact information not only for healthcare services, but for non-clinical healthy lifestyle groups as well. Moreover, business cards are dispersed to each teacher and school staff participant during the training advising them to distribute the business cards to adolescents who they presume to be at-risk for mental ill-health or suicidal behavior.

The active intervention period for the QPR in SEYLE is a period of four weeks.

II. Awareness Training of Pupils

The awareness intervention is designed to promote knowledge of mental health, healthy lifestyles and behaviors among adolescents enrolled in the SEYLE project. It is an extended, refined version of an awareness trial conducted in nine countries [33] developed by researchers from Columbia University, New York and the National Prevention of Suicide and Mental Ill-Health (NASP), Karolinska Institutet, Sweden and incorporates methodology used in preventive interventions for suicidal behavior [52]. All pupils in the schools concerned are provided with a customized educational, awareness-raising booklet covering six specific topics concerning: (i) awareness of mental health; (ii) self-help advice; (iii) stress and crisis; (iv) depression and suicidal thoughts; (v) helping a troubled friend; and (vi) getting advice - who to contact [53,54] with telephone numbers and email addresses to local healthcare facilities and healthy lifestyle groups in case pupils wish to seek help. Once the intervention commences, six posters are hung in the classroom covering the six key topics as in the awareness booklets. Lessons, which are also combined with role-play sessions, address the six topics covered in the awareness booklet and posters.

During the classroom sessions, the instructor and an assistant distribute the awareness booklets to all the pupils. The instructor addresses these six topics along with role-play sessions during subsequent five one-hour sessions over 4-week duration (Figure 2).

In the role-play sessions, the adolescents have the opportunity to act out conflict issues they experience in their everyday lives (i.e. with parents, peers, teachers etc.) under the supervision of the same trained instructor who gives the lectures and leads role-play sessions, along with an assistant, while pupils acquire skills in resolving such problems. The role-play sessions comprise the following three themes: **Theme I**, *Awareness about choices*; **Theme 2**, *Awareness about feelings and how to manage stress and crisis situations*; and **Theme 3**, *Awareness about depression and suicidal thoughts*. Pupils who, through this intervention, recognize their own need for help have the opportunity and are encouraged to self-refer themselves to contact an appropriate mental-healthcare provider, or join a healthy lifestyle group by using the country-specific contact information that is provided in the booklets and on a business card, which is distributed to each pupil.

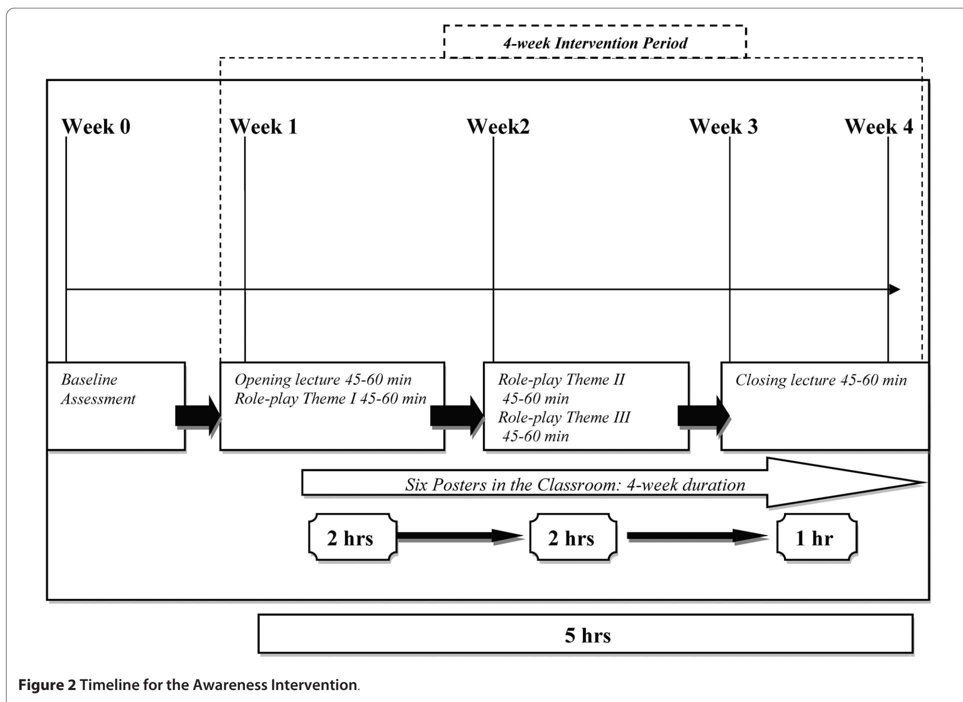

Figure 2 Timeline for the Awareness Intervention.

III. Professional Screening

This intervention is designed to help health professionals to identify at-risk adolescents by using cut-off points for positive responses based on specific scales of adolescent mental health in the baseline questionnaire. This intervention was developed by the University of Heidelberg, a SEYLE center, and NASP at Karolinska Institutet, the coordinating center, and pilot-tested in the Heidelberg clinic. Based on the results of the pilot test, cut-off points were assigned accordingly (*see* Table 2). Pupils who screen at or above specific cut-off points are referred for professional clinical assessment. This assessment is conducted by a psychiatrist or clinical psychologist, who performs a semi-structured clinical interview designed for the evaluation of mental health problems, as well as self-destructive and risk-taking behaviors for adolescents screened as 'at-risk' in the baseline evaluation in accordance to the cut-off criteria.

The time period for the active intervention in the Professional Screening arm is 4-week duration.

All pupils with a predetermined cut-off for depression, anxiety, phobia, alcoholism, substance abuse, non-suicidal self-injury (NSSI) and suicidality are referred for professional treatment. Pupils with social problems are referred to an appropriate non-clinical healthy-lifestyle group.

IV. Control group/Minimal Intervention

For ethical reasons (nonmaleficence/preventing harm; fairness/equitable access), the control group cannot be completely excluded from any intervention [55]. Therefore, a minimal intervention comprising six educational posters, which are the same as those utilized in the awareness training intervention (*see above*), are displayed in the classrooms. The posters display six key points, the same as in the awareness arm booklet, and provide contact details for the local healthcare services and healthy lifestyle groups. Pupils who recognize their own need for help have the opportunity to contact (self-referral) healthcare providers or a healthy lifestyle group. This minimal intervention for the control group includes no other form of intercession.

The posters hang in the classroom for four weeks, as all interventions performed in SEYLE have an active intervention period of 4 weeks.

Pupil referrals in each intervention

During and after the SEYLE interventions, students at-risk are actively referred to local health-care facilities and to healthy lifestyle groups. Students are referred according to the arm they were randomized to. In the QPR arm, teachers and school staff refer pupils; in the Awareness and Control arms, pupils self-refer; and in the Professional Screening arm, the healthcare professional refers the pupils. Pupil consignment is based on the level of risk for each pupil.

3- and 12-month follow-up assessment for pupils

The assessment instruments used for the baseline measurement (GSHS, WHO-5, PSS, SDQ, BDI, DSHI, EVS questions and SEYLE-specific questions) are also used for the 3- and 12-month follow-up evaluations. These measures cover the same outcome variables as those in the baseline assessment in order to investigate changes. The follow-up questionnaire also includes key questions covering information on the use of referrals by teachers, school staff, health professionals and self-referrals. The follow-up assessment comprises the description of treatment received, as well as an evaluation of the intervention study activities performed by teachers, school staff and health professionals.

Outcome measures

Outcome variables that are assessed in the project include well-being, depression, anxiety, emotional and conduct problems, coping, self-destructive and addictive behaviors, values, and lifestyles. Table 3 illustrates the outcome variables and the corresponding assessment tools utilized to measure them.

Another outcome variable is pupil referrals, i.e. the total number of referrals inclusive all emergency cases identified during the baseline evaluation, and treatment outcomes. For data collection, SEYLE has developed a systematic method of recording and monitoring all referrals and obtaining feedback on their appropriateness. Pupils are asked whether they have been referred and to whom, what kinds of treatment they have received (medication, psychotherapy, both or neither etc.) and for how long. Phone calls are performed with pupils who do not participate in the follow-up evaluations, and, where possible, facilitators maintain contact with the pupils' parents. In cases, where parents or family represent a source of concern in the perception of the pupil or staff member, contacts will be handled in a particularly careful manner [56].

Professionals, teachers and school staff assessment

Baseline and 3- and 12-month evaluations is also performed among health professionals, teachers and school staff involved in the project. Health professionals are assessed by a short 12-item questionnaire on their knowledge and preparedness of treating adolescents displaying suicidal behaviors. Teachers and school staff undergo a more detailed assessment questionnaire that collects data on mental health and suicidal behavioral knowledge, perception and attitudes towards mental health and suicide, employment satisfaction, their personal well-being and perspective of the SEYLE project.

Table 2: Cut-off criteria in the baseline questionnaire and in the professional screening intervention for selected at-risk pupils referral to clinical assessment

Theme		Cut-off value/threshold value	Risky and self-injurious behavior is diagnosed when
Depression (BDI)		BDI-score ≥ 14; depending on the responses, from 0 to 3 points are assigned (cf. manual) and added.	A BDI score of ≥ 14 is obtained.
Anxiety (ZUNG)		ZUNG-score ≥ 45; depending on the responses, from 1 to 4 points are assigned and added.	A ZUNG score of ≥ 45 is obtained.
Suicidal Ideation and Attempts		PAYKEL Scale	The cut-off of at least one single item is obtained.
		Yes/No response: previous suicide attempt.	'Yes' is the response given.
Non-suicidal self-injury		Deliberate Self-Harm Inventory (DSHI)	A sum of ≥ 2 is obtained and all points must therefore be added.
Eating behavior		Both responses are needed to calculate the BMI score.	The BMI score is less than 16.5.
Sensation-seeking and delinquent behaviors		Yes/No response: riding with someone who has been drinking.	The sum of ≥ 3 for the theme 'risk behavior' is obtained. All points must therefore be added.
		Yes/No response: skateboarding or riding roller-blades in traffic and without a helmet.	
		Yes/No response: subway cart jumping, or held on the back of a moving vehicle.	
		Yes/No response: visiting known areas that are dangerous during night.	
		Sexual Promiscuity Unprotected Sex	
Substance abuse	**Tobacco**	Tobacco Use (lifetime measure)	'Yes' is the response given to tobacco use, **and** 2 cigarettes per day or more for tobacco consumption frequency.
		Tobacco Consumption Frequency	
	Alcohol	Alcohol Consumption Frequency (12-month measure)	2 times per week or more
		Alcohol Consumption Amount (12-month measure)	3 or more drinks in a typical drinking day
		Alcohol Intoxication (lifetime measure)	3 times or more
		Alcohol Hangover (lifetime measure)	3 times or more

Table 2: Cut-off criteria in the baseline questionnaire and in the professional screening intervention for selected at-risk pupils referral to clinical assessment (Continued)

Illegal drugs	Illicit Drug Consumption (lifetime measure)	3 times or more
Exposure to media	Media Exposure Frequency	Option 4, 5 or 6 is ticked, i.e. a pupil spends at least 'five to six hours per day' watching television, playing computer games etc.
Social relationships	Loneliness Frequency (12-month measure)	Option 4 ('most of the time') or 5 ('always') is checked.
Bullying	Peer Victimization (12-month measure)	The sum of ≥ 5 is obtained. All response options must therefore be added.
School attendance	Truancy (2-week measure)	Option 3, 4 or 5 is ticked, i.e. respondents have missed three or more days of school or class without permission.

Data analysis

The SEYLE project generates a total sample of 11,000 European adolescents, with 8,250 (750 per site) receiving one or other of the three interventions being tested. The control arm contributes 2,750 adolescents (250 per site) to the total sample.

Power calculations adhere to the widely accepted proposals made by Cohen (1988) [57] for detection of small, medium and large effects. For all outcome measures, the sample size gives the study more than 80% statistical power to detect medium effects within the individual centers and small effects at the aggregate level of centers. Overall, the SEYLE intervention project is expected to show medium effect changes.

The SEYLE study sample potentially exceeds the sample size requirements in order to detect statistically significant changes. This will ensure the required statistical power, taking into account the possibility of some center recruiting fewer pupils than expected, attrition rates at follow-up and missing data. An initial stage of statistical analysis involves examining the consistency of psychometric properties across sites of the measures used in the SEYLE study. Reliability analysis is performed on the relevant data from each participating center. The suitability of continuous variables for parametric tests is assessed.

In cases where the diagnostics indicate that the reliability of the parametric tests may be significantly undermined, the appropriate non-parametric test is carried out. These include the Mann-Whitney test, the Kruskal-Wallis test, the Wilcoxon test and Friedman's ANOVA. Comparisons between study arms in relation to dichotomous and polychotomous variables are initially made using Fisher's exact test and chi-square tests, as appropriate. Logistic regression compares the intervention arms to the control arm in relation to the risk of an event of interest occurring in the follow-up period. The odds ratio, with its 95% confidence interval, is used as the measure of relative risk. An adjusted odds ratio is produced from multivariate logistic regression models, which include relevant covariates. Statistical analyses are carried out at the level of the individual centers and at the aggregate level. Variation in the experimental effects is examined across the 11 participating centers.

Research Ethics

The study was approved ethically by the European Commission as a precondition of funding approval for the project. Ethical permission for the project, including permission to follow up individual pupils, has also been obtained in each participating country by the Research Ethics Committees. All requirements of obtaining Informed Consent from pupils and parents are followed carefully. In order to maintain confidentiality and to allow for analyzing follow-up data in the individual, questionnaires include a specific code to identify each participating pupil, enabling data to be obtained at individual and not only aggregate level. An independent ethical advisor supervises the implementation of the ongoing project in order to ensure maximum protection of vulnerable individuals such as adolescents and articulate any sensitive issues [58].

Discussion

The three prevention strategies that are tested in SEYLE are built upon the concept of empowering different key persons. Each prevention strategy is governed by different scientific perspectives of empowerment.

The first strategy, gatekeeper training, encompasses education concerning mental health and suicidal behavior for key persons or 'gatekeepers', i.e. persons in fre-

Wasserman *et al. BMC Public Health* 2010, **10**:192
http://www.biomedcentral.com/1471-2458/10/192

Table 3: Correspondence between questionnaire measures and study outcomes

Tool for measurement	Outcome variables
WHO-5	General well-being
Beck Depression Inventory (BDI)	Depression
Paykel Suicide Scale (PSS)	Suicidal behavior
Global School-Based Pupil Health Survey (GSHS)	Alcohol use and abuse
	Drug use and abuse
	Eating habits
	BMI
	Physical activity
	Sexual habits
	Tobacco use
	Violent behaviors
	Risky behaviors
Strengths and Difficulties Questionnaire (SDQ)	Emotional symptoms
	Conduct problems
	Hyperactivity/inattention
	Peer relationship problems
	Pro-social behavior
European Values Study Questionnaire (EVS)	Values (religion, family, marriage, work, friendship)
Specific SEYLE questions	Coping
	General child health
	Peer relations
	Child-parent relations
	Stigma and discrimination
	Future outlook

Table 3: Correspondence between questionnaire measures and study outcomes (Continued)

Deliberate Self Harm Inventory (DSHI)	Self-harm behavior
Young's Diagnostic Questionnaire (YDQ) for Internet Addiction	Internet addictive behavior

quent contact with adolescents such as teachers and school staff. Through this training, the gatekeepers learn how to persuade at-risk adolescents to seek clinical help, which essentially empowers the 'gatekeeper'. This strategy has been moderately successful [32,59-62].

The second strategy, awareness-raising training, involves interactively teaching school pupils the importance of mental health. Consequently, it empowers individuals to identify their personal level of risk, as well as that of their peers, while informing them how best to seek appropriate care, and, if necessary, helping them to do so.

Finally, professional screening with subsequent clinical referral is an approach designed to evaluate a specific target group by utilizing a well-structured assessment instrument based on cut-off scores for meeting certain criteria for mental health problems. Individuals meeting these criteria are referred for clinical evaluation, if necessary, with appropriate treatment determined by the professional in charge. This strategy empowers the professional involved in the screening.

To date, the effects of suicide-preventive interventions in young people in terms of improving unhealthy lifestyles have not yet been reported. We know that unhealthy and risk-taking behaviors are detrimental to one's current and future health. For a number of disorders and illnesses, they are important factors contributing to premature mortality and morbidity. These types of behavior may be expected to be modifiable and even preventable with appropriate intervention measures. It is, therefore, crucial to test well-designed, longitudinal health-promoting and suicide-preventive interventions by evaluating to what extent such activities reduce unhealthy behaviors while simultaneously promoting healthy ones. The SEYLE project is unique in this respect, since suicide-preventive interventions have not previously been tested with long-term follow-up measures to assess changes in unhealthy behaviors.

The strength of SEYLE in comparison with other school-based prevention and health promotion programs is the active referral of all emergency cases to professionals. According to Mann et al. [38], prevention programs for children and adolescents, such as curriculum-based programs, have shown mixed results in terms of effectiveness and impact. Knowledge about suicide has improved, but there have been both beneficial and harmful effects in terms of help-seeking, attitudes and peer support. Curriculum-based programs increase knowledge and improve attitudes concerning mental illness and suicide, but the evidence that they prevent suicidal behavior is insufficient [63]. Such programs may even be detrimental for emergency cases or high-risk pupils, if they do not provide direct access to care [63]. This risk will be systematically prevented in SEYLE. Moreover, psychiatric and psychological treatment are preferred options for pupils who are identified as high risk; however, some pupils may not fit the criteria to receive professional treatment, thus, it is of interest to examine the effectiveness of healthy lifestyle groups for those particular adolescents.

There are also some limitations of the study. Some families may pose problems to allow for an informed consent of an adolescent child to join the project. This may be related to dysfunctional processes in the family affecting the child's health [64]. In the SEYLE project, due to economical limitations, we are unable to examine the source of such family conflicts and, as a result, it can cause some selection bias of pupils joining the interventions. Other limitations of the study include pupils' refusal to partake in the referral process to healthcare facilities or follow-up evaluations in all intervention arms. Moreover, the information collected on treatment for pupils referred to healthcare services and healthy lifestyle groups is based on self-reports by the pupil, and is not collected from medical records or from leaders in the healthy lifestyle groups, however, in respective centers, this option is a possibility and data is collected from medical records wherever possible.

In conclusion, the proposed pragmatic SEYLE trial is expected to provide scientific evidence for understanding the effects of different preventive interventions, their cost-effectiveness and how they can also be combined and practically utilized.

Ethical approval

The SEYLE protocol has been granted ethical approval in each participating country where the research project is implemented:

- **Austria**: Ethikkomission der Medizinischen Universität Innsbruck
- **Estonia**: Tallinna Meditsiiniuuringute Eetikakomitee
- **France**: Comité de Protection des Personnes Sud-Méditerranée II
- **Germany**: Ethikkommission Medizinische Fakultät Heidelberg

- **Hungary**: Egészségügyi Tudományos Tanács Titkárság, Pályázati Iroda, Tudományos És Kutatásetikai Bizottság
- **Ireland**: Clinical Research Ethics Committee of the Cork Teaching Hospital
- **Israel**: Helsinki Committee at the Rabin Medical Center
- **Italy**: Comitato Bioetico Di Ateneo, Università Degli Studi Del Molise
- **Romania**: Comisia De Eticã, A Universitãtii De Medicinã Si Farmacie, Cluj Napoca
- **Slovenia**: Komisija Republike Slovenije Za Medicinsko Etiko
- **Spain**: Comité Ètico de Investigación Clinica, regional del Principado de Asturias

Competing interests
The authors declare that they have no competing interests.

Authors' contributions
DW is the principal investigator, participated in the study design and coordination, and critically revised all the phases of the manuscript. VC participated in the study design and coordination, co-drafted the manuscript, and participated in the critical revision of the manuscript. MS participated in the design of the study and coordination, and critically revised the manuscript. TD participated in the coordination of the study, co-drafted the manuscript, and implemented all revisions to the manuscript. CW participated in the design of the study and coordination, provided consultation on anthropological issues, advised on research methodology, critically revised the manuscript, and drafted the final version of the manuscript. CH participated in the design of the study, provided consultation for epidemiological issues, advised on research methodology and critically revised the manuscript. CH, AV, JPK, RB, JB, PC, AA, MS, DC, DM and JB are the principal investigators for the SEYLE project in their respective countries. SRT is the expert ethical advisor for the SEYLE project, providing consultation for the study design and ongoing interventions. The other authors are the site coordinators for the SEYLE center in their respective countries. All authors read and approved the final manuscript.
The Professional Screening Intervention was designed by the University of Heidelberg, RB, FR, MK, and NASP, DW and VC.
The Awareness Training Intervention was designed by Columbia University, CH, CW, and NASP, DW.

Acknowledgements
The SEYLE project is funded under the specific Cooperation program in the EU Seventh Framework Program for research and technological development (FP7), which is to refund 60% of project costs from 1 January 2009 to 31 December 2011. Participating centers must obtain local funding or use their own resources to cover the remaining 40%. The SEYLE project is supported through Coordination Theme 1 (Health) of the European Community's FP7, Grant agreement number HEALTH-F2-2009-223091.
The authors wish to thank all researchers and other staff participating in the implementation of the SEYLE project. In particular, we would like to express our gratitude to the following: at the ***Estonian-Swedish Mental Health & Suicidology Institute***, Peeter Värnik, Mari Jushkin, Lauraliisa Heidmets, Zrinka Laido, Thea Rumberg, Kertu Valling and Ruth Soonets; at the ***University of Nancy***, Alexandra Tubiana, Orly Wajesbrot-Elgrably, Renaud Cohen and Anne Kreder; at the ***University of Heidelberg***, Nassrin Koch-Khoury, Peter Parzer, Katja Klug, Gloria Fischer and Joachim Schirmer; at the ***Vadaskert Child and Adolescent Psychiatric Hospital***, Maria Balint, Luca Farkas, Agnes Kereszteny, Gergely Meszaros; at the ***National Suicide Research Foundation***, Carmel McAuliffe, Fawad Elahi, Padraig Cotter, Jacklyn McCarthy and Lee-Ann Burke; at ***Tel Aviv University***, Shai Han Gal, Moran Berman, Adi Rozen, Nomi Shefler and Sami Hamdan; at the ***University of Molise***, Giovannangelo Oriani, Guido Maria Grasso, Marco Marchetti, Giampaolo Nicolais, Alfonso Di Costanzo, Maurizio Gasperi, Laura Recchia, Antonio Parmentola, Massimo Mancini, Maria Grazia Cicchelli, Antonella Germanese, Francesco Basilico, Chiara Graziani and Miriam Iosue; at the ***Iuliu Hatieganu University of Medicine and Pharmacy***, Dana-Cristina Herta, Oana Dobrescu, Minodora Manea, Horia Coman, Alexandra Pop, Miruna Danciu, Claudia Craciun, Roxana de Curieres de Castelnau; at the ***University of Primorska***, Marja Kuzmaniæ, Monica Bertok and Ksenija Maraviè; at the ***University of Oviedo***, Mª Paz García-Portilla, Manuel Bousoño, Susana Al-Halabí, Mª Teresa Bascarán, Eva Mª Díaz-Mesa, Marlen Garrido, Patricia Buron, Jose Luis Rancaño, Gonzalo Galvan and Mª José Casares; at the ***National Prevention of Suicide and Mental Ill-Health (NASP) at Karolinska Institutet***, Birgit Frisén-Andersson, Maria Beradovic, Christina Bergehed-Bonnevier, Gergö Hadlaczky, Laila Lindahl, and Elizabeth Mårtensson; and at ***Columbia University***, George J. Musa.
Special thanks to the QPR Institute, in particular Paul Quinnett, and their staff for kindly supplying all the QPR materials for the QPR intervention free of charge, and for their valuable advice and training dissemination for the protocol.
The authors wish to especially thank Professor Donald J. Mandell from Columbia University and Professor Jerzy Wasserman from NASP/Karolinska Institutet for contributing with their invaluable skills and experience to the design of the study protocol.

Author Details
[1]National Swedish Prevention of Mental Ill-Health and Suicide (NASP), Karolinska Institutet, Stockholm, Sweden, [2]Feinberg Child Study Center, Schneider Children's Medical Center, Tel Aviv University, Tel Aviv, Israel, [3]Vadaskert Child and Adolescent Psychiatric Hospital, Budapest, Hungary, [4]Department of Psychiatry, School of Medicine, University of Oviedo; Centro de Investigación Biomédica en Red de Salud Mental, CIBERSAM. Oviedo, Spain, [5]Clinic of Child and Adolescent Psychiatry, University of Heidelberg, Heidelberg, Germany, [6]National Suicide Research Foundation, Cork, Ireland, [7]Clinical Psychology Department, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania, [8]Centre d'Epidémiologie Clinique -Inserm-EC CIE6, CHU de NANCY, hôpital Marin, Université H. Poincaré, Nancy, France, [9]Department of Psychiatry, Centre Hospitalo-Universitaire CHU de NANCY, Université H. Poincaré, Nancy, France, [10]Research Division for Mental Health, University for Medical Information Technology (UMIT), Innsbruck, Austria, [11]Mental Health Department, PINT, University of Primorska, Primorska, Slovenia , [12]Department of Medical and Health Ethics, Medical Faculty, University Hospital Basel, Basel, Switzerland, [13]Department of Health Sciences, University of Molise, Campobasso, Italy, [14]Estonian-Swedish Mental Health & Suicidology Institute, Tallinn, Estonia and [15]Department of Child and Adolescent Psychiatry, New York State Psychiatric Institute, Columbia University, New York, USA

Received: 4 February 2010 Accepted: 13 April 2010
Published: 13 April 2010

References
1. World Health Organization: **Self Directed Violence.** [http://www.who.int/violence_injury_prevention/violence/global_campaign/en/chap7.pdf].
2. Bertolote JM, Fleischmann A: **A global perspective on the magnitude of suicide mortality.** In *The Oxford Textbook of Suicidology and Suicide Prevention: A Global Perspective* Edited by: Wasserman D, Wasserman C. Oxford: Oxford University Press; 2009:91-98.
3. Eurostat: **EUROSTAT Year Book 2009.** [http://epp.eurostat.ec.europa.eu/portal/page/portal/publications/eurostat_yearbook].
4. Eurostat: **Statistics.** [http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/].
5. **Suicide rates** [http://www.who.int/mental_health/prevention/suicide_rates/en/]
6. Bertolote JM, Fleischmann A: **Suicide thoughts, suicide plans and attempts in the general population on different continents.** In *The Oxford Textbook of Suicidology and Suicide Prevention: A Global Perspective* Edited by: Wasserman D, Wasserman C. Oxford: Oxford University Press; 2009:99-104.
7. Miller M, Azrael D, Hemenway D: **The epidemiology of case fatality rates for suicide in the northeast.** *Ann Emerg Med* 2004, **43(6):**723-730.
8. Brent DA, Baugher M, Bridge J, Chen T, Chiappetta L: **Age- and sex-related risk factors for adolescent suicide.** *J Am Acad Child Adolesc Psychiatry* 1999, **38(12):**1497-1505.

9. Shaffer D, Gould MS, Fisher P, Trautman P, Moreau D, Kleinman M, Flory M: **Psychiatric diagnosis in child and adolescent suicide.** *Arch Gen Psychiatry* 1996, **53(4)**:339-348.
10. Cohen LJ, Test MA, Brown RL: **Suicide and schizophrenia: data from a prospective community treatment study.** *Am J Psychiatry* 1990, **147(5)**:602-607.
11. Mittendorfer-Rutz E, Rasmussen F, Wasserman D: **Familial clustering of suicidal behaviour and psychopathology in young suicide attempters. A register-based nested case control study.** *Soc Psychiatry Psychiatr Epidemiol* 2008, **43(1)**:28-36.
12. Shaffer D, Scott M, Wilcox H, Maslow C, Hicks R, Lucas CP, Garfinkel R, Greenwald S: **The Columbia Suicide Screen: validity and reliability of a screen for youth suicide and depression.** *J Am Acad Child Adolesc Psychiatry* 2004, **43(1)**:71-79.
13. Hollis C: **Depression, family environment, and adolescent suicidal behavior.** *J Am Acad Child Adolesc Psychiatry* 1996, **35(5)**:622-630.
14. D'Attilio JP, Campbell B: **Relationship between death anxiety and suicide potential in an adolescent population.** *Psychol Rep* 1990, **67(3 Pt 1)**:975-978.
15. Buri C, von Bonin B, Strik W, Moggi F: **Predictors of attempted suicide among swiss patients with alcohol-use disorders.** *J Stud Alcohol Drugs* 2009, **70(5)**:668-674.
16. Nishida A, Sasaki T, Nishimura Y, Tanii H, Hara N, Inoue K, Yamada T, Takami T, Shimodera S, Itokawa M, *et al.*: **Psychotic-like experiences are associated with suicidal feelings and deliberate self-harm behaviors in adolescents aged 12-15 years.** *Acta Psychiatr Scand* 2009 in press.
17. Brunstein Klomek A, Marrocco F, Kleinman M, Schonfeld IS, Gould MS: **Bullying, depression, and suicidality in adolescents.** *J Am Acad Child Adolesc Psychiatry* 2007, **46(1)**:40-49.
18. Klomek AB, Sourander A, Niemela S, Kumpulainen K, Piha J, Tamminen T, Almqvist F, Gould MS: **Childhood bullying behaviors as a risk for suicide attempts and completed suicides: a population-based birth cohort study.** *J Am Acad Child Adolesc Psychiatry* 2009, **48(3)**:254-261.
19. Kaminski JW, Fang X: **Victimization by Peers and Adolescent Suicide in Three US Samples.** *J Pediatr* 2009, **155(5)**:683-8.
20. Houck CD, Hadley W, Lescano CM, Pugatch D, Brown LK: **Suicide attempt and sexual risk behavior: relationship among adolescents.** *Arch Suicide Res* 2008, **12(1)**:39-49.
21. Brent DA, Bridge JA: **Delinquent accounts: does delinquency account for suicidal behavior?** *J Adolesc Health* 2007, **40(3)**:204-205.
22. Schneider B, Kolves K, Blettner M, Wetterling T, Schnabel A, Varnik A: **Substance use disorders as risk factors for suicide in an Eastern and a Central European city (Tallinn and Frankfurt/Main).** *Psychiatry Res* 2009, **165(3)**:263-272.
23. Brunner R, Parzer P, Haffner J, Steen R, Roos J, Klett M, Resch F: **Prevalence and psychological correlates of occasional and repetitive deliberate self-harm in adolescents.** *Arch Pediatr Adolesc Med* 2007, **161(7)**:641-649.
24. Brown DR, Blanton CJ: **Physical activity, sports participation, and suicidal behavior among college students.** *Med Sci Sports Exerc* 2002, **34(7)**:1087-1096.
25. Brown DR, Galuska DA, Zhang J, Eaton DK, Fulton JE, Lowry R, Maynard LM: **Psychobiology and behavioral strategies. Physical activity, sport participation, and suicidal behavior: U.S. high school students.** *Med Sci Sports Exerc* 2007, **39(12)**:2248-2257.
26. Ahren-Moonga J, Holmgren S, von Knorring L, Af Klinteberg B: **Personality traits and self-injurious behaviour in patients with eating disorders.** *Eur Eat Disord Rev* 2008, **16(4)**:268-275.
27. Flisher AJ, Kramer RA, Hoven CW, King RA, Bird HR, Davies M, Gould MS, Greenwald S, Lahey BB, Regier DA, *et al.*: **Risk behavior in a community sample of children and adolescents.** *J Am Acad Child Adolesc Psychiatry* 2000, **39(7)**:881-887.
28. Roberfroid DPJ: **Psychosocial factors and multiple unhealthy behaviours in 25- to 64-year-old Belgian citizens.** *Arch Public Health* 2001, **59**:281-307.
29. Winters KC, Botzet AM, Fahnhorst T, Baumel L, Lee S: **Impulsivity and its Relationship to Risky Sexual Behaviors and Drug Abuse.** *J Child Adolesc Subst Abuse* 2009, **18(1)**:43-56.
30. King RA, Schwab-Stone M, Flisher AJ, Greenwald S, Kramer RA, Goodman SH, Lahey BB, Shaffer D, Gould MS: **Psychosocial and risk behavior correlates of youth suicide attempts and suicidal ideation.** *J Am Acad Child Adolesc Psychiatry* 2001, **40(7)**:837-846.
31. Millstein SG, Irwin CE Jr, Adler NE, Cohn LD, Kegeles SM, Dolcini MM: **Health-risk behaviors and health concerns among young adolescents.** *Pediatrics* 1992, **89(3)**:422-428.
32. Wyman PA, Brown CH, Inman J, Cross W, Schmeelk-Cone K, Guo J, Pena JB: **Randomized trial of a gatekeeper program for suicide prevention: 1-year impact on secondary school staff.** *J Consult Clin Psychol* 2008, **76(1)**:104-115.
33. Hoven CW, Wasserman D, Wasserman C, Mandell DJ: **Awareness in nine countries: a public health approach to suicide prevention.** *Leg Med (Tokyo)* 2009, **11(Suppl 1)**:S13-17.
34. Zenere FJ, Lazarus PJ: **The decline of youth suicidal behavior in an urban, multicultural public school system following the introduction of a suicide prevention and intervention program.** *Suicide Life Threat Behav* 1997, **27(4)**:387-402.
35. Reynolds TM, Penney MD: **The mathematical basis of multivariate risk screening: with special reference to screening for Down's syndrome associated pregnancy.** *Ann Clin Biochem* 1990, **27(Pt 5)**:452-458.
36. Thompson EA, Eggert LL: **Using the suicide risk screen to identify suicidal adolescents among potential high school dropouts.** *J Am Acad Child Adolesc Psychiatry* 1999, **38(12)**:1506-1514.
37. Bridge JA, Goldstein TR, Brent DA: **Adolescent suicide and suicidal behavior.** *J Child Psychol Psychiatry* 2006, **47(3-4)**:372-394.
38. Mann JJ, Apter A, Bertolote J, Beautrais A, Currier D, Haas A, Hegerl U, Lonnqvist J, Malone K, Marusic A, *et al.*: **Suicide prevention strategies: a systematic review.** *JAMA* 2005, **294(16)**:2064-2074.
39. Rutz W, von Knorring L, Walinder J: **Long-term effects of an educational program for general practitioners given by the Swedish Committee for the Prevention and Treatment of Depression.** *Acta Psychiatr Scand* 1992, **85(1)**:83-88.
40. Wasserman D: *Depression - the facts* Oxford: Oxford University Press; 2006.
41. Wasserman D, (Ed): *Suicide: an unnecessary death* London: Martin Dunitz; 2001.
42. World Health Organization: **Global School-Based Student Health Survey.** [http://www.who.int/chp/gshs/en/].
43. World Health Organization: **WHO Well-being scale (WHO-5).** [http://www.who-5.org/].
44. Beck AT, Steer RA, Ball R, Ranieri W: **Comparison of Beck Depression Inventories -IA and -II in psychiatric outpatients.** *J Pers Assess* 1996, **67(3)**:588-597.
45. Paykel ES, Myers JK, Lindenthal JJ, Tanner J: **Suicidal feelings in the general population: a prevalence study.** *Br J Psychiatry* 1972:380-406.
46. Goodman R, Meltzer H, Bailey V: **The Strengths and Difficulties Questionnaire: a pilot study on the validity of the self-report version.** *Eur Child Adolesc Psychiatry* 1998, **7(3)**:125-130.
47. Gratz K: **Measurement of deliberate self-harm: preliminary data on the Deliberate Self-Harm Inventory.** *Journal of Psychopathology and Behavioural Assessment* 2001, **23**:253-263.
48. Young KS: **Psychology of computer use: XL. Addictive use of the Internet: a case that breaks the stereotype.** *Psychol Rep* 1996, **79(3 Pt 1)**:899-902.
49. European Values Study: **The European Values Study Questionnaire.** [http://www.europeanvalues.nl/].
50. Faden R, Beauchamp T: *A History of Theory of Informed Consent* New York: Oxford University Press; 1986.
51. Reiter-Theil S: **Answers to Change: the Problem of Paradigm Shift in Medical Ethics from the German Standpoint.** In *Ethics Codes in Ethics from the German Standpoint Foundations and Achievements since 1947* Edited by: Tröhler U, Reiter-Theil S. Ashgate: Aldershot; 1998:257-269.
52. Wasserman D, Wasserman C, (Eds): *The Oxford Textbook of Suicidology and Suicide Prevention: A Global Perspective* 1st edition. Oxford: Oxford University Press; 2009.
53. Wasserman C, Hoven C, Wasserman D: **Affect and improve the way you feel.** Edited by: Wasserman C, Hoven C, Wasserman D. Stockholm: Edita AB; 2009. Avalaible languages: *English, Estonian, German, French, Hungarian, Hebrew, Italian, Romanian, Slovenian, Spanish*
54. Wasserman C, Hoven C, Wasserman D: **Instructions for the school-based Awareness Intervention: Affect and improve the way you feel.** Edited by: Wasserman C, Hoven C, Wasserman D. Stockholm: Edita AB; 2009. Avalaible languages *: English, Estonian, German, French, Hungarian, Hebrew, Italian, Romanian, Slovenian, Spanish*
55. Beauchamp T, Childress J: *Principles of Biomedical Ethics* Oxford: Oxford University Press; 1991.

56. Eich H, Reiter L, Reiter-Theil S: **Informed consent in psychotherapy: Singular action or continuing process? Ethical considerations about case study of child abuse.** *Der Psychotherapeut* 1997, **42**:369-375.
57. Cohen J: *Statistical Power Analysis for the Behavioral Sciences* 2nd edition. New Jersey: Lawrence Erlbaum; 1988.
58. Höger C, Reiter-Theil S, Reiter L, Derichs G, Kastner-Voigt M, Schulz T: **Ethical case reflection - a process model for ethics consultation in child psychiatry and psychotherapy.** *System Familie* 1997, **10**:174-179.
59. Teng EJ, Friedman LC: **Increasing mental health awareness and appropriate service use in older Chinese Americans: a pilot intervention.** *Patient Educ Couns* 2009, **76(1)**:143-146.
60. Garland AF, Zigler E: **Adolescent suicide prevention. Current research and social policy implications.** *Am Psychol* 1993, **48(2)**:169-182.
61. King KA, Smith J: **Project SOAR: a training program to increase school counselors' knowledge and confidence regarding suicide prevention and intervention.** *J Sch Health* 2000, **70(10)**:402-407.
62. Nelson FL: **Evaluation of a youth suicide prevention school program.** *Adolescence* 1987, **22(88)**:813-825.
63. Gould MS, Brunstein-Klomek A, Batejan K: **The role of schools, colleges and universities in suicide prevention.** In *The Oxford Textbook of Suicidology and Suicide Prevention: A Global Perspective* Edited by: Wasserman D, Wasserman C. Oxford University Press; 2009:551-563.
64. Reiter-Theil S, Eich H, Reiter L: **The ethical status of the child in family and child psychotherapy.** *Praxis Kinderpsychol and Kinderpsychiat* 1993, **42**:14-20.

Pre-publication history
The pre-publication history for this paper can be accessed here:
http://www.biomedcentral.com/1471-2458/10/192/prepub

doi: 10.1186/1471-2458-10-192
Cite this article as: Wasserman *et al.*, Saving and Empowering Young Lives in Europe (SEYLE): a randomized controlled trial *BMC Public Health* 2010, **10**:192

Submit your next manuscript to BioMed Central and take full advantage of:

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit

RESEARCH REPORT

A newly identified group of adolescents at "invisible" risk for psychopathology and suicidal behavior: findings from the SEYLE study

Vladimir Carli[1], Christina W. Hoven[2,3], Camilla Wasserman[2,4], Flaminia Chiesa[1], Guia Guffanti[2], Marco Sarchiapone[4], Alan Apter[5], Judit Balazs[6], Romuald Brunner[7], Paul Corcoran[8], Doina Cosman[9], Christian Haring[10], Miriam Iosue[4], Michael Kaess[7], Jean Pierre Kahn[11], Helen Keeley[12], Vita Postuvan[13], Pilar Saiz[14], Airi Varnik[15], Danuta Wasserman[1]

[1]National Centre for Suicide Research and Prevention of Mental Ill-Health (NASP), Karolinska Institutet, Stockholm, Sweden; [2]Department of Child and Adolescent Psychiatry, Columbia University – New York State Psychiatric Institute, New York, NY, USA; [3]Department of Epidemiology, Mailman School of Public Health, Columbia University, New York, NY, USA; [4]Department of Health Sciences, University of Molise, Campobasso, Italy; [5]Schneider's Children's Medical Center of Israel, University of Tel Aviv, Israel; [6]Institute of Psychology, Eötvös Loránd University, Budapest, Hungary; [7]Department of Child and Adolescent Psychiatry, Center for Psychosocial Medicine, University of Heidelberg, Germany; [8]National Suicide Research Foundation (NSRF), Cork, Ireland; [9]Clinical Psychology Department, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania; [10]Research Division for Mental Health, University for Medical Information Technology (UMIT), Hall in Tirol, Austria; [11]Deparment of Psychiatry and Clinical Psychology, CHU de Nancy, Hôpitaux de Brabois, Vandoeuvre les Nancy, France; [12]Health Service Executive South, Cork, Ireland; [13]Slovene Center for Suicide Research, Andrej Marusic Institute, University of Primorska, Koper, Slovenia; [14]Department of Psychiatry, University of Oviedo, CIBERSAM School of Medicine, Oviedo, Spain; [15]Estonian-Swedish Mental Health and Suicidology Institute, University of Tallinn, Estonia

This study explored the prevalence of risk behaviors (excessive alcohol use, illegal drug use, heavy smoking, reduced sleep, overweight, underweight, sedentary behavior, high use of Internet/TV/videogames for reasons not related to school or work, and truancy), and their association with psychopathology and self-destructive behaviors, in a sample of 12,395 adolescents recruited in randomly selected schools across 11 European countries. Latent class analysis identified three groups of adolescents: a low-risk group (57.8%) including pupils with low or very low frequency of risk behaviors; a high-risk group (13.2%) including pupils who scored high on all risk behaviors, and a third group ("invisible" risk, 29%) including pupils who were positive for high use of Internet/TV/videogames for reasons not related to school or work, sedentary behavior and reduced sleep. Pupils in the "invisible" risk group, compared with the high-risk group, had a similar prevalence of suicidal thoughts (42.2% vs. 44%), anxiety (8% vs. 9.2%), subthreshold depression (33.2% vs. 34%) and depression (13.4% vs. 14.7%). The prevalence of suicide attempts was 5.9% in the "invisible" group, 10.1% in the high-risk group and 1.7% in the low-risk group. The prevalence of all risk behaviors increased with age and most of them were significantly more frequent among boys. Girls were significantly more likely to experience internalizing (emotional) psychiatric symptoms. The "invisible" group may represent an important new intervention target group for potentially reducing psychopathology and other untoward outcomes in adolescence, including suicidal behavior.

Key words: Risk behaviors, adolescents, media consumption, sedentary behavior, reduced sleep, psychiatric symptoms, suicidal behavior, SEYLE

(World Psychiatry 2014;13:78–86)

Risk behaviors (1,2) and psychiatric symptoms (3,4) among youth are a major public health concern. Adolescents establish patterns of behavior and make lifestyle choices that affect both their current and future health and well-being (5-8). It has been shown that some of these choices have a strong association with mental disorders in adulthood (9,10). Given the importance of this transitional period and the acute need for targeted preventive efforts, it is essential to gather information regarding the prevalence of both healthy and risk behaviors, as well as psychiatric symptoms, based on a robust methodology (6,11-14).

Detailed information regarding adolescent risk behaviors is regularly collected in the United States through the Youth Risk Behavior Surveillance System (YRBSS) for the purpose of helping to shape policy and to identify areas for further research. Data from the YRBSS indicate that many pupils engage in behaviors that place them at risk for the leading causes of morbidity and mortality (15,16). These include tobacco, alcohol and substance use (17-19), underweight (20), obesity (21), sedentary behavior (22), unhealthy sleep patterns (23), and truancy (24). Many of these behaviors and conditions frequently co-occur in the same individuals (25). Similar information is not systematically collected and available for other regions of the world, including Europe.

The European School Survey Project on Alcohol and Other Drugs (ESPAD, 26) and the European Monitoring Centre for Drugs and Drug Addiction (27) regularly provide European Union Member States with an overview of alcohol and drug problems in the continent. However, these projects focus primarily on substance abuse, with limited attention to other risk behaviors and lifestyles. Studies that provide a comprehensive picture of adolescent risk behaviors, therefore, are critically needed in Europe (25). There is also recent evidence of an association in adolescents between mental health status, risk behaviors and lifestyles (28-32). To date, no comprehensive cross-national study has been conducted to test associations between risk behaviors, lifestyles and psychiatric symptoms in European adolescents.

The Saving and Empowering Young Lives in Europe (SEYLE) project (33) was developed by a consortium of

twelve European countries (Sweden, Austria, Estonia, France, Germany, Hungary, Ireland, Israel, Italy, Romania, Slovenia, Spain) and supported with funding by the European Commission (grant agreement HEALTH-F2-2009-22309). One of the aims of SEYLE was to gather information about European adolescents' health and well-being. Here we report the main epidemiological findings regarding alcohol and illegal drug use, smoking, sleep behavior, nutrition, physical activity, and sensation seeking, including their associations with self-destructive behaviors and psychiatric symptoms. The hypothesis being tested was that the prevalence of these behaviors varies by age and gender and that behaviors cluster in identifiable subgroups of adolescents suitable for targeted intervention.

METHODS

High school pupils (N=12,395; mean age 14.91±0.90, 83 missing; M/F: 5,529/6,799, 67 missing) were recruited in randomly selected schools (n=179) in eleven European countries. At each country study site, a list of all eligible schools was generated according to specific inclusion and exclusion criteria (33). Ethical approval was obtained from each local ethical committee. Data regarding the study sites, the representativeness of the sample and consent/participation rates of schools and pupils were previously analysed, showing that each study site is reasonably representative of the respective country and that the external validity of the sample is high (34).

A structured self-report questionnaire was administered to adolescents in the participating schools. It covered socio-demographic items, such as sex, age, country of birth of the adolescent and his/her parents, parental employment status, and belonging to a religious group. Risk behaviors were assessed through the Global School-based Student Health Survey (GSHS, 35), which is the international version of the Youth Risk Behavior Survey questionnaire (36). Psychiatric symptoms were assessed by the Beck Depression Inventory (BDI-II, 37), the Zung Self-Rating Anxiety Scale (Z-SAS, 38), the Strengths and Difficulties Questionnaire (SDQ, 39), the Paykel Suicide Scale (PSS, 40) and the Deliberate Self-Harm Inventory (DSHI, 41). The officially translated and validated versions of these instruments were used when available. If the instruments were not available in the required language, they were translated (and back-translated) and linguistically adapted. Internal reliability for all instruments was assessed through Cronbach's alpha, which was high or very high for all of them (34). All the assessment instruments were administered in a single classroom session.

The GSHS items were recoded to identify nine areas of risk behaviors: excessive alcohol use (drinks at least twice a week), illegal drug use (used illegal drugs at least three times during life), heavy smoking (smokes more than 5 cigarettes per day), reduced sleep (sleeps 6 hours per night or less), overweight (body mass index (BMI) above the 95th percentile for age (42)), underweight (BMI below the 5th percentile for age (42)), sedentary behavior (performs physical activity less than once a week), high media use (uses Internet, TV and videogames for reasons not related to school or work for 5 hours or more per day), truancy (skips school at least once a week without being ill or having another legitimate excuse). A dichotomous variable was generated for each risk behavior.

Psychopathological symptoms were recoded to stratify pupils into dichotomous categories: subthreshold depression (BDI-II score <20 and positive on items assessing core symptoms of depression, i.e., sadness and loss of pleasure (43)); depression (BDI-II score ≥ 20); anxiety (Z-SAS score ≥ 60); subthreshold anxiety (Z-SAS score between 45 and 59 (43)); emotional symptoms (SDQ subscale ≥ 7); conduct problems (SDQ subscale ≥ 5); hyperactivity (SDQ subscale ≥ 7); peer problems (SDQ subscale ≥ 6), lack of prosocial behavior (SDQ subscale ≤ 4); non-suicidal self-injury (DSHI score ≥ 3); suicidal ideation (positive on at least one PSS item); and suicide attempter (lifetime history of suicide attempts). All psychopathological measures, with the exception of lifetime suicide attempt, referred to the past two weeks. All measures regarding risk behaviors and psychopathology were further stratified by gender and age. On the basis of the recruited sample, three age groups were identified: 14 years or less (n=4,007), 15 years (n=5,350), 16 years or more (n=2,955).

A chi-square test of independence was used to statistically define the differences between genders and age groups for socio-demographics, risk behaviors and psychopathology.

Latent class analysis (LCA) was applied without any *a priori* assumption about the nature of the latent categorization, thus identifying and characterizing clusters of pupils with similar risk behavior profiles. In order to account for the effect of age on different risk behaviors, a latent class logistic regression (LCLR) test was used with age as a covariate (44). The LCLR models were fitted starting with a two-class model, increasing the number of classes up to four. The Bayesian information criterion (BIC) was compared across models. The lowest BIC was used to identify the most parsimonious and best fitting model. LCLR was applied to the nine risk behaviors in a subsample of 9,035 pupils with no missing information for any risk behaviors. A chi-square test was used to identify significant differences in the socio-demographic and psychopathology variables between the different latent classes of risk identified by the LCA.

A multivariate multinomial logistic regression model adjusted for gender and age group was developed to describe the relationship between belonging to a latent class, selected as the dependent variable, and levels of psychopathology.

For all analyses, a critical value of $p<0.05$ was considered to be statistically significant. All statistical analyses were run in STATA IC 9.0 for Windows.

Table 1 Prevalence (%) of risk behaviors in the adolescent sample

	14 years and below (n=4,007)			15 years (n=5,350)			16 years and above (n=2,955)			All age groups (n=12,328)		
	Male (n=1,833)	Female (n=2,167)	Both genders	Male (n=2,183)	Female (n=3,160)	Both genders	Male (n=1,490)	Female (n=1,456)	Both genders	Male (n=5,529)	Female (n=6,799)	Both genders
Excessive alcohol use	6.4*	4.1	5.2**	10.0*	5.3	7.3	17.7*	10.2	14.1	10.9*	6.0	8.2
Illegal drug use	3.2*	2.0	2.6**	5.8*	2.7	3.9	8.6	7.8	8.2	5.7*	3.6	4.5
Heavy smoking	4.6	6.1	5.4**	10.5*	8.0	9.0	25.0*	16.7	21.0	12.4*	9.2	10.7
Reduced sleep	9.7*	14.6	12.3**	11.4*	17.6	15.1	19.9	21.4	20.7	13.1*	17.4	15.5
Overweight	4.8*	2.5	3.5**	5.4*	1.6	3.1	6.1*	2.3	4.2	5.4*	2.0	3.5
Underweight	3.0	2.8	2.9	3.6	2.4	2.9	4.1	3.4	3.8	3.5	2.8	3.1
Sedentary behavior	9.4*	16.8	13.5**	14.2*	23.4	19.6	17.7*	29.3	23.5	13.6*	22.6	18.5
High media use	10.8*	7.2	8.8**	10.6*	8.8	9.6	14.1*	11.3	12.7	11.7*	8.8	10.1
Truancy	2.8*	1.9	2.3**	4.2*	2.3	3.1	9.3*	4.5	7.0	5.1*	2.6	3.8

*Significant difference between males and females of the same age (p<0.05), **significant difference across ages in both genders (p<0.05)

RESULTS

Risk behaviors

The prevalence of the nine identified areas of risk behaviors is reported in Table 1.

Less than ten percent (8.2%) of adolescents reported drinking alcohol at least twice a week. More than one-third (35.9%) of those who reported drinking had at least three drinks in one sitting; 14.2% reported having experienced being "really drunk", and 7.7% reported having had a hangover. Alcohol use was higher among males and increased significantly with age.

Less than five percent (4.5%) of the total sample reported having used illegal drugs three times or more during their lifetime. Illegal drug use was higher among males and increased with age. More than ten percent (10.7%) of the sample reported smoking at least 5 cigarettes per day and more than forty-five percent (45.8%) reported smoking cigarettes at least once in their lifetime. Slightly more than ten percent (10.3%) of the sample reported having started smoking when they were eleven years old or younger.

More than fifteen percent (15.5%) of the adolescents reported sleeping 6 hours per day or less. Reduced sleep was more frequent among females and among older age pupils. More than forty percent (41.8%) reported sleeping less than 8 hours per day; slightly more than one-third (34.2%) reported waking up often or being always tired in the morning, a finding significantly more common among females (37.1% vs. 31.7%, $p < 0.05$); approximately twenty-five percent (25.4%) of adolescents reported the habit of taking a nap in the afternoon, with a statistically significant higher prevalence among females than males (27.8% vs. 23.4%, $p < 0.05$).

More than three percent (3.5%) of pupils had a BMI above the 95th percentile for age (42), with the prevalence of overweight being higher among males and increasing with age. Three percent (3.1%) of adolescents had a BMI below the 5th percentile for age (42), with no significant gender or age differences. More than one fourth (26.5%) of the sample did not regularly have breakfast, a behavior significantly more common in females than males (30.8% vs. 21.2%, $p < 0.05$). Six percent (6.1%) reported never eating fruit or vegetables, while 62.5% reported eating them at least once every day. Less than twenty percent (18.5%) reported performing physical activity less than once a week. Sedentary behavior was more common among females and increased with age. More than two thirds (68.8%) of the adolescents reported performing sports on a regular basis, with a significant gender difference (77.3% males vs. 61.8% females, $p < 0.05$).

Approximately ten percent (10.1%) of the adolescents reported spending at least 5 hours per day watching TV, playing videogames or surfing the Internet for reasons not related to school or work. This percentage was significantly higher in males and increased with age. Almost seventy-five percent (74.5%) of the adolescents reported using their own computer to surf the Internet, while 2.5% of the sample reported having never used the Internet.

Less than four percent (3.8%) of the adolescents reported often missing school without permission. This behavior was significantly more frequent among older pupils and among males. Ten percent (10.4%) reported having been in a physical fight in the past 12 months and almost half of them (45.2%) reported having started the fight. Approximately one-sixth (16.9%) of the pupils reported having been a passenger in a vehicle with a driver who had been drinking. Ten percent of the 14-year olds, 19% of the 15-year olds and

Table 2 Prevalence (%) of psychiatric symptoms in the adolescent sample

	14 years and below (n=4.007)			15 years (n=5.350)			16 years and above (n=2.955)			All age groups (n=12.328)		
	Male (n=1,833)	Female (n=2,167)	Both genders	Male (n=2,183)	Female (n=3,160)	Both genders	Male (n=1,490)	Female (n=1,456)	Both genders	Male (n=5,529)	Female (n=6,799)	Both genders
Subthreshold depression	25.7*	32.0	29.1**	24.8*	35.4	31.1	27.1*	35.0	31.0	25.8	34.2	30.4
Depression	3.8*	9.2	6.7**	4.2*	10.6	8.0	7.4*	12.8	10.1	4.9	10.6	8.1
Subthreshold anxiety	14.0*	26.6	20.8**	14.7*	30.8	24.2	19.7*	31.1	25.3	15.8	29.5	23.3
Anxiety	1.6*	4.6	3.2**	2.4*	6.9	5.1	3.2*	8.8	6.0	2.3	6.6	4.7
Emotional symptoms	3.0*	9.9	6.7**	2.3*	11.0	7.4	4.3*	13.6	8.9	3.0	11.2	7.5
Conduct problems	10.7*	7.5	9.0**	11.4*	8.6	9.8	16.1*	9.3	12.7	12.5	8.4	10.3
Hyperactivity	10.9	9.1	9.9	8.6	9.0	8.8	9.6	9.8	9.6	9.6	9.2	9.4
Peer problems	3.1	2.7	2.9**	3.7*	2.7	3.1	7.0*	3.3	5.1	4.4	2.9	3.6
Lack of prosocial behavior	9.5*	3.1	6.0**	9.9*	4.0	6.5	12.7*	4.7	8.7	10.6	3.9	6.9
Non-suicidal self-injury	6.8*	10.7	8.9**	7.6	8.8	8.3	9.7	12.2	11.0	7.9	10.2	9.1
Suicidal ideation	21.2*	35.4	28.9**	23.5*	39.3	32.8	30.1*	42.5	36.2	24.5	38.7	32.3
Suicide attempts	2.2*	4.2	3.3**	2.8*	4.7	3.9	4.1*	7.5	5.8	3.0	5.1	4.2

*Significant difference between males and females of the same age ($p<0.05$), **significant difference across ages in both genders ($p<0.05$)

42.9% of the 16-year olds reported having had a sexual intercourse, with a significantly higher prevalence among males in each age group. Less than four percent (3.3%) of those engaging in sexual intercourse reported never or seldom having used a condom, with no significant age differences.

Psychiatric symptoms

The prevalence of psychiatric symptoms is reported in Table 2.

Approximately one third (30.4%) of pupils experienced subthreshold depression, with girls having a significantly higher prevalence than boys (34.2% vs. 25.8%, $p<0.05$). Approximately eight percent (8.1%) of the sample was categorized as depressed, with a significantly higher prevalence in females (10.6% vs. 4.9%, $p<0.05$). The prevalence of depressive symptoms increased with age.

More than twenty percent (23.3%) of pupils experienced subthreshold anxiety, with the prevalence increasing with age and being significantly higher among females (29.5% vs. 15.8%, $p<0.05$). Almost five percent (4.7%) of pupils reported severe to extreme anxiety, with the prevalence increasing with age and being significantly higher among girls (6.6% vs. 2.3%, $p<0.05$).

Emotional symptoms were reported by 7.5% of the sample. Their prevalence increased with age and was significantly higher among girls (11.2% vs. 3.0%, $p<0.05$).

Conduct problems occurred in 10.3% of the sample. Their prevalence increased with age and was significantly higher among boys (12.5% vs. 8.4%, $p<0.05$). Symptoms of hyperactivity were present in 9.4% of the pupils and did not differ significantly by gender.

More than three percent (3.6%) of the sample experienced peer problems; the prevalence increased with age and was significantly higher among boys (4.4% vs. 2.9%, $p<0.05$). Nearly seven percent (6.9%) of the sample reported lack of prosocial behavior; the prevalence increased with age and was significantly higher among boys (10.6% vs. 3.9%, $p<0.05$).

Suicidal ideation was present in approximately one third of the sample (32.3%), with a significantly higher prevalence in older pupils and among girls (38.7% vs. 24.5%, $p<0.05$). More than four percent (4.2%) of the sample reported attempting suicide during their lifetime, with a significantly higher prevalence among girls (5.1% vs. 3.0%, $p<0.05$). The frequency of suicide attempts for both genders increased with age.

Classes identified through LCA and their correlates

LCLR models were fitted to the nine risk behaviors reported above. A three-class model best fit the data. Figure 1 presents the patterns of response probability profiles for each of the three classes. The first class ("low-risk"), comprising 57.8% of the sample (M/F=2,557/3,497), included

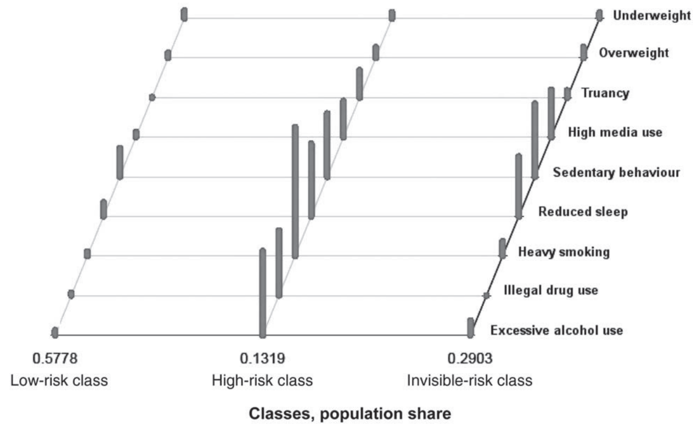

Figure 1 Results of the latent class analysis

students with no or very low frequency of risk behaviors. The second class ("high-risk"), comprising 13.2% of the sample (M/F=622/562), included pupils who scored high on all risk behaviors. The third class, comprising 29% of the sample (M/F=687/1,109), included pupils who were positive for high media use, sedentary behavior and reduced sleep. This class was labelled "invisible risk", as these behaviors are generally not obvious or recognized by observers, including parents and teachers, to be associated with mental health problems.

Table 3 describes the relationship between the classes identified through LCA and socio-demographic variables. The percentage of pupils not born in the study site country was significantly higher in the high-risk compared to both the invisible- and the low-risk groups (10.0% vs. 6.9% and 4.8%, p<0.05). A similar pattern was observed for pupils with parents not born in the study site country. Having someone in the family who had lost his/her job during the previous year was significantly more frequent in the high- and invisible-risk groups than in the low-risk one (11.6% and 12.1% vs. 8.3%, p<0.05). Living with a single parent was significantly more frequent in the high-risk than in the invisible-risk group (31.1% vs. 23.6%, p<0.05).

Table 3 Socio-demographic features (%) by latent class risk groups

Socio-demographic features	Low-risk class n=6,054 (M/F=2,557/3,497)	High-risk class n=1,184 (M/F=622/562)	Invisible-risk class, n=1,796 (M/F=687/1,109)
Females*	57.8	47.5	61.8
Not born in the country*	4.8	10.0	6.9
Parents not born in the country*	15.1	27.0	20.6
Doesn't belong to a religious denomination	31.2	34.0	31.3
Someone in your family lost job last year**	8.3	11.6	12.1
Single parent household*	17.5	31.1	23.6

*The three groups differ significantly from each other (p<0.05), **the high-risk and the invisible-risk groups differ significantly from the low-risk group (p< 0.05)

Table 4 Psychiatric symptoms (%) by latent class risk groups

Psychiatric symptoms	Low-risk class, n=6,054 (M/F=2,557/3,497)	High-risk class, n=1,184 (M/F=622/562)	Invisible-risk class, n=1,796 (M/F=687/1,109)
Subthreshold depression**	29.4	34.0	33.2
Depression**	4.2	14.7	13.4
Subthreshold anxiety**	19.0	31.3	31.0
Anxiety**	2.5	9.2	8.0
Emotional symptoms*	5.8	9.0	11.6
Conduct problems*	6.4	23.2	11.5
Hyperactivity*	6.1	18.6	11.8
Peer problems***	2.3	3.0	5.0
Lack of prosocial behavior**	4.5	9.9	8.1
Non-suicidal self-injury*	5.5	22.3	12.4
Suicidal ideation**	27.1	44.0	42.2
Suicide attempter*	1.7	10.1	5.9

*The three groups differ significantly from each other (p<0.05), **the high-risk and the invisible-risk groups differ significantly from the low-risk group (p< 0.05), ***the low-risk and the invisible-risk groups differ significantly from the high-risk group (p<0.05)

Table 5 Results of multivariate multinomial logistic regression of latent class variables by gender, age group and psychopathological scores (n=8,579)

	Invisible-risk vs. low-risk class RRR (95% CI)	High-risk vs. low-risk class RRR (95% CI)
Gender (male/female)	0.95 (0.84, 1.08)	0.51* (0.44, 0.60)
Age group 15 years/ 14 years or younger	2.41* (2.08, 2.79)	4.50* (3.55, 5.69)
Age group 16 years or older/14 years or younger	7.88* (6.67, 9.30)	27.62* (21.66, 35.23)
Subthreshold depression	1.10 (0.96, 1.27)	1.21* (1.02, 1.43)
Depression	1.97* (1.50, 2.58)	1.82* (1.30, 2.53)
Subthreshold anxiety	1.62* (1.40, 1.88)	1.58* (1.32, 1.90)
Anxiety	1.81* (1.31, 2.52)	1.93* (1.31, 2.86)
Emotional symptoms	0.80 (0.63, 1.02)	0.47* (0.34, 0.65)
Conduct problems	1.24 (1.00, 1.52)	2.74* (2.21, 3.40)
Hyperactivity	1.59* (1.29, 1.95)	2.49* (1.99, 3.13)
Peer problems	1.23 (0.89, 1.70)	0.47* (0.29, 0.74)
Lack of prosocial behavior	1.60* (1.26, 1.74)	1.54* (1.17, 2.03)
Non-suicidal self-injury	1.40* (1.13, 1.74)	2.99* (2.37, 3.79)
Suicidal ideation	1.29* (1.12, 1.48)	1.30* (1.09, 1.55)
Suicide attempter	1.69* (1.22, 2.35)	2.62* (1.83, 3.74)

RRR – relative risk ratio, *p=0.05 (two-tailed tests)

As shown in Table 4, the prevalence of depressive and anxiety symptoms (both severe and subthreshold) and of suicidal ideation was very similar in the invisible- and the high-risk groups, and significantly higher in each of these groups compared with the low-risk one ($p<0.05$). Emotional symptoms and peer problems were significantly more prevalent in the invisible-risk than in the high-risk group, and more frequent in both these groups than in the low-risk one ($p<0.05$). Conduct problems, hyperactivity, non-suicidal self-injury and lifetime suicide attempts were significantly more prevalent in the high-risk group compared with both the invisible- and the low-risk ones ($p<0.05$).

Multivariate multinomial logistic regression

Results from the multivariate multinomial logistic regression model of psychiatric symptoms and latent classes, adjusted for gender and age, are presented in Table 5. Symptoms of depression, anxiety, lack of prosocial behavior and suicidal ideation were associated with significant and similarly increased relative risk ratios of being in both the invisible- and the high-risk groups. Having symptoms of hyperactivity, non-suicidal self-injury or having attempted suicide were associated with significantly increased relative risk ratios of being in the high-risk group and, even if at a lower level, of being in the invisible-risk group.

DISCUSSION

The results of this study indicate that the prevalence of risk behaviors and psychopathology among European adolescents is relatively high. Almost all studied risk behaviors show an increase with age and most of them are significantly more frequent among boys. The only exceptions are sedentary behavior and reduced sleep, which are more frequent among girls, who also have more internalizing (emotional) psychiatric symptoms, such as depression, anxiety and suicidal ideation.

In this large sample, LCA identified three groups of adolescents. The first group, representing 13.2% of the adolescents, scored high on all examined risk behaviors and can be called "high-risk group". Most interventions today target this population (45,46). The largest group, comprising almost two thirds (57.8%) of the adolescents, scored low on most risk behaviors and has accordingly been called "low-risk group". Even pupils in this low-risk group, however, reported suicide attempts (1.7%), suicidal ideation (27%), subthreshold depression (29%) and subthreshold anxiety (19%). These findings highlight the need for large-scale preventive interventions and outreach in schools, as reported in previous studies (43,47).

Most importantly, this study also identified, for the first time, a third group labelled the "invisible-risk" group, which includes 29% of the adolescents. These pupils clustered on three specific risk behaviors (reduced sleep, low physical activity and high media use), while simultaneously having significantly increased prevalence of psychiatric symptoms. The level of psychiatric symptoms found in this "invisible" group is, in many cases, very similar to the high-risk group. The group includes adolescents who spend an excessive amount of time watching TV, being on the Internet or playing videogames, including going to sleep late in order to prolong the use of these media activities and who, perhaps as a direct consequence, neglect other healthy activities such as sports. Adult observers (e.g., parents, teachers and mental health professionals) do not generally perceive these behaviors as particularly harmful or reasons for concern. Nevertheless, the high- and the invisible-risk groups have a very similar prevalence of depressive symptoms, anxiety symptoms and suicidal thoughts. In comparison with pupils in the high-risk group, those in the invisible-risk group have a higher prevalence of emotional symptoms and peer problems but a lower prevalence of conduct problems and hyperactivity. The differences between the high- and invisible-risk groups do not depend on gender representation in these groups, as multivariate analyses indicated that these associations remained significant when adjusting for age and gender.

Adolescents in the invisible- and high-risk groups have different patterns compared with the low-risk group concerning country of origin (adolescent or one of his/her parents born outside study site country), belonging to a single parent household, or a family where a parent lost his/her

job in the previous year. Interestingly, belonging to a religious denomination (as perceived by adolescents), which is generally considered protective (48), did not confer any difference in risk group membership. These findings suggest that adolescents in the invisible group may more likely have a lower socioeconomic status and thus, perhaps, be even more invisible to existing interventions and outreach activities.

A major strength of this study is the large sample of adolescents (n=12,395), recruited from randomly selected schools across study sites in eleven European countries, which are reasonably representative of the respective European country (34). The students were recruited and evaluated with homogeneous procedures across countries in terms of inclusion and exclusion criteria and outcome measures. Furthermore, the study comprised a very large geographic area. One potential limitation of this study is that all data were collected through self-report. Although it has been shown that data acquired through self-report are reasonably reliable (36,49,50), the prevalence of risk behaviors and psychopathology may have been underestimated. Another limitation is that only one site per country was chosen for study participation. Even though study sites were shown to be reasonably representative of the respective country, inclusion of more than one site per country might have improved representation of the urban and rural areas and possibly allowed stratification of risk groups by population density.

The results of this study are in agreement with the classical distinction between internalizing and externalizing disorders (51), with the former (emotional) being more common among girls and the latter (behavioral) among boys. Similar patterns of age- and gender- related differences have been previously reported in American studies, such as the Study of Disruptive Behavior Disorders in Puerto Rican Youth (5), the NIMH Methods for the Epidemiology of Child and Adolescent Mental Disorders (MECA) Study (13) and the YRBSS (15). Until now, investigations conducted in Europe, such as the ESPAD study (26), focused exclusively on substance abuse and did not include a wider range of risk behaviors as in the SEYLE study. Regarding substance abuse, however, SEYLE results are in line with previous findings, confirming the high burden of substance abuse among European adolescents and its relationship with various types of psychopathology (52). In general, SEYLE results indicate that it would be a great advantage to establish within Europe a system to routinely collect data regarding adolescents' mental health and lifestyles, as regularly done in the United States with the YRBSS.

Because specific age- and gender-related differences change over time, monitoring them may have important implications for the prevention of risk behaviors. The increase in risk behaviors and psychopathology by age, as observed in this study, is very steep but in agreement with other investigations (53,54). Importantly, in the SEYLE data, a simultaneous increase in the prevalence of each assessed risk behavior was observed for each single increase in years of age. However, data about the longitudinal life-time trajectory of these risk behaviors and their predictive value and potential consequences for subsequent psychopathological and psychosocial outcomes are not yet available. Nonetheless, the cross-sectional correlations between the high- and invisible-risk groups and psychopathological variables, as presented here, warrant the development of systematic psychosocial support and intervention for these pupils.

In summary, the results of this study confirm the need for early prevention and intervention in the mental health field (55,56). The most common risk behaviors among girls are a reduced number of hours of sleep and a sedentary lifestyle, while drug and alcohol use are more common among boys. Thus, preventive interventions should be tailored specifically for boys and girls. The most important findings of this study arise from the LCA. In addition to the classical low- and high- risk groups, we identified a third group, accounting for almost one third of the adolescents, who engage in behaviors that are easily overlooked as they are generally not perceived by adults, including mental health professionals, as troublesome. Pupils in this invisible-risk group show high rates of depression, anxiety and suicidal ideation, which are at the same level as among pupils belonging to the high-risk group. While most parents, teachers and clinicians would react to an adolescent using drugs or getting drunk, they may easily overlook adolescents engaging in unobtrusive behaviors such as watching too much TV, not playing sports, or sleeping too little. The causality of the relationships between these risk behaviors and psychopathology remains unclear. However, common psychiatric disorders, such as depression, are already known to often show bidirectional relationships with reduced sleep (57), low levels of activity (58) and high media consumption (59). Thus, our findings have implications for gatekeepers delivering information and education about adolescent health and lifestyle to pupils and parents, as well as for policy makers and clinicians. While discussions with adolescents often focus on substance abuse and delinquency, the risk behaviors identified here need to be considered, and special attention given to encouraging sufficient sleep, participation in sports and using new media moderately.

These data afforded a unique opportunity to profile typical schools throughout Europe serving regular pupils. However, a number of unanswered questions remain. For example, not having more specific individual socio-economic data on the participating adolescents precluded better identification of the relationship of these factors with risk behaviors and psychiatric symptoms. An epidemiologic household study should be conducted, including detailed socio-economic data collection, to help explore the correlations between psychopathology, risk behaviors and the general socio-economic status. Moreover, this study evaluated psychiatric symptoms cross-sectionally in the general population through psychometric self-report instruments. Diagnostic interviews would allow a better understanding of the relationship between psychiatric disorders and risk behaviors.

Regardless of these limitations, the SEYLE study established an important multi-national cohort of European adolescents that ideally will be studied longitudinally, in order to identify the trajectories from risk behaviors to psychopathology and thus help to elucidate causality. Such a study would also allow for the assessment of the course and prognostic trajectories of various adolescent risk behaviors.

Acknowledgement

The SEYLE project is supported through Coordination Theme 1 (Health) of the European Union Seventh Framework Program (FP7), grant agreement HEALTH-F2-2009-223091.

References

1. Blum RW, Bastos FI, Kabiru CW et al. Adolescent health in the 21st century. Lancet 2012;379:1567-8.
2. Patton GC, Coffey C, Cappa C et al. Health of the world's adolescents: a synthesis of internationally comparable data. Lancet 2012; 379:1665-75.
3. Merikangas KR, He JP, Burstein M et al. Lifetime prevalence of mental disorders in U.S. adolescents: results from the National Comorbidity Survey Replication – Adolescent Supplement (NCS-A). J Am Acad Child Adolesc Psychiatry 2010;49:980-9.
4. Shaffer D, Fisher P, Dulcan MK et al. The NIMH Diagnostic Interview Schedule for Children Version 2.3 (DISC-2.3): description, acceptability, prevalence rates, and performance in the MECA Study. Methods for the Epidemiology of Child and Adolescent Mental Disorders Study. J Am Acad Child Adolesc Psychiatry 1996;35: 865-77.
5. Bird HR, Davies M, Duarte CS et al. A study of disruptive behavior disorders in Puerto Rican youth: II. Baseline prevalence, comorbidity, and correlates in two sites. J Am Acad Child Adolesc Psychiatry 2006;45:1042-53.
6. Costello EJ, Angold A, Burns BJ et al. The Great Smoky Mountains Study of Youth. Goals, design, methods, and the prevalence of DSM-III-R disorders. Arch Gen Psychiatry 1996;53:1129-36.
7. Jiang N, Kolbe LJ, Seo DC et al. Health of adolescents and young adults: trends in achieving the 21 Critical National Health Objectives by 2010. J Adolesc Health 2011;49:124-32.
8. Park MJ, Brindis CD, Chang F et al. A midcourse review of the healthy people 2010: 21 critical health objectives for adolescents and young adults. J Adolesc Health 2008;42:329-34.
9. Kessler RC, McLaughlin KA, Green JG et al. Childhood adversities and adult psychopathology in the WHO World Mental Health Surveys. Br J Psychiatry 2010;197:378-85.
10. Merikangas KR, Zhang H, Avenevoli S et al. Longitudinal trajectories of depression and anxiety in a prospective community study: the Zurich Cohort Study. Arch Gen Psychiatry 2003;60:993-1000.
11. Bird HR, Canino GJ, Davies M et al. A study of disruptive behavior disorders in Puerto Rican youth: I. Background, design, and survey methods. J Am Acad Child Adolesc Psychiatry 2006;45:1032-41.
12. Johnson JG, Cohen P, Gould MS et al. Childhood adversities, interpersonal difficulties, and risk for suicide attempts during late adolescence and early adulthood. Arch Gen Psychiatry 2002;59:741-9.
13. Lahey BB, Flagg EW, Bird HR et al. The NIMH Methods for the Epidemiology of Child and Adolescent Mental Disorders (MECA) Study: background and methodology. J Am Acad Child Adolesc Psychiatry 1996;35:855-64.
14. Merikangas K, Avenevoli S, Costello J et al. National comorbidity survey replication adolescent supplement (NCS-A): I. Background and measures. J Am Acad Child Adolesc Psychiatry 2009;48:367-9.
15. Brener ND, Kann L, Shanklin S et al. Methodology of the Youth Risk Behavior Surveillance System – 2013. MMWR Recomm Rep 2013;62:1-23.
16. Eaton DK, Kann L, Kinchen S et al. Youth Risk Behavior Surveillance – United States, 2011. MMWR Surveill Summ 2012;61:1-162.
17. Hu MC, Griesler P, Schaffran C et al. Risk and protective factors for nicotine dependence in adolescence. J Child Psychol Psychiatry 2011;52:1063-72.
18. Wu P, Bird HR, Liu X et al. Childhood depressive symptoms and early onset of alcohol use. Pediatrics 2006;118:1907-15.
19. Kandel DB, Johnson JG, Bird HR et al. Psychiatric comorbidity among adolescents with substance use disorders: findings from the MECA Study. J Am Acad Child Adolesc Psychiatry 1999;38:693-99.
20. McCrea RL, Berger YG, King MB. Body mass index and common mental disorders: exploring the shape of the association and its moderation by age, gender and education. Int J Obes 2012;36:414-21.
21. Anderson SE, Cohen P, Naumova EN et al. Adolescent obesity and risk for subsequent major depressive disorder and anxiety disorder: prospective evidence. Psychosom Med 2007;69:740-7.
22. Biddle SJ, Asare M. Physical activity and mental health in children and adolescents: a review of reviews. Br J Sports Med 2011;45:886-95.
23. Johnson EO, Breslau N. Sleep problems and substance use in adolescence. Drug Alcohol Depend 2001;64:1-7.
24. Berg I. Absence from school and mental health. Br J Psychiatry 1992;161:154-66.
25. Hale DR, Viner RM. Policy responses to multiple risk behaviours in adolescents. J Public Health 2012;34(Suppl. 1):i11-9.
26. Hibell B, Ahlstrom S, Balakireva O et al. The 2007 ESPAD report: substance use among students in 35 European countries. Stockholm: Swedish Council for Information on Alcohol and Other Drugs, 2009.
27. European Monitoring Centre for Drugs and Drug Addiction. Annual report 2008: the state of the drugs problem in Europe. www.emcdda.europa.eu.
28. Flisher AJ, Kramer RA, Hoven CW et al. Risk behavior in a community sample of children and adolescents. J Am Acad Child Adolesc Psychiatry 2000;39:881-7.
29. Harakeh Z, de Looze ME, Schrijvers CT et al. Individual and environmental predictors of health risk behaviours among Dutch adolescents: the HBSC study. Public Health 2012;126:566-73.
30. Johnson KE, Taliaferro LA. Health behaviors and mental health of students attending alternative high schools: a review of the research literature. J Spec Pediatr Nurs 2012;17:79-97.
31. Kim Y. Adolescents' health behaviours and its associations with psychological variables. Cent Eur J Public Health 2011;19:205-9.
32. Zhou Z, Xiong H, Jia R et al. The risk behaviors and mental health of detained adolescents: a controlled, prospective longitudinal study. PLoS One 2012;7:e37199.
33. Wasserman D, Carli V, Wasserman C et al. Saving and empowering young lives in Europe (SEYLE): a randomized controlled trial. BMC Public Health 2010;10:192.
34. Carli V, Wasserman C, Wasserman D et al. The Saving and Empowering Young Lives in Europe (SEYLE) Randomized Controlled Trial (RCT): methodological issues and participant characteristics. BMC Public Health 2013;13:479.
35. World Health Organization. Global School-Based Student Health Survey. www.who.int.
36. Brener ND, Kann L, McManus T et al. Reliability of the 1999 Youth Risk Behavior Survey questionnaire. J Adolesc Health 2002;31: 336-42.
37. Beck AT, Steer RA, Ball R et al. Comparison of Beck Depression Inventories -IA and -II in psychiatric outpatients. J Pers Assess 1996;67:588-97.

38. Zung WW. A rating instrument for anxiety disorders. Psychosomatics 1971;12:371-9.
39. Goodman R, Meltzer H, Bailey V. The Strengths and Difficulties Questionnaire: a pilot study on the validity of the self-report version. Eur Child Adolesc Psychiatry 1998;7:125-30.
40. Paykel ES, Myers JK, Lindenthal JJ et al. Suicidal feelings in the general population: a prevalence study. Br J Psychiatry 1974;124:460-9.
41. Gratz K. Measurement of deliberate self-harm: preliminary data on the Deliberate Self-Harm Inventory. J Psychopathol Behav Assess 2001;23:253-63.
42. WHO Multicentre Growth Reference Study Group. WHO child growth standards: length/height-for-age, weight-for-age, weight-for-length, weight-for-height and body mass index-for-age: methods and development. Geneva: World Health Organization, 2006.
43. Balazs J, Miklosi M, Kereszteny A et al. Adolescent subthreshold-depression and anxiety: psychopathology, functional impairment and increased suicide risk. J Child Psychol Psychiatry 2013;54:670-7.
44. Linzer DA, Lewis JB. poLCA: An R package for polytomous variable latent class analysis. J Stat Softw 2011;42:1-29.
45. Jackson CA, Henderson M, Frank JW et al. An overview of prevention of multiple risk behaviour in adolescence and young adulthood. J Public Health 2012;34(Suppl. 1):i31-40.
46. Yuma-Guerrero PJ, Lawson KA, Velasquez MM et al. Screening, brief intervention, and referral for alcohol use in adolescents: a systematic review. Pediatrics 2012;130:115-22.
47. Olsson GI, von Knorring AL. Adolescent depression: prevalence in Swedish high-school students. Acta Psychiatr Scand 1999;99:324-31.
48. Mouttapa M, Huang TT, Shakib S et al. Authority-related conformity as a protective factor against adolescent health risk behaviors. J Adolesc Health 2003;33:320-1.
49. Brener ND, Billy JO, Grady WR. Assessment of factors affecting the validity of self-reported health-risk behavior among adolescents: evidence from the scientific literature. J Adolesc Health 2003;33:436-57.
50. Brener ND, Grunbaum JA, Kann L et al. Assessing health risk behaviors among adolescents: the effect of question wording and appeals for honesty. J Adolesc Health 2004;35:91-100.
51. Achenbach TM. The Child Behavior Profile: I. Boys aged 6-11. J Consult Clin Psychol 1978;46:478-88.
52. Kokkevi A, Richardson C, Florescu S et al. Psychosocial correlates of substance use in adolescence: a cross-national study in six European countries. Drug Alcohol Depend 2007;86:67-74.
53. Barone C, Weissberg RP, Kasprow WJ et al. Involvement in multiple problem behaviors of young urban adolescents. J Prim Prev 1995;15:261-83.
54. Brodbeck J, Bachmann MS, Croudace TJ et al. Comparing growth trajectories of risk behaviors from late adolescence through young adulthood: an accelerated design. Dev Psychol 2013;49;1732-8.
55. Stenbacka M, Stenbacka M, Stattin H et al. Adolescent use of illicit drugs and adult offending: a Swedish longitudinal study. Drug and Alcohol Review 2007;26:397-403.
56. van Lier PAC, Huizink A, Crijnen A. Impact of a preventive intervention targeting childhood disruptive behavior problems on tobacco and alcohol initiation from age 10 to 13 years. Drug and Alcohol Dependence 2009;100:228-33.
57. Clarke G, Harvey AG. The complex role of sleep in adolescent depression. Child Adolesc Psychiatr Clin N Am 2012;21:385-400.
58. Biddle SJ, Asare M. Physical activity and mental health in children and adolescents: a review of reviews. Br J Sports Med 2011;45:886-95.
59. Carli V, Durkee T, Wasserman D et al. The association between pathological internet use and comorbid psychopathology: a systematic review. Psychopathology 2013;46:1-13.

DOI 10.1002/wps.20088

School-based suicide prevention programmes: the SEYLE cluster-randomised, controlled trial

Danuta Wasserman, Christina W Hoven, Camilla Wasserman, Melanie Wall, Ruth Eisenberg, Gergö Hadlaczky, Ian Kelleher, Marco Sarchiapone, Alan Apter, Judit Balazs, Julio Bobes, Romuald Brunner, Paul Corcoran, Doina Cosman, Francis Guillemin, Christian Haring, Miriam Iosue, Michael Kaess, Jean-Pierre Kahn, Helen Keeley, George J Musa, Bogdan Nemes, Vita Postuvan, Pilar Saiz, Stella Reiter-Theil, Airi Varnik, Peeter Varnik, Vladimir Carli

Summary

Background Suicidal behaviours in adolescents are a major public health problem and evidence-based prevention programmes are greatly needed. We aimed to investigate the efficacy of school-based preventive interventions of suicidal behaviours.

Methods The Saving and Empowering Young Lives in Europe (SEYLE) study is a multicentre, cluster-randomised controlled trial. The SEYLE sample consisted of 11 110 adolescent pupils, median age 15 years (IQR 14–15), recruited from 168 schools in ten European Union countries. We randomly assigned the schools to one of three interventions or a control group. The interventions were: (1) Question, Persuade, and Refer (QPR), a gatekeeper training module targeting teachers and other school personnel, (2) the Youth Aware of Mental Health Programme (YAM) targeting pupils, and (3) screening by professionals (ProfScreen) with referral of at-risk pupils. Each school was randomly assigned by random number generator to participate in one intervention (or control) group only and was unaware of the interventions undertaken in the other three trial groups. The primary outcome measure was the number of suicide attempt(s) made by 3 month and 12 month follow-up. Analysis included all pupils with data available at each timepoint, excluding those who had ever attempted suicide or who had shown severe suicidal ideation during the 2 weeks before baseline. This study is registered with the German Clinical Trials Registry, number DRKS00000214.

Findings Between Nov 1, 2009, and Dec 14, 2010, 168 schools (11 110 pupils) were randomly assigned to interventions (40 schools [2692 pupils] to QPR, 45 [2721] YAM, 43 [2764] ProfScreen, and 40 [2933] control). No significant differences between intervention groups and the control group were recorded at the 3 month follow-up. At the 12 month follow-up, YAM was associated with a significant reduction of incident suicide attempts (odds ratios [OR] 0·45, 95% CI 0·24–0·85; p=0·014) and severe suicidal ideation (0·50, 0·27–0·92; p=0·025), compared with the control group. 14 pupils (0·70%) reported incident suicide attempts at the 12 month follow-up in the YAM versus 34 (1·51%) in the control group, and 15 pupils (0·75%) reported incident severe suicidal ideation in the YAM group versus 31 (1·37%) in the control group. No participants completed suicide during the study period.

Interpretation YAM was effective in reducing the number of suicide attempts and severe suicidal ideation in school-based adolescents. These findings underline the benefit of this universal suicide preventive intervention in schools.

Funding Coordination Theme 1 (Health) of the European Union Seventh Framework Programme.

Published **Online** January 9, 2015 http://dx.doi.org/10.1016/S0140-6736(14)61213-7

See **Online/Comment** http://dx.doi.org/10.1016/S0140-6736(14)61586-5

National Centre for Suicide Research and Prevention of Mental Ill-Health (NASP), Karolinska Institutet, Stockholm, Sweden (Prof D Wasserman MD, G Hadlaczky PhD, I Kelleher MD, V Carli MD); **Division of Child and Adolescent Psychiatry** (C W Hoven DrPH, C Wasserman MA, R Eisenberg MSc, G J Musa PhD) **and Department of Psychiatry** (C W Hoven, M Wall PhD), **New York State Psychiatric Institute, Columbia University, New York, NY, USA; Department of Epidemiology** (C W Hoven) **and Department of Biostatistics** (M Wall), **Mailman School of Public Health, Columbia University, New York, NY, USA; Department of Medicine and Health Science, University of Molise, Campobasso, Italy** (C Wasserman, M Sarchiapone MD, M Iosue MA); **National Institute for Health, Migration and Poverty, Rome, Italy** (M Sarchiapone); **Feinberg Child Study Centre, Schneider Children's Medical Centre, Tel Aviv University, Tel Aviv, Israel** (A Apter MD); **Vadaskert Child and Adolescent Psychiatric Hospital, Budapest, Hungary** (J Balazs MD); **Institute of Psychology, Eötvös Loránd University, Budapest, Hungary** (J Balazs); **Department of Psychiatry, Centro de Investigación Biomédica en Red de Salud Mental, University of Oviedo, Oviedo, Spain** (J Bobes MD, P Saiz MD); **Section for Disorders of Personality Development, Clinic of Child and Adolescent Psychiatry, Centre of Psychosocial Medicine, University of Heidelberg, Heidelberg,**

Introduction

Worldwide, suicide is one of the three leading causes of death in young people.[1,2] Globally, in 2009, suicide accounted for 7·3% of all deaths in the age group 15–19 years, after road traffic accidents (11·6%), and preceding violence (6·2%), respiratory tract infections (5·4%), tuberculosis (4·8%), and HIV (2·3%).[3] According to the latest data from WHO, figures are similar in 2014.[4] The lifetime prevalence of suicide attempts in adolescents in the USA is 4·1%.[5] In Europe, the lifetime self-reported prevalence for similar age groups is 4·2%.[6]

Suicide attempts and severe suicidal ideation have potentially serious consequences, including substantial psychological effects, increased risk of subsequent suicide attempt, and death.[7,8] Importantly, suicidal behaviour also has profound negative effects on relatives and other people in the person's life.[9] The medical, financial, and emotional costs to communities affected by suicide are also substantial.[10] Consequently, the prevention of suicidal behaviour should be a national health priority, with the development of existing[11–13] and new evidence-based, suicide preventive interventions. Research lends support to the theory that the vast proportion of psychopathological changes has its onset in childhood and adolescence,[14] and therefore young people are an especially important target.[15,16] Most children and adolescents attend school, which makes these an appropriate setting for reaching young people.[17] The authors of two systematic reviews of school-based suicide preventive interventions[18,19] concluded that assessments of school-based intervention programmes tested in randomised controlled trials are needed. The theoretical framework of suicide prevention programmes generally acknowledges universal, selective, or indicated

Germany (R Brunner MD, M Kaess MD); National Suicide Research Foundation, Cork,Ireland (P Corcoran PhD, H Keeley MD); Clinical Psychology Department, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania (D Cosman MD, B Nemes MD); Inserm CIC-EC (F Guillemin MD) and Department of Psychiatry (J-P Kahn MD), Nancy University Hospital, Nancy, France; Institute for Clinical Evaluation, Department for Psychiatry and Psychotherapy B, State Hospital Hall,Tyrol, Austria (C Haring MD); Slovene Center for Suicide Research, Andrej Marusic Institute, University of Primorska, Koper, Slovenia (V Postuvan PhD); Department of Clinical Ethics, Psychiatric Hospitals of the University of Basel, University Hospital Basel, Basel, Switzerland (S Reiter-Theil PhD); Estonian-Swedish Mental Health and Suicidology Institute, Tallinn, Estonia (Airi Varnik MD, Peeter Varnik MSc); and Tallinn University, Tallinn, Estonia (Airi Varnik, Peeter Varnik)

Correspondence to: Prof Danuta Wasserman, National Centre for Suicide Research and Prevention of Mental Ill-Health (NASP), Karolinska Institute, Stockholm 17177, Sweden. danuta.wasserman@ki.se

approaches.[20–22] School-based universal programmes include all pupils, whereas selective and indicated efforts focus on those regarded at high risk or presenting suicidal behaviour. The few randomised trials based on a universal or a selective approach have focused almost exclusively on generating change in knowledge and attitudes.[19] Very few trials, all from the USA and none from Europe, have investigated changes in the reduction of severe suicidal ideation or suicide attempts.[23–26] In this Article, we report the results of the Saving and Empowering Young Lives in Europe (SEYLE) study, the first large-scale, multicountry, European randomised controlled trial of school-based prevention of suicidal behaviour in adolescents.[27] The main hypothesis is that preventive interventions are more effective than a control condition in reducing new cases of suicide attempt and severe suicidal ideation between baseline and follow-up assessments.

Methods

Trial design and participants

SEYLE was a multicentre, cluster-randomised trial designed to investigate the efficacy of school-based preventive interventions for suicidal behaviour. Pupils were recruited from 168 schools in ten European Union countries (Austria, Estonia, France, Germany, Hungary, Ireland, Italy, Romania, Slovenia, and Spain). Schools were deemed eligible if they were public, contained at least 40 pupils aged 15 years, had more than two teachers for pupils aged 15 years, and had no more than 60% of pupils of the same sex.[27] Within each country, the cluster design first led to randomisation of eligible schools to one of four trial groups. Within the schools, all classes with pupils aged mainly 15 years were approached for participant recruitment. To avoid discrimination, all pupils in the participating classrooms, including those aged 14 and 16 years, were also approached for recruitment.

See Online for appendix

Study site characteristics are described in the appendix. We assessed all behaviours at an individual level with a structured self-report questionnaire administered in one classroom session at baseline, 3 months, and 12 months. All pupils who reported suicide attempts ever, or severe suicidal ideation in the past 2 weeks before the baseline assessment, and those with missing data regarding these two variables were not included in the final analysis. Pupils with incident (new) suicide attempt(s) or severe suicidal ideation at 3 months and 12 months follow-up were identified to investigate the preventive effects of the interventions. A procedures manual covering all aspects of SEYLE was available to each site. Local teams were trained in the study methods before their implementation and a steering group monitored adherence to the procedures during the entire study period. Pupils in each group completed the same questionnaire, which assessed risk behaviours, symptoms of psychopathology and suicidal thoughts, plans, and suicide attempts, at baseline (before any intervention) and at a 3 month and 12 month follow-up. Ethics approval was obtained from each of the local research ethics committees. We obtained informed assent from each participant and written consent from at least one parent, which was a prerequisite for participation. SEYLE prescribed a specific procedure to assess and immediately assist every emergency case at each site. Emergency cases were pupils who reported either suicide attempts or severe suicidal ideation in the 2 weeks before baseline assessment. These pupils were immediately contacted for clinical assessment and referred to health-care services for treatment, if necessary. All referrals were done before implementation of the interventions. To avoid any stigma, all such emergency cases were allowed to continue in the study, but their results were excluded from the final analysis. SEYLE used an independent ethics adviser from Basel University, Basel, Switzerland.

Randomisation and masking

A list of all schools that met the study inclusion or exclusion criteria was generated at each site. Schools were then stratified into large (more than the site median) and small groups, to create a pool of potential participants that was homogeneous with respect to sociocultural factors, school environment, and school system structure. A random number generator was used to place schools at each site, first into one of the four trial groups, then schools within each group were placed in a random order within each of the two school size classifications (large or small). We identified schools (one large for every two small) for invitation into the SEYLE project according to a predefined order established by the randomised list. In the event that a selected school did not choose to participate or the trial group's target was not met, we approached the next same-size school from the randomised list. Each school was randomly assigned to participate in one intervention (or control) group only and was unaware of the interventions undertaken in the other three trial groups. During school recruitment, the same general information that SEYLE is a mental health promotion project was presented to all schools. We also presented a general, non-specific overview about the procedures of the intervention to which a particular school was randomly assigned, but did not disclose that alternative interventions were part of the project. On the basis of the information provided, each school could accept or refuse to join the study. Overall, 168 schools (72%) of 232 schools approached agreed to participate and no school dropped out of the study during the 12 month trial. All SEYLE randomisation procedures were developed by researchers from Columbia University (New York, NY, USA) and each site leader was responsible for implementing the plan.

Procedures

Three intervention programmes were compared with a control group. All interventions were undertaken during a 4 week period, after a baseline assessment.

Question, Persuade, and Refer (QPR) is a manualised gatekeeper programme, developed in the USA.[28] In SEYLE, QPR was used to train teachers and other school personnel to recognise the risk of suicidal behaviour in pupils and to enhance their communication skills to motivate and help pupils at risk of suicide to seek professional care. QPR training materials included standard power point presentations and a 34-page booklet distributed to all trainees. Teachers were also given cards with local health-care contact information for distribution to pupils identified by them as being at risk. Although QPR targeted all school staff, it was, in effect, a selective approach, because only pupils recognised as being at suicidal risk were approached by the gatekeepers (trained school personnel).

The Youth Aware of Mental Health Programme (YAM) was developed for the SEYLE study[29] and is a manualised, universal intervention targeting all pupils, which includes 3 h of role-play sessions with interactive workshops combined with a 32-page booklet that pupils could take home, six educational posters displayed in each participating classroom and two 1 h interactive lectures about mental health at the beginning and end of the intervention. YAM aimed to raise mental health awareness about risk and protective factors associated with suicide, including knowledge about depression and anxiety, and to enhance the skills needed to deal with adverse life events, stress, and suicidal behaviours. This programme was implemented at each site by instructors trained in the methodology through a detailed 31 page instruction manual.

The Screening by Professionals programme (ProfScreen), which was also developed for the SEYLE study, is a selective or indicated intervention based on responses to the SEYLE baseline questionnaire. When pupils had completed the baseline assessment, health professionals reviewed their answers and pupils who screened at or above pre-established cutoff points were invited to participate in a professional mental health clinical assessment and subsequently referred to clinical services, if needed.[30]

For ethical reasons, the control group was exposed to the same six educational posters displayed in their classrooms as those used in the YAM. Pupils in the control group who self-recognised the need for help could contact local health-care providers whose information was provided on a poster.

Process assessments and quality control were done in a standard manner at each site through a series of structured questionnaires to ensure that all preparatory procedures were executed correctly and that interventions were implemented in a standard way across sites and adhered to the SEYLE protocol. Analyses of these data suggest congruence between sites in both study implementation procedures and in undertaking of the interventions (data not shown).

Outcomes

The primary outcome was incident suicide attempt(s)—ie, all new cases of suicide attempt(s) identified at either the 3 month or 12 month follow-up. Another outcome was severe suicidal ideation in the 2 weeks preceding the follow-ups—ie, all new cases of suicidal ideation identified at either of the two follow-ups. All pupils reporting ever making a suicide attempt before the baseline date or having severe suicidal ideation in the 2 weeks before baseline were excluded from the analyses. Pupils were identified as having an incident suicide attempt if, at the 3 month and 12 month follow-up, they answered "yes" to the question: "have you ever made an attempt to take your own life?" Pupils were identified as having severe suicidal ideation, if they answered: "sometimes, often, very often or always" to the question: "during the past 2 weeks, have you reached the point where you seriously considered taking your life, or perhaps made plans how you would go about doing it?"

Suicide attempts and severe suicidal ideation were studied with the above mentioned questions from the five item Paykel Hierarchical Suicidal Ladder[31] that measures the intensity of suicidal behaviour, from feelings that life is not worth living, to death wishes, suicidal thoughts, severe suicidal ideation with plans, and suicide attempts.

Symptoms of psychopathology, assessed with the Strengths and Difficulties Questionnaire (SDQ),[32,33] and the sociodemographic variables presented in table 1 were used as covariates in all analyses.

Statistical analysis

We established the sample size by incorporating a cluster-randomised design with assumptions about potential participants, based on previous school-based studies of suicidal behaviour such as that the intraclass correlation of outcomes within schools would be 0·01 or smaller and that the incident rate of the primary outcome, suicide attempt at 12 months, would be 3% or more in the control group. About 2500 pupils from 40 schools in each of the four groups (ie, 160 schools and 10 000 pupils), were judged to be a group of sufficient size to detect a 50% reduction in incidence of suicide attempt in any of the intervention groups, compared with the control group, with a power of 80% with a two-sided significance level of 0·05. The risk of severe suicidal ideation was assumed to be higher and thus this sample size would yield greater power to detect group differences. Despite the overall large sample size, because the risk of the primary outcome being investigated was expected to be very low, significance could only be achieved with adequate power if the intervention effects were very large (ie, about a two-fold

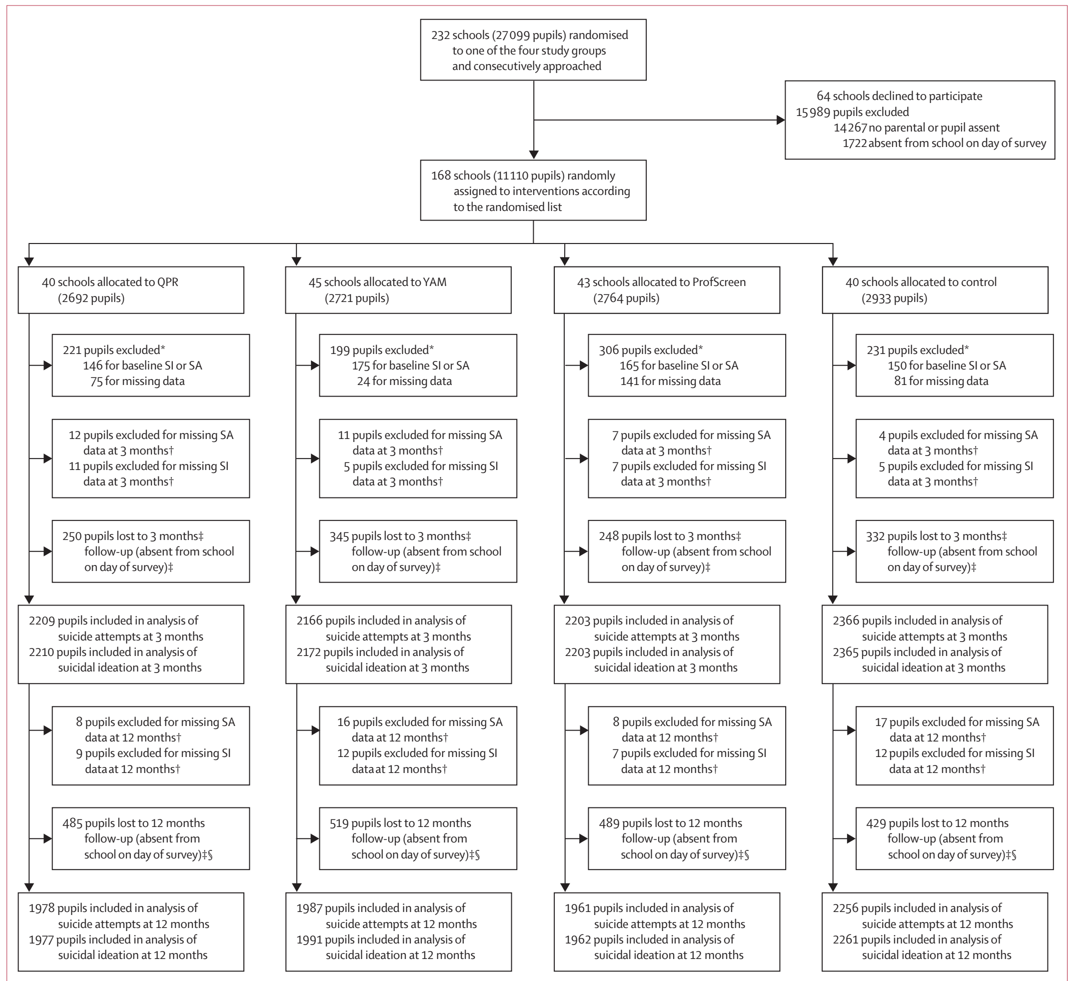

***Figure*: Study profile**
QPR=Question, Persuade, and Refer. YAM=Youth Aware of Mental Health Programme. ProfScreen=screening by professionals. SI=suicidal ideation. SA=suicide attempt. *Pupils who had ever attempted suicide or who reported severe suicidal ideation in the 2 weeks before baseline or who had missing data for the respective variable at baseline were excluded from analysis. †Pupils were excluded only in the analysis for the corresponding outcome. ‡Does not include lost-to-follow-up with other exclusion criteria. §Lost to follow-up between baseline and 12 months.

decrease or more). Means and proportions of individual characteristics (age, sex, not being born in their country of residence, parental job loss in the previous year, not living with both biological parents, country of residence, and SDQ total score) and baseline reports of suicide attempts or severe suicidal ideation were calculated for each intervention group and tested with a model controlled for clustering of pupils within schools. To investigate the preventive effects of the interventions at 3 months and 12 months, all subsequent analyses of pupils with available questionnaire data at that timepoint excluding those who reported a lifetime suicide attempt at baseline or who reported severe suicidal ideation within the past 2 weeks at baseline.

Raw counts and proportions of each outcome (suicide attempts and severe suicidal ideation) were tabulated within each intervention group at 3 months and 12 months. The intraclass correlation was calculated for each outcome to quantify variability across schools. Assessment of whether differential dropout (ie, missing both 3 month and 12 month outcomes) across intervention groups was dependent on outcomes was examined with logistic regression of dropout status and testing of an interaction between group and baseline attempt or ideation.

Generalised linear mixed models (GLMM)[34] with a logistic link, a random effect to account for clustering of pupils within schools, and a nested random effect to account for repeated (3 months and 12 months) measures within pupils, were used to test for intervention group differences. The GLMMs for each outcome included fixed effects for intervention group, categorical month, a group-by-month interaction, and controlled for individual characteristics. On the basis of the GLMMs, the adjusted odds ratios (OR) and 95% CIs for each of the three experimental intervention groups compared with the control group at 3 and 12 months, were used to test significance. Intervention groups were compared with the control group only; no mutual comparisons were made. The associated absolute risk difference and number needed to prevent were also calculated based on the adjusted risk of each outcome by intervention group estimated from the GLMM. A multiple imputation procedure[35] (50 imputations with full conditional specification for dichotomous variables)[36] was used to manage missing values of individual characteristics (<1% missing for each individual characteristic), so that all pupils with an outcome at 3 months or 12 months were included in the GLMMs. Additional models, including sex-by-intervention group interactions, and age-by-intervention group interactions were tested for differential intervention effects by sex and age. To assess the robustness of the findings, tests for intervention group differences were redone including only the subset of pupils with complete outcome data at both 3 months and 12 months. All analyses were done with SAS version 9.3. The trial is registered at the German Clinical Trials Registry, number DRKS00000214.

Role of the funding source

The funder of the study had no role in study design, data collection, data analysis, data interpretation, or writing of the report. The corresponding author (DW) had full access to all the data in the study and had final responsibility for the decision to submit for publication.

Results

Of 232 schools that were approached and randomly assigned to one of four study groups, 168 schools (72%) accepted to participate. 27 099 pupils were approached: 14 267 were not enrolled because parental consent or pupils' assent were not given, and 1722 pupils were absent from school on the day of baseline assessment. We recruited 11 110 pupils (median age 15 years [IQR 14–15], mean age 14·8 years [SD 0·8]; 59% girls). Of the 11 110 pupils with baseline assessment, 9798 (88%) were available at 3 months and 8972 (81%) at 12 months (figure), with only 622 (5·6%) pupils not participating at either follow-up. Our recruitment procedures generated about an equal number of pupils in each group (figure): 2692 pupils were assigned to QPR; 2721 were assigned to the YAM; 2764 were assigned to ProfScreen, and 2933 were assigned to the control group. 221 pupils in the QPR group, 199 in YAM, 306 in the ProfScreen group, and 231 in the control group were excluded from the analysis because they reported a previous suicide attempt or severe suicidal ideation in the 2 weeks before baseline, or were missing data for the respective variables (figure, table 1). Pupils referred at baseline for psychiatric treatment and thus excluded from analysis were 23 (0·8%) in the QPR group, 22 (0·8%) in the YAM group, 28 (1·0%) in the ProfScreen group, and 24 (0·8%) in the control group. There was no significant interaction between any intervention group and baseline suicide attempt (p=0·533) or severe suicidal ideation (p=0·456) for dropout status.

	Question, persuade, and refer (40 schools, 2692 pupils)	Youth aware of mental health programme (45 schools, 2721 pupils)	Screening by professionals (43 schools, 2764 pupils)	Controls (40 schools, 2933 pupils)
Age (years)	14·80 (0·82)	14·80 (0·85)	14·81 (0·80)	14·78 (0·89)
SDQ total score	10·47 (4·96)	10·83 (4·96)	10·70 (5·11)	10·14 (4·95)
Number of girls	1675 (63%)	1637 (60%)	1607 (58%)	1647 (56%)
Not living with both biological parents	592 (22%)	601 (22%)	605 (22%)	626 (21%)
Not born in the country of residence	158 (6%)	205 (8%)	142 (5%)	158 (5%)
Parent lost employment in previous year	273 (10%)	257 (10%)	247 (9%)	292 (10%)
Ever attempted suicide	83 (3%)	115 (4%)	102 (4%)	86 (3%)
Severe suicidal ideation during past 2 weeks	99 (4%)	106 (4%)	96 (4%)	103 (4%)

Data are mean (SD) or n (%). SDQ=Strengths and Difficulties Questionnaire. Counts of suicide attempts and suicide ideation might overlap.

Table 1: **Baseline characteristics**

Table 1 shows baseline characteristics of the sample for each intervention group. Differences in mean SDQ total score between groups were less than 1 point and are not considered clinically significant, because the scale ranges from 0 to 40 points and has a borderline region of 3 points.[32]

At 3 months, of 9724 pupils who answered both outcome questions, 333 (3·4%) reported either an attempt or ideation and 85 (0·9%) reported both. At 12 months, of 8885 pupils who answered both questions, 261 (2·9%) reported either and 55 (0·6%) reported both. Intraclass correlations across schools at 12 months were 0·003 for suicide attempt and 0·007 for severe suicidal ideation.

	3 month follow-up				12 month follow-up			
	n	Cases (%)	OR (95% CI)	p value	n	Cases (%)	OR (95% CI)	p value
Question, persuade, and refer	2209	15 (0·68%)	0·62 (0·32–1·18)	0·147	1978	22 (1·11%)	0·70 (0·39–1.25)	0·229
Youth aware of mental health programme	2166	19 (0·88%)	0·78 (0·42–1·44)	0·422	1987	14 (0·70%)	0·45* (0·24–0·85)	0·014*
Screening by professionals	2203	27 (1·23%)	1·10 (0·61–1·97)	0·752	1961	20 (1·02%)	0·65 (0·36–1·18)	0·158
Controls	2366	27 (1·14%)	Reference	··	2256	34 (1·51%)	Reference	··

ORs and 95% CIs were generated from generalised linear mixed models with a logistic link, adjusted for age, sex, Strengths and Difficulties Questionnaire total score, not being born in the country of residence, parental job loss in the previous year, not living with both biological parents, and country of residence. Missing covariates were included through use of multiple imputation. OR=odds ratio.*Significant at p<0·05.

Table 2: **Incident suicide attempts at 3 and 12 month follow-up**

	3 month follow-up				12 month follow-up			
	n	Cases (%)	OR (95% CI)	p value	n	Cases (%)	OR (95% CI)	p value
Question, persuade, and refer	2210	25 (1·13%)	0·69 (0·40–1·19)	0·182	1977	29 (1·47%)	0·95 (0·55–1·63)	0·856
Youth aware of mental health programme	2172	32 (1·47%)	0·88 (0·52–1·48)	0·629	1991	15 (0·75%)	0·50* (0·27–0·92)	0·025*
Screening by professionals	2203	27 (1·23%)	0·72 (0·42–1·23)	0·229	1962	22 (1·12%)	0·71 (0·40–1·25)	0·234
Controls	2365	35 (1·48%)	Reference	··	2261	31 (1·37%)	Reference	··

ORs and 95% CI were generated from generalised linear mixed models with a logistic link, adjusted for age, sex, baseline Strengths and Difficulties Questionnaire total score, not being born in the country of residence, parental job loss in the previous year, not living with both biological parents, and country of residence. Missing covariates were included through use of multiple imputation. OR=odds ratio. *Significant at p<0·05.

Table 3: **Incident severe suicidal ideation at 3 and 12 month follow-up**

Analyses of the interaction between intervention groups and time (3 months and 12 months) showed no significant effect on incident suicide attempts in the three intervention groups, compared with the control group at the 3 month follow-up. However, at the 12 month follow-up, we noted a significant effect (OR 0·45, 95%CI 0·24–0·85; p=0·014) of the YAM on incident suicide attempts, compared with the control group (table 2).

After analyses of the interaction between intervention groups and time (3 months and 12 months), we noted the following results for severe suicidal ideation: at the 3 month follow-up, there were no significant effects of QPR, YAM, or ProfScreen compared with the control group. However, at the 12 month follow-up, we noted a significant effect of the YAM (OR 0·50, 0·27–0·92; p=0·025), compared with the control group (table 3).

Neither sex nor age significantly modified the intervention effect for either outcome (interaction p=0·2658 for sex and 0·8933 for age for suicide attempts, and 0·1315 for sex and 0·9324 for age for severe suicidal ideation). YAM showed stronger effects for incident suicide attempts (OR 0·36, 95% 0·18–0·72; p=0·004) and severe suicidal ideation (0·46, 0·24–0·88; p=0·018) when the analysed sample included pupils who participated in all waves of data collection (n=8282).

Overall, in terms of suicide attempts, at 12 months in the YAM group absolute risk fell by 0·60 % (ie, 6·0 of 1000 pupils) and relative risk (RR) was reduced by 54·6% (ie, of 1000 pupils, 11 attempted suicide in the control group *vs* five attempts in YAM). Therefore, the number needed to have an intervention with YAM to prevent one suicide attempt per year was 167. In terms of severe suicidal ideation, in the YAM group absolute risk fell by 0·50% and RR fell by 49·6%. The number needed to have an intervention with YAM to prevent one case of severe suicidal ideation per year was 200.

Site leaders in each country had contact with SEYLE school principals throughout the whole investigation period and were instructed to obtain information about any completed suicides. No completed suicides were reported for any study participants.

Discussion

This study represents the first European, multicountry, randomised controlled trial of the prevention of suicidal behaviour in adolescents (panel). The results show that the YAM, a universal, school-based intervention of short duration (5 h in 4 weeks),[29] was significantly more effective in preventing new cases of suicide attempts and severe suicidal ideation, including planning, than no intervention (the control group). The reported reduction in incident suicide attempts was more than 50% with YAM than for the control group. This effect is higher than those noted in other successful public health interventions—eg, for bullying and bully victimisation (17–23%),[37] or specific types of school-based interventions addressing smoking cessation (14%).[38]

So far, trials of only two other interventions undertaken in the USA have shown a significant decrease in suicide attempts. Results from a classroom-based intervention, Signs of Suicide (SOS), with 2100 pupils in five North American high schools, showed a reduced risk of suicide attempts at a 3 month follow-up, although there were no differences in suicidal ideation.[23] Similar results were reported on the basis of an extension of this programme undertaken with 4133 pupils in nine US high schools, for which again, the incidence of suicide attempts at a 3 month follow-up was significantly lower, but no improvement in suicidal ideation compared with controls was noted.[24] Neither study, however, followed up beyond 3 months. Only one other trial, a classroom-based behavioural intervention called the Good Behaviour Game with two cohorts of about 1000 and 2000 North American first-grade pupils, showed a reduced incidence of suicidal ideation and suicide attempts when followed up at ages 21–22 years.[26]

In SEYLE, the YAM not only prevented suicide attempts, an important predictor of completed suicides,[39,40] but it

also reduced new cases of severe suicidal ideation, including suicide planning—all important markers of poor psychological wellbeing. The design of the YAM, aimed at changing pupils' negative perceptions and improving their coping skills in the management of adverse life events and stressors, which often are triggers of suicidal behaviour, could account for its significant effects. The YAM, through active participation might also have provided the pupils, most probably for the first time, with an opportunity to think, verbalise, and discuss among themselves a range of issues related to mental health. Such opportunities are especially important, because people showing suicidal behaviour tend to suppress their emotions and have difficulties in identifying their feelings.[41] These potentially sustained interactive processes and integration of new knowledge[29] need time, and the associated cognitive processes were further helped by the adolescents becoming 1 year older and thus more mature at the 12 month follow-up. Additionally, effects of the YAM could not have been detected before the 12 month follow-up because no additional intermediate measurements between 3 months and 12 months were available.

The QPR and ProfScreen interventions did not have significant effects. Changes in suicidal behaviour are perhaps more likely to occur if pupils are personally engaged in the intervention, than with adult-driven interventions, which adolescents might be reluctant to accept. Importantly, QPR is designed to empower teachers to recognise pupils at risk of suicide. However, previous SEYLE findings have shown that teachers' readiness to help pupils with mental health disorders is dependent on the teachers' subjective psychological wellbeing, which could possibly affect the effectiveness of the QPR interventions in this study.[42] Moreover, for QPR, teachers need to be able to identify signs of suicide risk; but because suicidality is mainly an internal process, many warning signs might be scarcely visible or very well hidden in adolescents, even if teachers are well trained to recognise them. ProfScreen had the objective of identifying pupils at risk of mental health problems, and early detection and treatment of adolescents with psychopathology. This is an important approach to diminishing the burden of mental disorders in adulthood.[43] However, as previous investigations have shown, the acceptability of screening is difficult and this intervention approach would most probably benefit from concurrent activities designed to reduce the stigma of mental health issues among pupils and parents, and thus to help society to be more open about mental health problems.[30,44]

Limitations of this study include reliance on self-report, as with other, similar studies.[23,24] However, we regard it as unlikely that training in mental health awareness, as was done in the YAM, would negatively affect self-report of suicide attempts and severe suicidal ideation. Rather, with deeper knowledge and language skills reporting is more likely to increase and therefore diminish the significance of the results found in this study. For ethical reasons the control group was exposed to the same mental-health information as the YAM group, displayed on posters in the classrooms. Therefore, we assume that the effect sizes for the YAM are probably underestimated. A reported difference at baseline between groups for SDQ Total Score is less than one point and therefore not clinically significant.[32]

The strengths of SEYLE, in addition to being a randomised controlled trial, include having the largest number of adolescent participants of any school-based suicide preventive study up to now, good follow-up participation rates, and the inclusion of new suicide attempts and severe suicidal ideation as outcome measures.

This study provides much-needed empirical evidence of the effectiveness of a universal school-based public health

Panel: **Research in context**

Systematic review

We searched PubMed, PsycINFO, Cochrane Library, and Google Scholar with no date restrictions for English-language, peer-reviewed articles of the outcomes of school-based suicide preventive interventions in April, 2014. The search terms included "suicide", "attempted suicide", "prevention", "intervention", "adolescent", "school", "gatekeeper", "screening", "mental health promotion", "mental health education", and "randomised controlled trial". References included in searched articles were also screened for relevant publications. The articles identified by the searches were read by two researchers. Articles that reported randomised controlled trials of suicide preventive interventions undertaken in a school setting, with suicide attempt or suicidal ideation as outcome measures, and systematic reviews, were analysed. Three trials undertaken in a school setting in the USA were identified. They showed significant reductions in suicide attempts, and one of them also in suicidal ideation. Systematic reviews underlined the need for more randomised controlled trials.

Interpretation

Suicide attempt and suicidal behaviours in adolescents are known predictors of mental health problems and future suicidal behaviours throughout their lifecourse, which calls for early preventive measures. The results of our SEYLE trial in ten European Union countries with 11 110 school-based adolescents show that the Youth Aware of Mental Health Programme (YAM) is effective in significantly reducing incident severe suicidal ideation and suicide attempts, which are the negative results of adverse life events, stress, and mental health problems. This is the first multicentre, European study of a large sample of adolescents, and is a step forward in view of the shortage of studies of the effectiveness of school-based suicide prevention programmes. The SEYLE results provide evidence for the effectiveness of a universal suicide prevention programme (YAM) and, in addition to previous studies, the validity of a universal approach to adolescent suicide-prevention in a school setting.

intervention by showing that the YAM can prevent suicide attempts and severe suicidal ideation, including the planning of suicide, in adolescents. According to these data, YAM can prevent one suicide attempt by targeting 167 pupils. These findings are important in view of research showing that young people who attempt suicide are more likely to have persistent mental health disorders in adulthood[45] and complete suicide, than those who do not attempt suicide in childhood.[40] The results underline the necessity for action[46,47] regarding large-scale implementation of universal, school-based suicide prevention programmes. Further studies are needed to replicate these results, and to assess the cost-effectiveness of the YAM intervention, and the potential added benefit of booster activities and combinations of different kinds of interventions. Further research is also needed to study the effect of a larger-scale implementation of the YAM intervention, including alternative methods of delivery.[48]

Contributors

DW led the development of the study design and methodology, and supervised all phases of the study and analyses. DW and VC wrote several sections of the manuscript and critically revised the final version of the manuscript. VC advised on research methodology, and supervised the quality control of data collection and data analyses. CWH advised on research methodology and provided consultation for epidemiological issues. CW participated in the design of the study and advised on implementation of the methods for the RCT interventions. MW was responsible for the statistical analyses and wrote the sections of the manuscript about data analysis. RE did the statistical analyses and designed the tables. GH performed quality control of the statistical analyses. IK participated in conducting exploratory statistical analyses and critically revised the manuscript. MS participated in the study design. PV performed quality control and management of the SEYLE databases. GM participated in the randomisation process and along with AA, in the quality control of the implementation of RCT interventions. FG provided input to the statistical analysis. SR-T provided ethical consultation for the ongoing interventions. All authors critically revised and approved the manuscript before submission.

Declaration of interests

We declare no competing interests.

Acknowledgments

The SEYLE project was supported through Coordination Theme 1 (Health) of the European Union Seventh Framework Programme (FP7), Grant agreement number HEALTH-F2-2009-223091. The Project Leader and Coordinator of the SEYLE project is DW (Karolinska Institutet). The project manager is VC. Other members of the Executive Committee are MS, CWH, and CW.

References

1 Nock MK, Borges G, Bromet EJ, Cha CB, Kessler RC, Lee S. Suicide and suicidal behavior. *Epidemiol Rev* 2008; **30:** 133–54.
2 Wasserman D, Cheng Q, Jiang GX. Global suicide rates among young people aged 15–19. *World Psychiatry* 2005; **4:** 114–20.
3 Patton GC, Coffey C, Sawyer SM, et al. Global patterns of mortality in young people: a systematic analysis of population health data. *Lancet* 2009; **374:** 881–92.
4 WHO. Preventing suicide: a global imperative. Geneva: World Health Organization, 2014. http://www.who.int/mental_health/suicide-prevention/world_report_2014/en/ (accessed Nov 24, 2014).
5 Nock MK, Green JG, Hwang I, et al. Prevalence, correlates, and treatment of lifetime suicidal behavior among adolescents: results from the National Comorbidity Survey Replication Adolescent Supplement. *JAMA Psychiatry* 2013; **70:** 300–10.
6 Carli V, Hoven CW, Wasserman C, et al. A newly identified group of adolescents at "invisible" risk for psychopathology and suicidal behavior: findings from the SEYLE study. *World Psychiatry* 2014; **13:** 78–86.
7 Bergen H, Hawton K, Waters K, et al. Premature death after self-harm: a multicentre cohort study. *Lancet* 2012; **380:** 1568–74.
8 Borges G, Nock MK, Haro Abad JM, et al. Twelve-month prevalence of and risk factors for suicide attempts in the World Health Organization World Mental Health Surveys. *J Clin Psychiatry* 2010; **71:** 1617–28.
9 Andriessen K, Krysinska K. Essential questions on suicide bereavement and postvention. *Int J Environ Res Public Health* 2012; **9:** 24–32.
10 Zechmeister I, Kilian R, McDaid D. Is it worth investing in mental health promotion and prevention of mental illness? A systematic review of the evidence from economic evaluations. *BMC Public Health* 2008; **8:** 20.
11 Fleischmann A, Bertolote JM, Wasserman D, et al. Effectiveness of brief intervention and contact for suicide attempters: a randomized controlled trial in five countries. *Bull World Health Organ* 2008; **86:** 703–09.
12 Mann JJ, Apter A, Bertolote J, et al. Suicide prevention strategies: a systematic review. *JAMA* 2005; **294:** 2064–74.
13 Wasserman D, Rihmer Z, Rujescu D, et al. The European Psychiatric Association (EPA) guidance on suicide treatment and prevention. *Eur Psychiatry* 2012; **27:** 129–41.
14 Patton GC, Coffey C, Cappa C, et al. Health of the world's adolescents: a synthesis of internationally comparable data. *Lancet* 2012; **379:** 1665–75.
15 Eyre O, Thapar A. Common adolescent mental disorders: transition to adulthood. *Lancet* 2014; **383:** 1366–68.
16 Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry* 2005; **62:** 593–602.
17 Langford R, Bonell CP, Jones HE, et al. The WHO Health Promoting School framework for improving the health and well-being of students and their academic achievement. *Cochrane Database Syst Rev* 2014; **4:** CD008958.
18 De Silva S, Parker A, Purcell R, Callahan P, Liu P, Hetrick S. Mapping the evidence of prevention and intervention studies for suicidal and self-harming behaviors in young people. *Crisis* 2013; **34:** 223–32.
19 Katz C, Bolton SL, Katz LY, Isaak C, Tilston-Jones T, Sareen J. A systematic review of school-based suicide prevention programs. *Depress Anxiety* 2013; **30:** 1030–45.
20 Mrazek PJ, Haggerty RJ. Reducing risks for mental disorders: frontiers for preventive intervention research. Washington, DC: National academy Press, 1994.
21 Wasserman D, Durkee T. Strategies in suicide prevention. In: Wasserman D, Wasserman C, eds. Oxford textbook of suicidology and suicide prevention: a global perspective. Oxford: Oxford University Press, 2009: 381–84.
22 Hoven CW, Wasserman D, Wasserman C, Mandell DJ. Awareness in nine countries: a public health approach to suicide prevention. *Leg Med (Tokyo)* 2009; **11** (suppl 1)**:** S13–17.
23 Aseltine RHJ, DeMartino R. An outcome evaluation of the SOS suicide prevention program. *Am J Public Health* 2004; **94:** 446–51.
24 Aseltine RHJ, James A, Schilling EA, Glanovsky J. Evaluating the SOS suicide prevention program: a replication and extension. *BMC Public Health* 2007; **7:** 161.
25 Hooven C, Herting JR, Snedker KA. Long-term outcomes for the promoting CARE suicide prevention program. *Am J Health Behav* 2010; **34:** 721–36.
26 Wilcox HC, Kellam SG, Brown CH, et al. The impact of two universal randomized first- and second-grade classroom interventions on young adult suicide ideation and attempts. *Drug Alcohol Depend* 2008; **95** (suppl 1)**:** S60–73.
27 Wasserman D, Carli V, Wasserman C, et al. Saving and empowering young lives in Europe (SEYLE): a randomized controlled trial. *BMC Public Health* 2010; **10:** 192.
28 Tompkins TL, Witt J, Abraibesh N. Does a gatekeeper suicide prevention program work in a school setting? Evaluating training outcome and moderators of effectiveness. *Suicide Life Threat Behav* 2010; **40:** 506–15.
29 Wasserman C, Hoven CW, Wasserman D, et al. Suicide prevention for youth—a mental health awareness program: lessons learned from the Saving and Empowering Young Lives in Europe (SEYLE) intervention study. *BMC Public Health* 2012; **12:** 776.

30 Kaess M, Brunner R, Parzer P, et al. Risk-behaviour screening for identifying adolescents with mental health problems in Europe. *Eur Child Adolesc Psychiatry* 2014; **23:** 611–20.

31 Paykel ES, Myers JK, Lindenthal JJ, Tanner J. Suicidal feelings in the general population: a prevalence study. *Br J Psychiatry* 1974; **124:** 460–69.

32 Goodman R. The strengths and difficulties questionnaire: a research note. *J Child Psychol Psychiatry* 1997; **38:** 581–86.

33 Goodman R, Ford T, Simmons H, Gatward R, Meltzer H. Using the strengths and difficulties questionnaire (SDQ) to screen for child psychiatric disorders in a community sample. *Br J Psychiatry* 2000; **177:** 534–39.

34 Diggle P, Heagerty P, Liang KY, Zeger S. Analysis of longitudinal data. Oxford: Oxford University Press, 2002.

35 Little RJA, Rubin DB. Statistical analysis with missing data. New York: Wiley Wiley-Interscience, 2002.

36 Yuan Y. Multiple imputation using SAS software. *J Stat Software* 2011; **45:** 1–25.

37 Ttofi MM, Farrington DP. Effectiveness of school-based programs to reduce bullying: A systematic and meta-analytic review. *J Exp Criminol* 2011; **7:** 27–56.

38 Isensee B, Hanewinkel R. Meta-analysis on the effects of the smoke-free class competition on smoking prevention in adolescents. *Eur Addict Res* 2012; **18:** 110–15.

39 Tidemalm D, Langstrom N, Lichtenstein P, Runeson B. Risk of suicide after suicide attempt according to coexisting psychiatric disorder: Swedish cohort study with long term follow-up. *BMJ* 2008; **337:** a2205.

40 Hawton K, Arensman E, Wasserman D, et al. Relation between attempted suicide and suicide rates among young people in Europe. *J Epidemiol Community Health* 1998; **52:** 191–94.

41 Pisani AR, Wyman PA, Petrova M, et al. Emotion regulation difficulties, youth-adult relationships, and suicide attempts among high school students in underserved communities. *J Youth Adolesc* 2013; **42:** 807–20.

42 Sisask M, Värnik P, Värnik A, et al. Teacher satisfaction with school and psychological well-being affects their readiness to help children with mental health problems. *Health Educ J* 2013; **73:** 382–93.

43 Patton GC, Coffey C, Romaniuk H, et al. The prognosis of common mental disorders in adolescents: a 14-year prospective cohort study. *Lancet* 2014; **383:** 1404–11.

44 Gould MS, Marrocco FA, Hoagwood K, Kleinman M, Amakawa L, Altschuler E. Service use by at-risk youths after school-based suicide screening. *J Am Acad Child Adolesc Psychiat*ry 2009; **48:** 1193–01.

45 Goldman-Mellor SJ, Caspi A, Harrington H, et al. Suicide attempt in young people: a signal for long-term health care and social needs. *JAMA* 2014; **71:** 119–27.

46 Suicide watch. *Nature* 2014; **506:** 131.

47 Patel V, Saxena S. Transforming lives, enhancing communities—innovations in global mental health. *N Engl J Med* 2014; **370:** 498–501.

48 Mental health and wellbeing in children and adolescents. *Lancet* 2014; **383:** 1183.

BMC
Public Health

Suicide prevention for youth - a mental health awareness program: lessons learned from the Saving and Empowering Young Lives in Europe (SEYLE) intervention study

Wasserman *et al.*

BioMed Central

Wasserman *et al. BMC Public Health* 2012, **12**:776
http://www.biomedcentral.com/1471-2458/12/776

Wasserman et al. BMC Public Health 2012, 12:776
http://www.biomedcentral.com/1471-2458/12/776

BMC Public Health

RESEARCH ARTICLE Open Access

Suicide prevention for youth - a mental health awareness program: lessons learned from the Saving and Empowering Young Lives in Europe (SEYLE) intervention study

Camilla Wasserman[1,2*], Christina W Hoven[1,3], Danuta Wasserman[4,5], Vladimir Carli[4,5], Marco Sarchiapone[2], Susana Al-Halabí[6], Alan Apter[7], Judit Balazs[8,9], Julio Bobes[6], Doina Cosman[10], Luca Farkas[8], Dana Feldman[7], Gloria Fischer[11], Nadja Graber[12], Christian Haring[12], Dana Cristina Herta[10], Miriam Iosue[2], Jean-Pierre Kahn[13], Helen Keeley[14], Katja Klug[11], Jacklyn McCarthy[14], Alexandra Tubiana-Potiez[13], Airi Varnik[15], Peeter Varnik[15,16], Janina Žiberna[17] and Vita Poštuvan[17]

Abstract

Background: The Awareness program was designed as a part of the EU-funded Saving and Empowering Young Lives in Europe (SEYLE) intervention study to promote mental health of adolescents in 11 European countries by helping them to develop problem-solving skills and encouraging them to self-recognize the need for help as well as how to help peers in need.

Methods: For this descriptive study all coordinators of the SEYLE Awareness program answered an open-ended evaluation questionnaire at the end of the project implementation. Their answers were synthesized and analyzed and are presented here.

Results: The results show that the program cultivated peer understanding and support. Adolescents not only learned about mental health by participating in the Awareness program, but the majority of them also greatly enjoyed the experience.

Conclusions: Recommendations for enhancing the successes of mental health awareness programs are presented. Help and cooperation from schools, teachers, local politicians and other stakeholders will lead to more efficacious future programs.

Keywords: Youth, Adolescents, Mental health, School-based, Awareness program, Suicide prevention, SEYLE, Intervention

Background

Suicide prevention in youth

Every completed suicide has a devastating effect, but when a young life is cut short, the shock is oftentimes even greater. Suicide is a complex phenomenon, thus, the prevention of it needs to be tailored accordingly [1,2]. Prevention can occur on both the individual and societal level, with the most effective strategies being a combination of efforts [1,3]. An obstacle in the effort to combat suicide is the difficulty in identifying exactly which at-risk individuals will commit suicide [4-6]. Consequently, by informing the public and encouraging a general awareness of mental health problems including suicide, an increased alertness and responsiveness to suicidal individuals will follow [7]. In an effort to make such suicide preventive strategies effective and culturally appropriate, it is important to consider local attitudes toward suicide, and how to target suicide prevention and

* Correspondence: wassermc@childpsych.columbia.edu
[1]Department of Child and Adolescent Psychiatry, Columbia University-New York State Psychiatric Institute, New York, NY, USA
[2]Department of Health Sciences, University of Molise, Campobasso, Italy
Full list of author information is available at the end of the article

BioMed Central

© 2012 Wasserman et al.; licensee BioMed Central Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/2.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Wasserman *et al. BMC Public Health* 2012, **12**:776
http://www.biomedcentral.com/1471-2458/12/776

mental health interventions. Furthermore, it is imperative to take into account the feelings of pain and grief experienced by any community or individual that has encountered a suicide.

Stigma, developmental changes and peer pressure lead to adolescents being particularly in need of specifically tailored preventive strategies [8,9]. Youth rarely look for help from professionals. The reasons for this are many and difficult to disentangle; perhaps the healthcare system is not adequate, or there are none or few mental health professionals available, but it can also be related to developmental changes, increasing sense of self-autonomy and attitudes toward adult intervention. Young people may not ask for help because they see it as a failure in the process of becoming self-sufficient [10-12]. They may believe growing up means being able to cope with their problems by themselves. Perhaps they consider their problems unique and therefore unsolvable, be it by professionals or anyone else. Oftentimes young people are reluctant to look for professional help because of the stigma of mental illness and, for similar reasons, they may also be afraid to address the issues of mental pain to their peers [13]. Thus, it is important to consider all of these factors when creating suicide prevention programs for youth.

Awareness programs for youth

It is well known that the majority of young people will not actively seek help from professionals, parents, teachers, and oftentimes not even from their peers [9]. With this in mind, how can youth suicide effectively be prevented? In 2002, the World Psychiatric Association (WPA) launched a 9-country pilot study in order to raise the knowledge and awareness about mental health in young people. The assumption was that sound information would facilitate communication about mental health concerns, without raising unrealistic expectations about professional help that was generally unavailable [14,15]. In the WPA 9-country study, the awareness campaigns were locally designed and, thus, culturally adjusted to be acceptable for the local population. The results showed that it was possible to change attitudes, including those about suicide, by influencing the behavioral responses of the pupils and parents that partook in the study with slightly poorer results for the participating teachers. Building on that pilot study, an awareness program for adolescents was designed for the Saving and Empowering Young Lives in Europe (SEYLE) study, funded by the European Union within the 7Th Framework Health Theme.

The SEYLE study

SEYLE is a randomized-controlled intervention trial (RCT) designed to assess the effects of three different health-promoting intervention programs in comparison with a control group in which a minimal intervention was carried out. The study methodology has been described previously in detail [16]. The intervention programs consisted of:

1. Awareness Program – a health promotion program, designed to empower pupils by increasing their awareness of mental health, as well as healthy/unhealthy behavior and teaching them skills to diminish unhealthy behaviors [developed for the SEYLE study by Columbia University and Karolinska Institutet/National Centre for Suicide Research and Prevention of Mental Ill-Health (NASP)].
2. QPR (Question, Persuade & Refer) – a gate keeping program designed to educate teachers and other school-based adults in identifying at–risk adolescents and referring them to mental health facilities [17].
3. ProfScreen – screening by professionals for the purpose of identifying pupils at high risk for mental illness and/or suicidal behavior. The program includes a referral procedure, wherein pupils identified as at-risk of mental illness or suicidality were referred to mental health treatment; this program was specifically tailored for the SEYLE study, by the Heidelberg University and Karolinska Institutet/NASP research groups.
4. Minimal Intervention (control group) – providing pupils with information materials (posters on the classroom walls), containing basic information about mental health (e.g., warning signs of crisis and mental illness, how and where to seek help). This intervention served as the control arm.

In the SEYLE study, effectiveness of the respective interventions on adolescents was compared between the interventions and the control group.

Awareness program in the SEYLE study

In the SEYLE study, the Awareness program was developed to target adolescents between 14–16 years old and to meet their mental health-related needs. The strategy of the program was to integrate different types of learning in order to guide the adolescents through difficult topics. One of the most effective ways to target changes in youth is to combine both a cognitive and emotional training program [18,19]. Cognitive learning was achieved through lectures about mental health and mental disorders, and experiential and emotional learning through role-play sessions, as well as an overall hands-on approach to sensitive issues. The four-week interactive program prescribed a stimulating environment without involvement of the regular schoolteachers/staff in order to diminish concerns of being judged. Guided by a trained instructor and at least one assistant, the adolescents were given an

opportunity to learn from peers, whilst reflecting on personal experiences and problem-solving techniques by actively using their newly acquired skills in the role-play sessions [20,21].

Before the implementation of the program and during the preparatory phase, site-visits were made by members of the SEYLE consortium steering group in order to ascertain that the protocol was followed. The site leaders, along with the coordinators of the Awareness program and the instructors appointed to lead the role-play sessions were trained in the many facets of the study methodology; the procedures were stipulated in a detailed 31-page instruction manual [21]. The Awareness coordinators were child psychiatrists or psychologists, many of whom had prior experience with psychodrama or role-play.

The program started with a baseline assessment. The core of the program consists of an opening lecture, three role-play sessions, and a closing lecture with a discussion. In the SEYLE study, each session lasted 45–60 min and the whole program was carried out during four weeks, in a total of five hours plus one additional hour for the baseline questionnaire that served as an introduction and first contact with the students (Figure 1).

A didactic and pedagogical booklet (Figure 2): "Affect and Improve the Way You Feel" [20], specifically created for the Awareness program was distributed to all students. The booklet contained the following themes:

1) Awareness of mental health
2) Self-help advice
3) Stress and Crisis
4) Depression and Suicidal thoughts
5) Helping a troubled friend and
6) Getting advice: Who to contact

The booklet of approximately 25 pages was designed for the SEYLE study in close collaboration with a graphic designer who had prior experience in public mental health research and prevention. It was translated, back translated and, when needed, culturally adapted to fit the local languages of the participating sites. In Israel the booklet was translated into both Hebrew and Arabic. The booklet was designed so that it could be kept as a future resource for the pupils at the end of the Awareness program. The content of the booklet served as a framework for the role-play sessions and was introduced to the pupils during the opening lecture in a power point presentation. Similar information was also briefly summarized in the six posters that were hung in the classrooms.

In the SEYLE study it was recommended that 10–15 students per instructor participate in the role-play sessions. Through role-play sessions and the ensuing discussions, the students learn about mental health related problems, whilst developing a set of problem-solving skills to assist them in distress, as well as the ability to identify circumstances in which the skills should be applied. They get the opportunity to identify reasons for, and ways to prevent the escalation of problems and to explore the potential effects on the people directly and indirectly involved. In order for role-play to be an effective tool, all questions and thoughts expressed by the pupils need to be thoroughly discussed. This provides the pupils with an opportunity to explore specific situations (e.g. being bullied in school, a family crisis, moving to a new town, feelings of depression and suicidal thoughts) that could otherwise appear threatening or difficult in an unsafe environment. They were taught and given the chance to practice how to express empathy, to appreciate other peoples' perspectives and how to stand up against peer-pressure. The sessions gave also the opportunity to talk about the responsibility of school staff and adults, for example in the case of bullying. Finally, in the closing lecture, all the topics discussed are summarized by using the same power point presentation as in the opening lecture. In

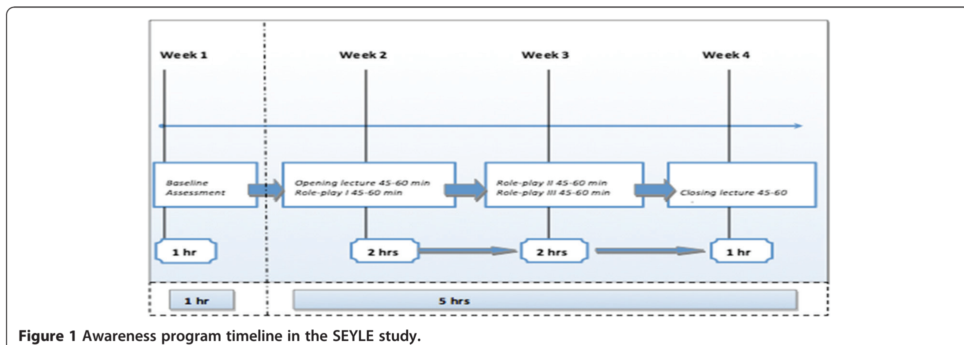

Figure 1 Awareness program timeline in the SEYLE study.

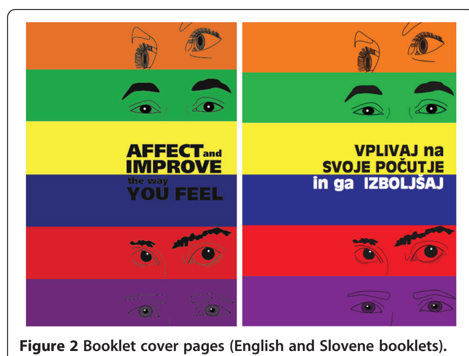

Figure 2 Booklet cover pages (English and Slovene booklets).

this final meeting with the students, particular attention is given to the contact information found at the end of the booklets. In every SEYLE site, local information with the names and telephone numbers of people in the healthcare system and other community-based support networks were provided for students to seek help.

The instructor's role

In addition to the Awareness coordinators, the program was carried out by a team of competent instructors (also called facilitators). The procedures manual stated that the instructor should hold a Masters or higher degree in psychology, public health, social work, pedagogy, or of an equivalent discipline. It was also recommended that the instructor have at least one assistant during the labor-intensive role-play sessions. Some sites even decided to hire professional psychodrama therapists to lead the role-play sessions. The instructors were asked to keep a journal during the time of the intervention program, keeping track of any and all deviations from the protocol and all cultural adaptations.

Aim

In this descriptive study, the Awareness program field experiences are captured by using first-hand information from the 11 SEYLE sites, as such, generating recommendations and enhancing the future potential of such a suicide prevention strategy.

Ethical permission

Ethical permission for the project, including the permission to follow up individual pupils, was obtained in each one of the eleven participating countries by their respective Research Ethics Committees, namely: Austria: Ethikkommission der Medizinischen Universität Innsbruck; Estonia: Tallinna Meditsiiniuuringute Eetikakomitee; France: Comité de Protection des Personnes Sud-Méditerranée II; Germany: Ethikkommission Medizinische Fakultät Heidelberg; Hungary: Egészségügyi Tudományos Tanács Titkárság, Tudományos És Kutatásetikai Bizottság; Ireland: Clinical Research Ethics Committee of the Cork Teaching Hospital; Israel: Helsinki Committee at the Rabin Medical Center; Italy: Comitato Bioetico Di Ateneo, Università Degli Studi Del Molise; Romania: Comisia De Etica, A Universitatii De Medicina Si Farmacie, Cluj Napoca; Slovenia: Komisija Republike Slovenije za medicinsko etiko; Spain: Comité Ètico de Investigación Clinica, regional del Principado de Asturias.

Methods

Sample

The SEYLE Awareness program was carried out within well-defined catchment areas in eleven countries: Austria, Estonia, France, Germany, Hungary, Ireland, Israel, Italy, Romania, Slovenia and Spain. In those eleven catchment areas, 179 schools were randomized into one of the four non-overlapping intervention study Arms. The participation rate of pupils was 88% at baseline. A total of 12, 395 pupils from both metropolitan and micropolitan areas participated in the study, of which 6799 were females and 5529 were males (67 subjects had missing gender data), with a mean age of 14.9 ± 0.9. Description of the methodology and material employed is given in another paper [22]. A total of 3016 pupils participated in the Awareness program Arm (55.2% females and 44.8% males).

In this paper, we examine the experiences and opinions about the Awareness program of the 11 SEYLE Awareness coordinators.

Procedure

In order to examine the strengths and weaknesses of the program in this descriptive study, we asked all the Awareness coordinators the following set of open-ended questions about the program implementation.

1) What did you like most about the Awareness program?
2) What did you like least about the Awareness program?
3) What did the pupils like most about the Awareness program?
4) What did the pupils like least about the Awareness program?
5) How did the schools and teachers like the Awareness program?
6) What would you change in the Awareness program if you could?
7) What parts of the intervention needed to be culturally adapted for your specific country?

8) Was there a difference between the participating schools? Classes? In their willingness to participate, how they participated, what they thought, etc.
9) How much effort did the organisation of the Awareness program take?
10) In your opinion, was the effort worth the outcome?

Upon completion of the Awareness program, the coordinators in all sites were asked to answer the above-mentioned questions in writing.

Data analysis

The written answers to the open-ended questions were analyzed by the first and the last author of this paper independently, with the processing of the material performed in a number of steps. As recommended by Pope et al. [23] the coding process was conducted with researchers from different backgrounds (in psychology, public health and anthropology).

To begin, each response was reviewed independently by two assessors (VP and CW). Secondly, in order to identify emergent topics and to ascertain meaningful and broader themes, words and sentences were grouped together [23-25]. After distinguishing the themes, the two assessors independently scrutinised the whole material again before comparing their results. The interpretations were mostly congruent, but in the case of discrepancy regarding which theme an answer belonged to or having different opinions about the naming of the theme clusters, a third independent assessor (DW) was consulted and the final classification and grouping of responses into theme clusters was obtained with consensus.

Importantly, the themes describe multifaceted phenomena that are broad in nature, but for the purpose of analysis are grouped together [24]. Several themes describing similar topics were combined, e.g. *role play and expressing feelings* includes what the coordinators described as the possibility of practicing the expression of emotions through acting and *improved coordination (with schools and staff)* represents organisational difficulties such as scheduling with schools, meeting teachers and headmasters as well as recruiting staff. As a last step, a general description of the responses was written, serving as the basis for the results reported in this article. Issues that were voiced by some sites in particular are emphasised in the result description by adding the name of the country in parenthesis. The Awareness coordinators as well as the principal investigators of each of the sites were given the opportunity to comment on the interpretation of the responses.

Results

Strengths of the awareness program

The Awareness coordinators from all sites drew attention to the particular design of the program that gave space for discussing important mental-health related topics, which otherwise go unaddressed. In 6 of the 11 participating sites (Austria, Estonia, Germany, Hungary, Italy, Slovenia), the coordinators underscore that talking about mental health problems and emotions is still uncommon, shameful and stigmatised. Figure 3 shows the aspects of the Awareness program that were most appreciated across sites.

From the evaluation results, and as intended, the adolescents used the role-play as an opportunity to discuss their feelings, and they were eager for this kind of experience (Austria). Adolescents particularly appreciated the opportunity to talk about topics such as problem-solving, depression, anxiety, bullying (Austria, Germany, Israel), stress and crisis situations (Spain), pregnancy, conflicts with parents and teachers (Romania), and also suicidal behavior (Slovenia, Israel). The experience in France also showed that it was important that positive aspects of health were addressed. In Estonia, it was noticed that, in schools with a higher

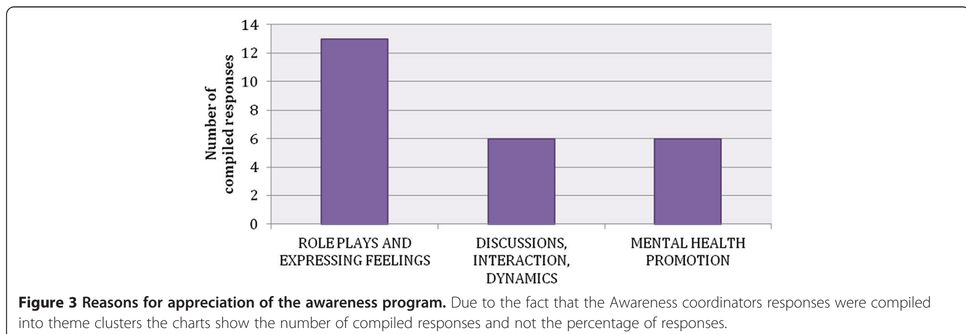

Figure 3 Reasons for appreciation of the awareness program. Due to the fact that the Awareness coordinators responses were compiled into theme clusters the charts show the number of compiled responses and not the percentage of responses.

Wasserman *et al. BMC Public Health* 2012, **12**:776
http://www.biomedcentral.com/1471-2458/12/776

proportion of children with social problems, more serious topics emerged during the role-play sessions.

According to the Awareness coordinators, the program successfully promoted social networks in all countries. Pupils often reported that, when they are in distress, they do not have anyone to talk to (Hungary, Israel). The Awareness program addresses this problem in two ways: First, pupils are informed about different kinds of professional support. Second, the Awareness program promotes peer support. The importance of peer support is emphasised directly with guidelines on how to help a friend in need and indirectly by developing empathy. By participating in the program, the youth got to know each other in a deeper way, often realising that they were not alone with their problems, and that classmates, who they often didn't know very well, shared similar problems (Hungary). Students also learned the importance of offering support to peers, instead of avoiding their problems, and learned how to do it more effectively. All countries report positive outcomes in this regard. In some cases, the Awareness program also contributed to stronger class bonds (Hungary) or an improved general school-climate (Israel) as reported by students to the instructors.

Interactive workshops as a means of prevention

The adolescents and instructors alike appreciated the interactive approach of the Awareness program. The relaxed atmosphere of the role-play sessions proved to be a good point of departure for discussion, and a way to approach the youths' thoughts and feelings. The instructors often noticed that pupils had difficulties expressing their feelings in words (Austria, Germany, Israel, and Slovenia). The role-play sessions provided them with the opportunity to communicate, express and verbalise their feelings, not only to the facilitator, but also to their peers. They were able to overcome their fears of expression, and open up in a more relaxed way (Austria, Italy). The interactive approach engaged pupils, and they preferred it to the standard classroom set-up, or the ex-cathedra approach, which is still the predominant way of teaching in many schools across Europe. Not only the pupils, but also the instructors, liked the variety of verbal and written materials used in the Awareness program, as well as the more interactive components in contrast to the lectures (Austria). There were reports from all participating countries about students approaching the facilitators after the end of the program, telling them about their problems. Moreover, school counsellors noted that the Awareness program lead to the development of networks with the clinical sector, specifically by providing information on the treatment of pupils in distress, much to the benefit of the perceived quality of care in the schools (Slovenia).

The instructor from the Irish site gave the example of how a young boy actively used the booklet as a means to speak to his mother about his feelings and worries. The mother came to the school after one of the sessions to speak to the instructor; she had noticed a marked change in his mood and was very thankful. The instructor also noticed that the boy had become more vocal as the Awareness sessions proceeded.

Moreover, the instructors reported changes in the adolescents' behaviors as the 4-week program progressed; it was evident that, from participating in the role-play sessions, the youth developed problem-solving skills when faced with different situations (Ireland). Additional analyses are required to learn how this potentially translates into everyday life and in preventing mental health problems.

The schoolteachers expressed the importance of having a person from outside the school-system to perform the program (Austria), avoiding possible distrust of more familiar instructors. The emotion that they could express their views and emotions in a safe environment, without prejudice and fear of ridicule, was a very powerful aspect (Ireland, Romania). Pupils indicated that they liked that the instructors were open-minded and young, and someone to whom the pupils easily could make a connection with and feel close to. With all of this in mind, it is very important to assemble, train and manage a team able to deliver this kind of program to young people (Ireland, Romania).

The shortcomings of the awareness program and proposals for future modifications

The shortcomings of the Awareness program, as voiced by the instructors, mostly concern the lack of flexibility due to the RCT design and the tight time frame in the implementation of the workshops. It was difficult to assure that the needs of all pupils were met, or that all topics were equally addressed, explained and/or understood with the same depth. Some topics (e.g., serious mental health problems like depression or suicide) were more difficult to comprehend for some adolescents and, thus, a challenge for the instructors to convey in such a brief period of time.

The question of allocating more time for role-play sessions, e.g. 2 h instead of 45–60 min, was raised. The current program included an opening lecture that was considered by some to be too theoretical in nature and, consequently, not as well accepted as the interactive role-play sessions (Austria, Israel). Moreover, pupils thought the time frame for each session was too short (France).

Burden of the program for the school system

A potential obstacle to successfully implementing the Awareness program is the response of the school authorities, school staff, and their parents. In some cases,

Wasserman *et al. BMC Public Health* 2012, **12**:776
http://www.biomedcentral.com/1471-2458/12/776

teachers and school staff were sceptical about the pupils' motivation to participate in such a program. Ensuring that the entire teaching body appreciates the benefits and efforts of such a program is beneficial to the implementation (Ireland). As the Awareness coordinator typically was in touch with the school principal and guidance counsellors across their site, many coordinators underscored that it proved to be helpful when the principal and/or guidance counsellor were asked to inform all teaching staff about the program. It also happened that some parents and teachers refused or discouraged pupil participation in the program, because they would miss too many classes (Austria, France, Germany, Hungary, Israel, and Slovenia). It would be helpful therefore to place hand-outs with information about the Awareness program in the staff room in order to ensure familiarity among the entire teaching staff (Ireland). In fact, the benefits of this kind of intervention program may not be obvious to everyone, especially parents (Hungary, Slovenia). In some schools, the Awareness sessions were scheduled after school and since many pupils attend other after-school activities, this could have influenced participation rates in the program.

A more holistic program and a longer time frame

The most important aspects that the coordinators wish to change in the program are shown in Figure 4 below. Many of them mention the short time frame of the program and the value of a more flexible schedule, as well as the advantage of a less rigid approach to the dissemination of content, expressing some reservation regarding the structure of the opening lecture and the somewhat intrusive posters. Instructors and students alike expressed the desire for an Awareness program that would last longer (Germany, Hungary, Ireland, Italy, Slovenia, and Spain), and for the structure of the program to be changed to two longer workshops, instead of three shorter ones (Estonia). Additionally, a wish to address other topics was expressed by the coordinators, such as: sexual behavior (Slovenia), sexual orientation (France), influence of emotions and thoughts on behavior (Romania), practice with behavioral techniques about how to talk to peers in distress (Hungary).

Materials and tools of interaction

In addition to the role-play, discussions and problem solving that were part of the SEYLE Awareness program, adding other kinds of interactive teaching could further strengthen the program. Among these learning from videos (Italy) expressive arts techniques or even action teaching were mentioned (Slovenia).

Moreover, in some countries (Germany, Slovenia) pupils did not like the posters, as their design or style was not appealing and was sometimes considered too intrusive. This issue can be dealt with by minimising the amount of text on them and by giving more attention to the design. One problem with the posters, in addition to their somewhat simple design, was that they were printed locally, and the quality of the prints varied greatly from site to site. The Awareness and instruction booklets were all printed in Sweden at a printing company and, consequently, were of high quality and uniform across sites.

A cross-country comparable awareness program

In the SEYLE study, the Awareness program was implemented in an identical fashion across the 11 countries. According to the SEYLE protocol, the sites were encouraged to, if needed, culturally adjust the content of the role-play examples and to account for these adjustments by keeping a journal at the time of program. In some

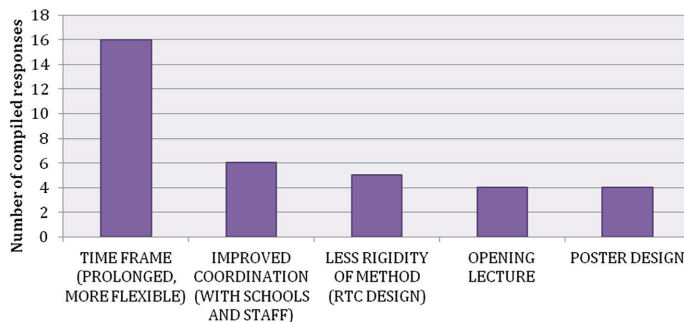

Figure 4 Proposed modifications of the awareness program. Due to the fact that the Awareness coordinators responses were compiled into theme clusters the charts show the number of compiled responses and not the percentage of responses.

cases, some of the role-play examples from the instruction manual were not used or, if used, applied in a modified fashion. Nonetheless, all participating sites addressed the same topics, as it is important in a cross-country primary preventive RCT to have well-structured tools and clear guidelines on how to work with pupils, so that the instructors could be easily trained, and the obtained intervention results to be comparable across schools and countries.

Flexibility vs. uniqueness

The short time frame of the program (four weeks) was stipulated because of the SEYLE study research-design, aiming to compare different intervention outcomes. For future implementation of this kind of preventive program, the structure and the time frame of the intervention can also be tested, since it is often difficult to offer it in an identical way in different countries and school-settings. The Awareness program stimulates the pupils' thoughts and feelings, as such, creating a need for a space for continuous discussion, something that should probably be integrated into the ordinary school curriculum. In the Hungarian case, a group of pupils decided to continue meeting together weekly to discuss their problems among themselves at the end of the program. Moreover, coordinators from most of the sites underscored that the program was more successful in those schools where the number of pupils per session was fewer, as well as when more time was given for discussion. It was interesting to note that, in Austria, girls were more interested and open than the participating boys and, in Ireland, boys offered better advice when taking part in the role-play sessions compared to girls, especially, around the topic of pregnancy. In Romania, pupils from smaller towns were more involved and had a lot of questions during the introductory lecture, whilst pupils from bigger towns had higher expectations, expressing views about mental health that they had read about on the Internet and in other sources. Schools with pupils of lower Social Economic Status (SES) had lower participation rates (Hungary) and some adjustments of the program had to be made according the type of school (Slovenia).

In summary, the key lesson is to uphold flexibility in discussion with the adolescents, taking into consideration the specific context of every classroom. Despite many challenges with the scheduling of the workshops in different schools and classes and other organisational efforts, all site Awareness coordinators reported that these were well worth it in relation to the satisfaction and appreciation expressed by the pupils (see Figure 5).

To overcome logistical difficulties as well as those related to the attitudes of the schools and parents, it is important that stakeholders, politicians, school-rincipals, teachers and parents understand the importance of such a mental health and Awareness intervention program, including its' aims and design and that they support it (Israel, Germany, Hungary). It is also important to have close collaboration with other systems (e.g. social and health care system) as specified in the SEYLE protocol, to be able to provide professional help and back-up to adolescents in need.

Discussion

By asking the field coordinators open-ended questions about their experiences we have been able to gain a deeper understanding of the implementation of the Awareness program, complete with its' difficulties and real-life situations. Research shows that a self-administered instrument of open-ended questions is practical and useful tool for evaluation [25].

The major strength of the Awareness program as proclaimed by the coordinators is its' subtlety in content and execution. When addressing sensitive issues such as mental health, risky life-styles and suicide, it is important not only to be cautious and sensitive to cultural differences, but also to personal histories. Awareness programs for adolescents that are both effective and culturally adaptable need to be carefully developed, considering attitudes towards suicide and mental healthcare in general. Moreover, suicidal behaviors vary across countries, by gender and across the lifespan [26-28], with many other factors influencing these behaviors, such as a variety of cultural expressions, stigma, access to lethal means of suicide, lack of a medical/mental healthcare infrastructure; all of them usually linked. Risk and protective factors at the individual, as well as the larger societal level, need to be taken into consideration. A preventive effort specifically tailored for adolescents needs to be thorough in its approach; yet open to flexibility, allowing the youth to express themselves freely in a safe environment. Since it is very difficult to identify which adolescents are most at risk for suicide, increasing the general mental health awareness whilst encouraging youth to self-recognize the need for help, as well as to help peers in need, may lead to fewer suicides.

The SEYLE Awareness program helps the adolescents to develop a large set of skills and knowledge about mental-health: functional knowledge (knowing about Mental Health), procedural knowledge (knowing how/ having skills) and conditional knowledge (knowing the circumstances in which to use the skills). This know-how is expected to lead to a heightened responsiveness to individuals with psychiatric, behavioral and/or emotional problems, or suicidal individuals, whilst diminishing the general stigma surrounding mental health. Accounts from the field demonstrate that the pupils not only learned new information by participating in the

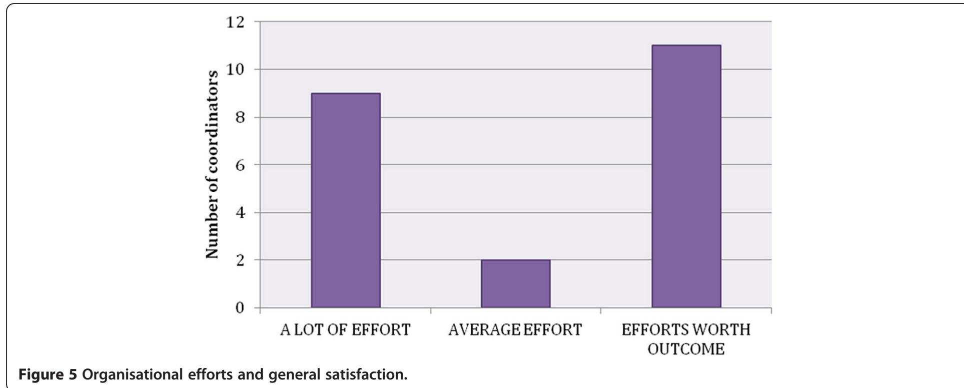

Figure 5 Organisational efforts and general satisfaction.

Awareness program, but the majority of them greatly enjoyed the experience.

Schools provide a well-structured environment that allows large international interventions, such as the SEYLE Awareness program, to run according to a *priori* defined rules that can be compared across different countries in spite of the many potential, imagined and real cultural differences. Though the school environment provides us with the best setting for programs aimed at adolescents, it is by no means an easy system to navigate and one of the more difficult aspects of the Awareness program was, in fact, the enormous organisational effort required from of the coordinators and their teams working with many different schools and teachers, during a short time period, especially to achieve adequate time in the school curriculum. Of course, the conditions of a study are in many ways much different than those encountered in real life, and we recommend that future Awareness programs take into account the problems encountered in the SEYLE field and the suggestions given here. The structured nature of the current program is inherent to a research study, but in a real-life setting, the time frame for each of the topics raised could be more flexible according to the specific class context and issues raised during the session. The incorporation of video materials and other types of learning methods may also be effective, but needs to be evaluated.

Suppleness in organisation and structure and listening to the thoughts and wishes of the participating adolescents is key to a successful program. The Awareness program is highly contextual and the feedback from the coordinators shows that the local context significantly influences the outcome of the program; every classroom is different, and consequently flexibility is central to a successful implementation. In the case of the SEYLE randomized controlled trial, it was necessary to execute the program in a structured manner to allow for effective comparison across sites through standardised methods. Much of the criticism from the Awareness coordinators dealt specifically with the more rigid aspects of the program; specifically the time frame but also the posters that were deemed too conspicuous in relation to other more adaptable aspects of the program.

In summary, the following guidelines can be helpful for people working with youth mental health awareness:

- Prepare a well-structured program with clearly defined aims, but allow flexibility and an individual approach.
- More time should be allocated to the variety of topics raised and to role-play and discussions with at least an additional five hours added to the program, resulting in a ten-hour program.
- Facilitators need to have a proper professional background and training, but also need to have specific personality traits (e.g. openness, ability to listen and make quick decisions) to create a safe environment.
- Topics should be addressed in a way that gives an opportunity to develop problem-solving skills and empathic attitude whilst creating an enjoyable and inspiring experience. Difficult topics should not be avoided, rather need to be addressed with care and close involvement of the participants.
- The key messages need to be disseminated through different materials and tools of interaction.
- Cooperation, understanding and support from stakeholders are crucial for success; the school system is the most effective system to use.

Therefore, logistical issues (schedules, size of group, etc.) need to be tailored according to the needs and available resources.

- Holding an information event prior to the Awareness program to encourage teachers and parents to allow the children to participate by providing them with the opportunity to gain a better understanding of the aims and benefits of the program is beneficial. This informal meeting gives the parents an opportunity to meet the awareness coordinator and helps to demystify the program and make it more tangible for parents.
- Evaluation of the program should be done with pre-post assessments and also with process-evaluation.

Limitations of this paper

The above-mentioned suggestions for successful awareness programs only take into account the issues raised by the set of questions the SEYLE Awareness coordinators were asked. For a more profound understanding of the program and it's successes and failures, similar questions need to be asked to the participating adolescents as well as to teachers and other school personnel.

Only questions with open-ended answers were used in this evaluation. On the one hand, this enabled us to gather a variety of unexpected answers, important for exploring the field experiences. On the other hand, this approach limited the measurable comparisons of the responses to the same items, which is possible when using visual analogue scales. Importantly, this limitation was countered by using a systematic and rigorous approach in the content analysis of the material and summarising results in a meaningful way.

Conclusions

The SEYLE Awareness program was developed with a large heterogeneous group of adolescents in mind. The main goals, to increase general mental health awareness whilst encouraging youth to self-recognize the need for help, were, of course, very ambitious. In such large-scale efforts, it is difficult to ensure that the needs of all participants are addressed and that all topics raised are adequately explained and actually understood. However, reports from the SEYLE sites in 11 European countries show that the adolescents not only learned about mental health by participating in the Awareness program, but that it was also an enjoyable and inspiring experience. The role-play sessions and ensuing discussions were a welcome diversion from ordinary classes and as such an excellent tool for communicating knowledge and diminishing mental health related stigma. Different from many other school endeavours, the program engendered understanding between pupils, encouraged peer support and allowed the pupils to get to know each other better, hopefully leading them to understand that they are not alone with their problems.

The school-environment is the best system we have to perform primary prevention programs designed to improve mental health and give information about unhealthy life-styles among youth, whilst at the same time raising the general awareness-level about mental health and mental problems. However, the help and support of schools, local politicians and other stakeholders, along with teachers, parents and adolescents, is needed for efficacious implementation of forthcoming awareness programs. Finally, the healthy functioning and understanding of mental health related issues for children and adolescents have profound consequences for society, both presently and in the future. Therefore, our expectations for the future are that comparable mental health and suicide preventive awareness programs will be included in the curriculums of schools across Europe.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

CW ideated and developed the content of the Awareness intervention program, coordinated the implementation, trained the personnel, analyzed the data and jointly drafted the manuscript. CH ideated and developed the content of the Awareness intervention program, coordinated the implementation, trained the personnel and contributed to the manuscript for relevant intellectual content. DW is the principal investigator of SEYLE, ideated and developed the content of the Awareness intervention program, coordinated the implementation and contributed to the manuscript for relevant intellectual content. VC coordinated the implementation of SEYLE, trained the personnel and contributed to the manuscript for relevant intellectual content. SAH, LF, GF, NG, DCH, MI, JMC, JZ led the Awareness intervention program at the respective study sites, collected the information presented in this manuscript and contributed to the manuscript for relevant intellectual content. DF, KK, PV, AT collected the information presented in this manuscript and contributed to the manuscript for relevant intellectual content. AA, JB, JB, DC, CH, JPK, HK, AV, MS are site leaders of SEYLE in the respective countries. They coordinated and provided support to the implementation of the Awareness intervention program in the respective study sites and contributed to the manuscript for relevant intellectual content. VP was site-coordinator and oversaw the implementation of the Awareness intervention program in Slovenia, analyzed the data and jointly drafted the manuscript with CW. All authors read and approved the final manuscript.

Acknowledgements

The SEYLE project is supported by the European Union through the Seventh Framework Program (FP7), Grant agreement number HEALTH-F2-2009-223091. SEYLE Project Leader and Principal Investigator is Professor in Psychiatry and Suicidology at Karolinska Institutet (KI) Danuta Wasserman, head for the National Centre for Suicide Research and Prevention of Mental Ill-Health (NASP/KI) Stockholm, Sweden. The Executive Committee comprises Professor Danuta Wasserman and Senior Lecturer Vladimir Carli, both from NASP/KI, Sweden; Professor Marco Sarchiapone, University of Molise, Campobasso, Italy; Professor Christina W. Hoven, and Anthropologist Camilla Wasserman, both from Columbia University and New York State Psychiatric Institute, NY, USA; the SEYLE Consortium comprises sites in twelve European countries. Site leaders are Danuta Wasserman (NASP/KI, Coordinating Centre), Christian Haring (Austria), Airi Varnik (Estonia), Jean-Pierre Kahn (France), Romuald Brunner (Germany), Judit Balazs (Hungary), Paul Corcoran (Ireland), Alan Apter (Israel), Marco Sarchiapone (Italy), Doina Cosman (Romania), Vita Postuvan (Slovenia) and Julio Bobes (Spain). Finally we would like to thank the graphic designer of the Awareness booklet, Ana Nordenskiöld, NASP/KI, Sweden and all the Awareness program coordinators, instructors, assistants and other field staff for their efforts and feedback.

Wasserman et al. BMC Public Health 2012, 12:776
http://www.biomedcentral.com/1471-2458/12/776

Author details
[1]Department of Child and Adolescent Psychiatry, Columbia University-New York State Psychiatric Institute, New York, NY, USA. [2]Department of Health Sciences, University of Molise, Campobasso, Italy. [3]Department of Epidemiology, Mailman School of Public Health, Columbia University, New York, NY, USA. [4]National Centre for Suicide Research and Prevention of Mental Ill-Health (NASP), Karolinska Institute, Stockholm, Sweden. [5]WHO Collaborating Center for Research, Methods Development and Training in Suicide Prevention, Stockholm, Sweden. [6]Department of Psychiatry, School of Medicine, University of Oviedo; Centro de Investigación Biomédica en Red de Salud Mental, CIBERSAM, Oviedo, Spain. [7]Feinberg Child Study Centre, Schneider Children's Medical Centre, Tel Aviv University, Tel Aviv, Israel. [8]Vadaskert Child and Adolescent Psychiatric Hospital, Budapest, Hungary. [9]Department of Developmental and Clinical Child Psychology, Institute of Psychology, Eotvos Lorand University, Budapest, Hungary. [10]Department of Clinical Psychology, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania. [11]Section for Disorders of Personality Development, Clinic of Child and Adolescent Psychiatry, Centre of Psychosocial Medicine, University of Heidelberg, Heidelberg, Germany. [12]Research Division for Mental Health, University for Medical Information Technology (UMIT), Hall, Tyrol, Austria. [13]Department of Psychiatry and Clinical Psychology, University Medical Centre, Université de Lorraine, Nancy, France. [14]National Suicide Research Foundation, Cork, Ireland. [15]Estonian-Swedish Mental Health & Suicidology Institute, Centre for Behavioural Sciences, Tallinn University, Tallinn, Estonia. [16]Department of Population Studies, Tallinn University, Tallinn, Estonia. [17]Slovene Center for Suicide Research, Andrej Marušič Institute, University of Primorska, Koper, Slovenia.

Received: 31 March 2012 Accepted: 3 September 2012
Published: 12 September 2012

References

1. Wasserman D, Durkee T, Wasserman C: **Strategies in suicide prevention**. In *Oxford Textbook of Suicidology and Suicide Prevention: a global perspective*. Edited by Wasserman D. Oxford: Oxford University Press; 2009:381–384.
2. van der Feltz-Cornelis CM, Sarchiapone M, Postuvan V, Volker D, Roskar S, Grum AT, Carli V, McDaid D, O'Connor R, Maxwell M, Ibelshäuser A, Van Audenhove C, Scheerder G, Sisask M, Gusmão R, Hegerl U: **Best practice elements of multilevel suicide prevention strategies: a review of systematic reviews.** *Crisis* 2011, **32**(6):319–333.
3. Wasserman D: *Suicide - an unnecessary death: Martin Dunitz*. London: Informa Healthcare; 2001.
4. Beautrais AL: **Risk factors for suicide and attempted suicide among young people.** *Aust N Z J Psychiatry* 2000, **34**(3):420–436.
5. Pfeffer C: **Assessing suicide behavior in children and adolescents**. In *Suicide in children and adolescents*. Edited by King R, Apter A. Cambridge: Cambridge University Press; 2003:211–226.
6. Fleischmann A, Bertolote JM, Belfer M, Beautrais A: **Completed suicide and psychiatric diagnoses in young people: a critical examination of the evidence.** *Am J Orthopsychiatry* 2005, **75**(4):676–683.
7. Hoven CW, Tyano S, Mandell DJ: **Suicide awareness and mental health among youth in the community- Exposing dark secrets: what must be told**. In *Oxford Textbook of Suicidology and Suicide Prevention: a global perspective*. Edited by Wasserman D, Wasserman C. Oxford: Oxford University Press; 2009:501–507.
8. Sartorius N, Schulze H: ***Reducing the stigma of mental illness: a report from a global programme of the World Psychiatric Association***. Cambridge: Cambridge University Press; 2005.
9. Hawton K, Rodman K, Evans E: ***By their own young hand***. London: Kingsley Publishers; 2006.
10. Orbach I, Iohan-Barak M: **Psychopathology and risk factors for suicide in the young: theoretical and empirical**. In *Oxford Textbook of Suicidology and Suicide Prevention: a global perspective*. Edited by Wasserman D, Wasserman C. Oxford: Oxford University Press; 2009:633–641.
11. Rickwood DJ, Deane FP, Wilson CJ: **When and how do young people seek professional help for mental health problems?** *Med J Aust* 2007, **187** (7 Suppl):35–39.
12. Wilson KG, Stelzer J, Bergman JN, Kral MJ, Inayatullah M, Elliott CA: **Problem solving, stress, and coping in adolescent suicide attempts.** *Suicide Life Threat Behav* 1995, **25**(2):241–252.
13. Postuvan V: **Iskanje pomoci pri mladostnikth [Help seeking in youth]**. In *Spregovorimo o samomoru med mladimi [Let's talk about suicide among youth]*. Edited by Tancic A, Postuvan V, Roskar S. Ljubljana: IVZ; 2009.
14. Hoven CW, Doan T, Musa GJ, Jaliashvili T, Duarte CS, Ovuga E, Ismayilov F, Rohde LA, Dmitrieva T, Du Y, Yeghiyan M, Din AS, Apter A, Mandell DJ: **Worldwide child and adolescent mental health begins with awareness: a preliminary assessment in nine countries.** *Int Rev Psychiatry* 2008, **20**(3):261–270.
15. Hoven CW, Wasserman D, Wasserman C, Mandell DJ: **Awareness in nine countries: a public health approach to suicide prevention.** *Leg Med* 2009, **11**(Suppl 1):13–17.
16. Wasserman D, Carli V, Wasserman C, Apter A, Balazs J, Bobes J, Bracale R, Brunner R, Bursztein-Lipsicas C, Corcoran P, Cosman D, Durkee T, Feldman D, Gadoros J, Guillemin F, Haring C, Kahn JP, Kaess M, Keeley H, Marusic D, Nemes B, Postuvan V, Reiter-Theil S, Resch F, Sáiz P, Sarchiapone M, Sisask M, Varnik A, Hoven CW: **Saving and Empowering Young Lives in Europe (SEYLE): a randomized controlled trial.** *BMC Public Health* 2010, **10**(1):192.
17. ***Question, Perceive, Refer (QPR) in Suicide Prevention***. http://www.hopes-wi.org/qpr.htm.
18. Piaget J: ***Studies in Reflecting Abstraction***. Hove, UK: Psychology Press; 2001.
19. Wasserman D: **The role of transference and countertransference in teaching and learning suicidology**. In *Intervention and Prevention*. Edited by Brill-Brahe U, Schiodt H. Odense: Odense University Press; 1994:127–132.
20. Wasserman C, Hoven CW, Wasserman D: *Affect and improve the way you feel. National Centre for Suicide Research and Prevention of Mental Ill-Health (NASP)*. Stockholm: Karolinska Institutet; 2009. English (ISBN: 978-91-86339-00-5); Translated to: Estonian (ISBN: 978-91-86339-02-9), French (ISBN: 978-91-86339-12-8), German (ISBN: 978-91-86339-15-9), Hungarian (ISBN: 978-91-86339-07-4), Hebrew (ISBN: 978-91-86339-19-7), Italian (ISBN: 978-91-86339-17-3), Romanian (ISBN: 978-91-86339-10-4), Slovene (ISBN: 978-91-86339-03-6), Spanish (ISBN: 978-91-86339-04-3).
21. Wasserman C, Hoven CW, Wasserman D: *An instruction booklet to the Awareness Program*. Stockholm: Karolinska Institutet: National Centre for Suicide Research and Prevention of Mental Ill-Health (NASP); 2009. English (ISBN: 978-91-86339-01-2). Translated to:. Estonian, German, Italian, Slovenian, Spanish.
22. Durkee T, Kaess M, Carli V, Parzer P, Wasserman C, Floderus B, Apter A, Balazs J, Barzilay S, Bobes J, Brunner R, Corcoran P, Cosman D, Cotter P, Despalins R, Graber N, Guillemin F, Haring C, Kahn JP, Mandelli L, Marusic D, Mészáros G, Musa GJ, Postuvan V, Resch F, Saiz PA, Sisask M, Varnik A, Sarchiapone M, Hoven CW, *et al*: **Prevalence of pathological internet use among adolescents in Europe: demographic and social factors.** *Addiction* 2012. doi:10.1111/j.1360-0443.2012.03946.x.
23. Pope C, Ziebland S, Mays N: **Qualitative research in health care - analysing qualitative data.** *Brit Med J* 2000, **320**(7227):114–116.
24. Bradley EH, Curry LA, Devers KJ: **Qualitative data analysis for health services research: developing taxonomy, themes, and theory.** *Health Serv Res* 2007, **42**(4):1758–1772.
25. Perreault M, Pawliuk N, Veilleux R, Rousseau M: **Qualitative assessment of mental health service satisfaction: strengths and limitations of a self-administered procedure.** *Community Ment Hlt J* 2006, **42**(3):233–242.
26. Apter A, Bursztein C, Bertolote JM, Fleischmann A, Wasserman D: **Suicide on all the continents in the young**. In *The Oxford Textbook of Suicidology and Suicide Prevention: a global perspective*. Edited by Wasserman D, Wasserman C. Oxford: Oxford University Press; 2009:621–628.
27. Bertolote JM, Alexandra F, Leo DD, Wasserman D: **Suicidal thoughts, suicide plans and attempts in the general population on different continents**. In *Oxford Textbook of Suicidology and Suicide Prevention: a global perspective*. Edited by Wasserman D, Wasserman C. Oxford: Oxford University Press; 2009:99–104.
28. Bertolote JM, Fleischmann A: **A global perspective on the magnitude of suicide mortality**. In *The Oxford Textbook of Suicidology and Suicide Prevention: a global perspective*. Edited by Wasserman D, Wasserman C. Oxford: Oxford University Press; 2009:91–98.

doi:10.1186/1471-2458-12-776
Cite this article as: Wasserman *et al.*: Suicide prevention for youth - a mental health awareness program: lessons learned from the Saving and Empowering Young Lives in Europe (SEYLE) intervention study. *BMC Public Health* 2012 12:776.

References

Adams, G. R., Montemayor, R. E., & Gullotta, T. P. (1996). *Psychosocial development during adolescence*. Sage Publications, Inc.

Ahmed, S. (2010). *The promise of happiness*. Durham [NC]: Duke University Press.

Anderson, J. (2011). The teenage brain: under construction. *American college of pediatricians*.

Anderson, S. E., Cohen, P., Naumova, E. N., Jacques, P. F., & Must, A. (2007). Adolescent obesity and risk for subsequent major depressive disorder and anxiety disorder: prospective evidence. *Psychosom Med*, *69*(8), 740-747.

Bakan, D. (1972). *Slaughter of the innocents*. Boston: Beacon Press.

Balázs, J., Miklósi, M., Keresztény, A., Hoven, C. W., Carli, V., Wasserman, C., . . . Wasserman, D. (2013). Adolescent subthreshold-depression and anxiety: psychopathology, functional impairment and increased suicide risk. *J Child Psychol Psychiatry*, *54*(6), 670-677.

Baldwin, J. (1965). *Going to meet the man*. New York: Dial Press.

Barzilay, S., Feldman, D., Snir, A., Apter, A., Carli, V., Hoven, C. W., . . . Wasserman, D. (2015). The interpersonal theory of suicide and adolescent suicidal behavior. *J Affect Disord*, *183*, 68-74.

Basso, K. H. (1996). *Wisdom sits in places: Landscape and language among the Western Apache*. UNM Press.

Beck, U. (1992). *Risk society: towards a new modernity*. London; Newbury Park, Calif.: Sage Publications.

Bennett, A., & Kahn-Harris, K. (2004). *After subculture: critical studies in contemporary youth culture*. Houndmills, Basingstoke, Hampshire; New York: Palgrave Macmillan.

Berg, I. (1992). Absence from school and mental health. *Br J Psychiatry*, *161*, 154-166.

Berry, J. W. (1980). Introduction to methodology. In Triandis, H. C. B. & Berry, J.W. (Ed.), *Handbook of cross-cultural psychology* (p. 6 v.). Boston: Allyn and Bacon.

Besley, T. (2002). *Counseling youth: Foucault, power, and the ethics of subjectivity*. Westport, CT: Praeger.

Biddle, S. J., & Asare, M. (2011). Physical activity and mental health in children and adolescents: a review of reviews. *Br J Sports Med*, *45*(11), 886-895.

Bird, H. R., Davies, M., Duarte, C. S., Shen, S., Loeber, R., & Canino, G. J. (2006). A study of disruptive behavior disorders in Puerto Rican youth: II. Baseline prevalence, comorbidity, and correlates in two sites. *J Am Acad Child Adolesc Psychiatry*, *45*(9), 1042-1053.

REFERENCES

Blum, R. W., Bastos, F. I. P. M., Kabiru, C. W., & Le, L. C. (2012). Adolescent health in the 21st century. *The Lancet*, *379*(9826), 1567-1568.

Boholm, Å. (1998). Comparative studies of risk perception: a review of twenty years of research. *Journal of risk research*, *1*(2), 135-163.

Boholm, Å. (2003). The cultural nature of risk: Can there be an anthropology of uncertainty. *Ethnos*, *68*(2), 159-178.

Boler, M. (1999). *Feeling power: emotions and education*. New York: Routledge.

Borges, J. L. (1962). *Labyrinths; selected stories & other writings*. 1st ed. ed. New York: New Directions.

Boyden, J., & Bourdillon, M. F. C. (2012). *Childhood poverty: multidisciplinary approaches*. Houndmills, Basingstoke, Hampshire; New York: Palgrave Macmillan.

Bradbury, J. A. (1989). The policy implications of differing concepts of risk. *Science, technology & human values*, *14*(4), 380-399.

Brownlie, J. (2001). The 'being-risky'child: Governing childhood and sexual risk. *Sociology*, *35*(2), 519-537.

Brunner, R., Kaess, M., Parzer, P., Fischer, G., Carli, V., Hoven, C. W., . . . Wasserman, D. (2014). Life-time prevalence and psychosocial correlates of adolescent direct self-injurious behavior: a comparative study of findings in 11 European countries. *J Child Psychol Psychiatry*, *55*(4), 337-348.

Bryman, A. (2012). *Social research methods*. Oxford university press.

Burgess, A. (2012). Nudging Healthy Lifestyles: The UK Experiments with the Behavioral Alternative to Regulation and the Market. *Eur. J. Risk Reg.*, 3.

Cairns, K. E., Yap, M. B. H., Pilkington, P. D., & Jorm, A. F. (2014). Risk and protective factors for depression that adolescents can modify: a systematic review and meta-analysis of longitudinal studies. *Journal of affective disorders*, *169*, 61-75.

Carli, V., Wasserman, C., Wasserman, D., Sarchiapone, M., Apter, A., Balazs, J., . . . Hoven, C. W. (2013). The saving and empowering young lives in Europe (SEYLE) randomized controlled trial (RCT): methodological issues and participant characteristics. *BMC Public Health*, *13*, 479.

Carli, V., Hoven, C. W., Wasserman, C., Chiesa, F., Guffanti, G., Sarchiapone, M., . . . Wasserman, D. (2014). A newly identified group of adolescents at "invisible" risk for psychopathology and suicidal behavior: findings from the SEYLE study. *World Psychiatry*, *13*(1), 78-86.

Charmaz, K. (2004). Qualitative interviewing and grounded theory analysis. In J. F. Gubrium & J. A. Holstein (Eds.), *Handbook of interview research: context and method*. Thousand Oaks: Sage.

Choudhury, S. (2010). Culturing the adolescent brain: what can neuroscience learn from anthropology. *Soc Cogn Affect Neurosci*, *5*(2-3), 159-167.

Cicourel, A. V. (1964). Method and measurement in sociology. Free Press of Glencoe.

Clemence, A., Doise, W., & Lorenzi-Cioldi, F. (2014). *The quantitative analysis of social representations*. Routledge.

Clifford, J., & Marcus, G. E. (1986). *Writing Culture: The Poetics and Politics of Ethnography*. University of California Press.

Coffey, A., & Atkinson, P. (1996). *Making sense of qualitative data: complementary research strategies*. Sage Publications, Inc.

Cohen, D. J., & Crabtree, B. F. (2008). Evaluative criteria for qualitative research in health care: controversies and recommendations. *Ann Fam Med*, *6*(4), 331-339.

Coie, J. D., Cillessen, A. H., Dodge, K. A., Hubbard, J. A., Schwartz, D., Lemerise, E. A., & Bateman, H. (1999). It takes two to fight: a test of relational factors and a method for assessing aggressive dyads. *Dev Psychol*, *35*(5), 1179-1188.

Collishaw, S., Hammerton, G., Mahedy, L., Sellers, R., Owen, M. J., Craddock, N., . . . Thapar, A. (2015). Mental health resilience in the adolescent offspring of parents with depression: a prospective longitudinal study. *The Lancet Psychiatry*.

Conger, J. J. (1979). *Adolescence: generation under pressure* (The Life cycle series). London; New York: Harper & Row.

Copeland-Linder, N., Lambert, S. F., & Ialongo, N. S. (2010). Community violence, protective factors, and adolescent mental health: A profile analysis. *Journal of Clinical Child & Adolescent Psychology*, *39*(2), 176-186.

Costello, E. J., Angold, A., Burns, B. J., Stangl, D. K., Tweed, D. L., Erkanli, A., & Worthman, C. M. (1996). The Great Smoky Mountains Study of Youth. Goals, design, methods, and the prevalence of DSM-III-R disorders. *Arch Gen Psychiatry*, *53*(12), 1129-1136.

Cotter, P., Corcoran, P., McCarthy, J., O'Suilleabhain, F., Carli, V., Hoven, C., . . . Keeley, H. (2014). Victimisation and psychosocial difficulties associated with sexual orientation concerns: a school-based study of adolescents. *Ir Med J*, *107*(10), 310-313.

Cotter, P., Kaess, M., Corcoran, P., Parzer, P., Brunner, R., Keeley, H., . . . Wasserman, D. (2015). Help-seeking behaviour following school-based screening for current suicidality among European adolescents. *Soc Psychiatry Psychiatr Epidemiol*.

Cusimano, M. D., & Sameem, M. (2011). The effectiveness of middle and high school-based suicide prevention programmes for adolescents: a systematic review. *Inj Prev*, *17*(1), 43-49.

Dake, K. (1991). Orienting dispositions in the perception of risk an analysis of contemporary worldviews and cultural biases. *Journal of cross-cultural psychology*, *22*(1), 61-82.

REFERENCES

Dedoose Version 5.0.11 (2014). Web application for managing, analyzing, and presenting qualitative and mixed method research data. Los Angeles, CA: SocioCultural Research Consultants, LLC (www.dedoose.com).

Deleuze, G., & Parnet, C. (1977). *Dialogues*. Paris: Flammarion.

Donovan, J. E., Jessor, R., & Costa, F. M. (1988). Syndrome of problem behavior in adolescence: a replication. *Journal of consulting and clinical psychology*, *56*(5), 762.

Douglas, M. (1966). *Purity and danger: an analysis of concepts of pollution and taboo*. London: Routledge & K. Paul.

Douglas, M. (1992). *Risk and blame: essays in cultural theory*. London; New York: Routledge.

Durkee, T., Kaess, M., Carli, V., Parzer, P., Wasserman, C., Floderus, B., . . . Wasserman, D. (2012). Prevalence of pathological internet use among adolescents in Europe: demographic and social factors. *Addiction*, *107*(12), 2210-2222.

Durkheim, E. (1893). *The Division of Labor in Society* (1st Free Press Paperback Edition 1964). The Free Press.

Eaton, D. K., Kann, L., Kinchen, S., Shanklin, S., Flint, K. H., Hawkins, J., . . . Centers for Disease Control and Prevention, C. D. C. (2012). Youth risk behavior surveillance - United States, 2011. *MMWR Surveill Summ*, *61*(4), 1-162.

Eisenstadt, S. N. (1964). *The youth group*. Tel Aviv: Ichud Habonim.

Ellsworth, P. C., & Scherer, K. R. (2003). Appraisal processes in emotion. *Handbook of affective sciences*, *572*, V595.

Erikson, E. H. (1968). *Identity, youth, and crisis* (1st ed.). New York: W. W. Norton.

Evans-Pritchard, E. E. (1937). *Witchcraft, oracles and magic among the Azande*. Oxford: The Clarendon Press.

Eyre, O., & Thapar, A. (2014). Common adolescent mental disorders: transition to adulthood. *Lancet*, *383*(9926), 1366-1368.

Figner, B., & Weber, E. U. (2011). Who takes risks when and why? Determinants of risk taking. *Current Directions in Psychological Science*, *20*(4), 211-216.

Finn, J. L. (2001). Text and Turbulence Representing Adolescence as Pathology in the Human Services. *Childhood*, *8*(2), 167-191.

Fischer, G., Brunner, R., Parzer, P., Klug, K., Durkee, T., Carli, V., . . . Kaess, M. (2012). Depression, deliberate self-harm and suicidal behaviour in adolescents engaging in risky and pathological internet use. *Prax Kinderpsychol Kinderpsychiatr*, *61*(1), 16-31.

Fischhoff, B., & Kadvany, J. (2011). *Risk: A very short introduction*. Oxford University Press.

Fischhoff, B., & Willis, H. (2002). Adolescent vulnerability: measurement and priority setting. *Journal of adolescent health*, *31*(1), 58-75.

Flisher, A. J., Kramer, R. A., Hoven, C. W., King, R. A., Bird, H. R., Davies, M., . . . Regier, D. A. (2000). Risk behavior in a community sample of children and adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*, *39*(7), 881-887.

France, A., & Utting, D. (2005). The paradigm of 'risk and protection focused prevention and its impact on services for children and families. *Children & society*, *19*(2), 77-90.

Fuchs, E. (2011). *Youth in a changing world: cross-cultural perspectives on adolescence*. Reprint. Munchen: Walter de Gruyter.

Furlong, A., Woodman, D., & Wyn, J. (2011). Changing times, changing perspectives: Reconciling transition and cultural perspectives on youth and young adulthood. *Journal of sociology*, *47*(4), 355-370.

Furlong, A. (2013). *Youth studies: an introduction*. New York: Routledge.

Garofalo, R., Wolf, R. C., Kessel, S., Palfrey, S. J., & DuRant, R. H. (1998). The association between health risk behaviors and sexual orientation among a school-based sample of adolescents. *Pediatrics*, *101*(5), 895-902.

Geertz, C. (1973). *The interpretation of cultures: Selected essays* (5019). New York: Basic books.

Geertz, C. (1983). *Local knowledge: further essays in interpretive anthropology*. New York: Basic Books.

Gordon, T. (2000). *Parent effectiveness training: the proven program for raising responsible children* (1st rev. ed.). New York: Three Rivers Press.

Griffin, C. (2001). Imagining New Narratives of Youth Youth Research, the New Europe and Global Youth Culture. *Childhood*, *8*(2), 147-166.

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field methods*, *18*(1), 59-82.

Guilamo-Ramos, V., Litardo, H. A., & Jaccard, J. (2005). Prevention programs for reducing adolescent problem behaviors: Implications of the co-occurrence of problem behaviors in adolescence. *Journal of Adolescent Health*, *36*(1), 82-86.

Gulliver, P. H. (1968). Age differentiation. *International encyclopedia of the social sciences*, *1*, 157-162.

Gulliver, P. H. (1969). *Tradition and transition in East Africa: studies of the tribal element in the modern era*. London: Routledge & K. Paul.

Hale, D. R., & Viner, R. M. (2012). Policy responses to multiple risk behaviours in adolescents. *J Public Health (Oxf)*, *34 Suppl 1*, i11-9.

Hall, S., & Jefferson, T. (2006). *Resistance through rituals: youth subcultures in post-war Britain* (2nd ed., Rev. and expanded ed. ed.). London; New York: Routledge.

Harakeh, Z., de Sonneville, L., van den Eijnden, R. J., Huizink, A. C., Reijneveld, S. A., Ormel, J., . . . Vollebergh, W. A. (2012). The association between neurocognitive functioning and smoking in adolescence: the TRAILS study. Neuropsychology, 26(5), 541-550.

Hayes, M. V. (1992). On the epistemology of risk: language, logic and social science. Soc Sci Med, 35(4), 401-407.

Hebdige, D. (1979). Subculture, the meaning of style. London: Methuen.

Hegerl, U., Althaus, D., & Stefanek, J. (2003). Public attitudes towards treatment of depression: effects of an information campaign. Pharmacopsychiatry, 36(6), 288-291.

Hier, S. P., & Greenberg, J. L. (2002). Constructing a discursive crisis: Risk, problematization and illegal Chinese in Canada. Ethnic and racial studies, 25(3), 490-513.

Hine, T. (1999). The rise and fall of the American teenager (1st ed. ed.). New York: Bard. Retrieved from http://www.loc.gov/catdir/description/hc042/99024381.html

Hinman, G. W., Rosa, E. A., Kleinhesselink, R. R., & Lowinger, T. C. (1993). Perceptions of nuclear and other risks in Japan and the United States. *Risk Anal*, *13*(4), 449-455.

Horwitz, A. V., & Wakefield, J. C. (2012). *The loss of sadness: how psychiatry transformed normal sorrow into depressive disorder*. Oxford; New York: Oxford University Press.

Hoven, C. W., Wasserman, D., Wasserman, C., & Mandell, D. J. (2009). Awareness in nine countries: a public health approach to suicide prevention. *Leg Med (Tokyo)*, *11 Suppl 1*, S13-7.

Ibrahim, A. (2014). Critical Youth Studies: An Introduction. In Ibrahim, A. & Steinberg, S. R. (Ed.), *Critical Youth Studies Reader*. Peter Lang Publishing Inc.

Inhorn, M. C. (1995). Medical anthropology and epidemiology: divergences or convergences. *Soc Sci Med*, *40*(3), 285-290.

Jackson, C. A., Henderson, M., Frank, J. W., & Haw, S. J. (2012). An overview of prevention of multiple risk behaviour in adolescence and young adulthood. *Journal of public health*, *34*(suppl 1), i31-i40.

Japp, K. P., & Kusche, I. (2008). Systems Theory and Risk. In J. O. Zinn (Ed.), *Social theories of risk and uncertainty: An introduction* (p. 76). Wiley-Blackwell.

Jenks, C. (2005). *Childhood: critical concepts in sociology*. London; New York: Routledge.

Jensen, P. S. (1998). Prevention research in child and adolescent psychiatry. In J. G. Young & P. Ferrari (Eds.), *Designing mental health services and systems for children and adolescents: a shrewd investment* (p. xxiii, 476). Philadelphia, PA: Brunner/Mazel.

Jessor, R. (1991). Risk behavior in adolescence: a psychosocial framework for understanding and action. *J Adolesc Health*, *12*(8), 597-605.

Jiang, N., Kolbe, L. J., Seo, D. C., Kay, N. S., & Brindis, C. D. (2011). Health of adolescents and young adults: trends in achieving the 21 Critical National Health Objectives by 2010. *J Adolesc Health*, *49*(2), 124-132.

Johnson, J. G., Cohen, P., Gould, M. S., Kasen, S., Brown, J., & Brook, J. S. (2002). Childhood adversities, interpersonal difficulties, and risk for suicide attempts during late adolescence and early adulthood. *Arch Gen Psychiatry*, *59*(8), 741-749.

Johnson, S. B., Blum, R. W., & Giedd, J. N. (2009). Adolescent maturity and the brain: the promise and pitfalls of neuroscience research in adolescent health policy. *J Adolesc Health*, *45*(3), 216-221.

Jorm, A. F., Christensen, H., & Griffiths, K. M. (2005). The impact of beyond blue: the national depression initiative on the Australian public's recognition of depression and beliefs about treatments. *Aust N Z J Psychiatry*, *39*(4), 248-254.

Junglepussy. (2015). Nothing for me. On *Pregnant with success*. New York, NY.

Kaess, M., Brunner, R., Parzer, P., Carli, V., Apter, A., Balazs, J. A., . . . Wasserman, D. (2013). Risk-behaviour screening for identifying adolescents with mental health problems in Europe. *Eur Child Adolesc Psychiatry*.

Kaess, M., Brunner, R., Parzer, P., Carli, V., Apter, A., Balazs, J. A., . . . Wasserman, D. (2014). Risk-behaviour screening for identifying adolescents with mental health problems in Europe. *Eur Child Adolesc Psychiatry*, *23*(7), 611-620.

Kandel, D. B., Johnson, J. G., Bird, H. R., Weissman, M. M., Goodman, S. H., Lahey, B. B., . . . Schwab-Stone, M. E. (1999). Psychiatric comorbidity among adolescents with substance use disorders: findings from the MECA Study. *J Am Acad Child Adolesc Psychiatry*, *38*(6), 693-699.

Kann, L., Kinchen, S., Shanklin, S. L., Flint, K. H., Kawkins, J., Harris, W. A., . . . Zaza, S. (2014). Youth risk behavior surveillance - United States, 2013. *MMWR Surveill Summ*, *63 Suppl 4*, 1-168.

Kelleher, I., Keeley, H., Corcoran, P., Lynch, F., Fitzpatrick, C., Devlin, N., . . . Cannon, M. (2012). Clinicopathological significance of psychotic experiences in non-psychotic young people: evidence from four population-based studies. *Br J Psychiatry*, *201*(1), 26-32.

Kelleher, I., Corcoran, P., Keeley, H., Wigman, J. T., Devlin, N., Ramsay, H., . . . Cannon, M. (2013a). Psychotic symptoms and population risk for suicide attempt: a prospective cohort

study. *JAMA Psychiatry*, *70*(9), 940-948.

Kelleher, I., Keeley, H., Corcoran, P., Ramsay, H., Wasserman, C., Carli, V., . . . Cannon, M. (2013b). Childhood trauma and psychosis in a prospective cohort study: cause, effect, and directionality. *Am J Psychiatry*, *170*(7), 734-741.

Kelly, P. (2000). The dangerousness of youth-at-risk: the possibilities of surveillance and intervention in uncertain times. *J Adolesc*, *23*(4), 463-476.

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry*, *62*(6), 593-602.

Kessler, R. C., McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., . . . Williams, D. R. (2010). Childhood adversities and adult psychopathology in the WHO World Mental Health Surveys. *Br J Psychiatry*, *197*(5), 378-385.

Kim, Y. (2011). Adolescents' health behaviours and its associations with psychological variables. *Cent Eur J Public Health*, *19*(4), 205-209.

Kipping, R. R., Campbell, R. M., MacArthur, G. J., Gunnell, D. J., & Hickman, M. (2012). Multiple risk behaviour in adolescence. *J Public Health (Oxf)*, *34 Suppl 1*, i1-2.

Kokkevi, A., Rotsika, V., Arapaki, A., & Richardson, C. (2012). Adolescents' self-reported suicide attempts, self-harm thoughts and their correlates across 17 European countries. *J Child Psychol Psychiatry*, *53*(4), 381-389.

Kraemer, H. C., Kazdin, A. E., Offord, D. R., Kessler, R. C., Jensen, P. S., & Kupfer, D. J. (1997). Coming to terms with the terms of risk. *Arch Gen Psychiatry*, *54*(4), 337-343.

Krausman Ben-Amos, I. (1995). Adolescence as a cultural invention: Philippe Ariès and the sociology of youth. *History of the Human Sciences*, *vol. 8 no. 2*, 69-89.

Krieger, N. (2011). *Epidemiology and the people's health: theory and context*. New York: Oxford University Press.

Kvale, S. (1996). *Interviews: an introduction to qualitative research interviewing*. Thousand Oaks, Calif.: Sage Publications.

Ladytron. (2002). Seventeen. On *Light & Magic*. London, England: Telstar.

Latour, B., & Woolgar, S. (1979). *Laboratory life: the social construction of scientific facts*. Beverly Hills: Sage Publications.

Lench, H., & Levine, L. (2005). Effects of fear on risk and control judgments and memory: Implications for health promotion messages. *Cognition & Emotion*, *19*(7), 1049-1069.

Lesko, N. (2012). *Act Your Age!: A Cultural Construction of Adolescence (Critical Social Thought)* (2 ed.). Routledge.

Lesko, N., & Talburt, S. (2012). *Keywords in youth studies: tracing affects, movements, knowledges*. New York: Routledge.

Lévi-Strauss, C. (1963). *Totemism*. Boston: Beacon Press.

Lightfoot, C. (1997). *The Culture of Adolescent Risk-Taking (Culture and Human Development)* (1 ed.). The Guilford Press.

Luhmann, N. (1993). *Risk: a sociological theory* (Communication and social order). New York: A. de Gruyter.

Lupton, D. (1995). *The imperative of health: Public health and the regulated body* (90). Taylor & Francis.

Lupton, D. (1999). *Risk* (Key ideas). London; New York: Routledge.

Lupton, D., & Tulloch, J. (2002a). Life would be pretty dull without risk': voluntary risk-taking and its pleasures. *Health, risk & society*, *4*(2), 113-124.

Lupton, D., & Tulloch, J. (2002b). Risk is part of your life': Risk epistemologies among a group of Australians. *Sociology*, *36*(2), 317-334.

Lynch, J. (2006). It's not easy being interdisciplinary. *Int J Epidemiol*, *35*(5), 1119-1122.

Massumi, B. (1993). *The Politics of everyday fear*. Minneapolis: University of Minnesota Press.

Martin, E. (2010). Imagining mood disorders as a public health crisis. In D. Serlin (Ed.), *Imagining illness: public health and visual culture* (pp. 245-263). Minneapolis, MN: University of Minnesota Press.

Mawn, L., Welsh, P., Stain, H. J., & Windebank, P. (2015). Youth Speak: increasing engagement of young people in mental health research. *J Ment Health*, *24*(5), 271-275.

McCrea, R. L., Berger, Y. G., & King, M. B. (2012). Body mass index and common mental disorders: exploring the shape of the association and its moderation by age, gender and education. *Int J Obes (Lond)*, *36*(3), 414-421.

Medovoi, L. (2005). *Rebels: youth and the Cold War origins of identity* (New Americanists). Durham: Duke University Press.

Merikangas, K. R., He, J.-, Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., . . . Swendsen, J. (2010). Lifetime prevalence of mental disorders in US adolescents: results from the National Comorbidity Survey Replication–Adolescent Supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry*, *49*(10), 980-989.

Merikangas, K. R., Lieb, R., Wittchen, H. U., & Avenevoli, S. (2003). Family and high-risk studies of social anxiety disorder. *Acta Psychiatr Scand Suppl*, 417), 28-37.

REFERENCES

Merriam-Webster. (2015). http://www.merriam-webster.com/dictionary/duh. Visited on December 22 2015.

Metzl, J. M., & Hansen, H. (2014). Structural competency: theorizing a new medical engagement with stigma and inequality. *Soc Sci Med*, *103*, 126-133.

Morse, J. M. (2000). Determining sample size. *Qualitative health research*, *10*(1), 3-5.

Mrazek, P. J., & Haggerty, R. J. (1994). Committee on Prevention of Mental Disorders, Institute of Medicine. *Reducing Risks for Mental Disorders: Frontiers for Preventive Intervention Research*.

Murray, S. B. (2003). A spy, a shill, a go-between1, or a sociologist: unveiling the observer in participant observer. *Qualitative Research*, *3*, 377-395.

Narboni, V., & Wasserman, D. (2000). *Suicide prevention in schools: a public health priority*. Proceedings from World Congress on Depressive Disorders Mendoza, Argentina.

NIH. (2015). "Community based participatory research": https://obssr.od.nih.gov/scientific_areas/methodology/community_based_participatory_research/ Visited on December 22, 2015.

NIMH. (2015) About NIMH. https://www.nimh.nih.gov/about/index.shtml. Visited on December 22, 2015.

O'Connell, M. E., Boat, T., & Warner, K. E. (2009). *Preventing Mental, Emotional, and Behavioral Disorders Among Young People: Progress and Possibilities*. National Academies Press.

Parascandola, M. (2011). Causes, risks, and probabilities: probabilistic concepts of causation in chronic disease epidemiology. *Prev Med*, *53*(4-5), 232-234.

Park, M. J., Brindis, C. D., Chang, F., & Irwin, C. E. (2008). A midcourse review of the healthy people 2010: 21 critical health objectives for adolescents and young adults. *J Adolesc Health*, *42*(4), 329-334.

Patton, G. C., Coffey, C., Cappa, C., Currie, D., Riley, L., Gore, F., . . . Ferguson, J. (2012). Health of the world's adolescents: a synthesis of internationally comparable data. *Lancet*, *379*(9826), 1665-1675.

Patton, G. C., Coffey, C., Romaniuk, H., Mackinnon, A., Carlin, J. B., Degenhardt, L., . . . Moran, P. (2014). The prognosis of common mental disorders in adolescents: a 14-year prospective cohort study. *Lancet*, *383*(9926), 1404-1411.

Paykel, E. S., Hart, D., & Priest, R. G. (1998). Changes in public attitudes to depression during the Defeat Depression Campaign. *Br J Psychiatry*, *173*, 519-522.

Pickenhagen, A., & Sartorius, N. (2002). Stigma because of mental illness and ways of combating it. *A selective annotated bibliography. Geneva: WPA Program against Stigma and Discrimination because of Schizophrenia, in press. First and foremost, we recognized that*.

Powers, S. I., Hauser, S. T., & Kilner, L. A. (1989). Adolescent mental health. *American Psychologist*, *44*(2), 200.

Prussing, E. (2014). Contextualizing racial disparities in preterm delivery: a rhetorical analysis of U.S. epidemiological research at the turn of the 21st century. *Soc Sci Med*, *115*, 82-93.

Qian, H.-Z., Ruan, Y., Liu, Y., Milam, D. F., Yin, L., Li, D., . . . Vermund, S. H. (2015). Lower HIV risk among circumcised men who have sex with men in China: Interaction with anal sex role in a cross-sectional study. *Journal of acquired immune deficiency syndromes (1999)*.

Rabinow, P. (2007). *Marking Time: On the Anthropology of the Contemporary*. Princeton University Press.

Ramberg, I, & Wasserman D. (1995). Mentalt förebyggande hälsovård: Effektutvärdering. *Rätt till Liv, Lust till Liv; Forskningsrådsnämnden rapport*, *4*, 141-150.

Ramberg, I., & Wasserman, D. (1996). Självmordsförebyggande arbete i skolan, behövs det? *Folkhälsoinstitutet rapport*, *119*, 29-32.

Ramberg, I-L, Wahlgren, M., Wasserman, D. (1999). Ungdomars attityder til självmordshandlingar- fokusgruppintervjuer. *Socialmedicinsk tidskrift*, *4*, 322-331.

Rankine, C. (2014). *Citizen: an American lyric*. Graywolf Press.

Rawn, C. D., & Vohs, K. D. (2011). When people strive for self-harming goals: Sacrificing personal health for interpersonal success. *Handbook of self-regulation*, 374-389.

Regier, D. A., Hirschfeld, R. M., Goodwin, F. K., Burke, J. D., Lazar, J. B., & Judd, L. L. (1988). The NIMH Depression Awareness, Recognition, and Treatment Program: structure, aims, and scientific basis. *Am J Psychiatry*, *145*(11), 1351-1357.

Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., . . . Shew, M. (1997). Protecting adolescents from harm: findings from the National Longitudinal Study on Adolescent Health. *Jama*, *278*(10), 823-832.

Reyna, V. F., & Farley, F. (2006). Risk and rationality in adolescent decision making implications for theory, practice, and public policy. *Psychological science in the public interest*, *7*(1), 1-44.

Romer, D. (2010). Adolescent risk taking, impulsivity, and brain development: implications for prevention. *Dev Psychobiol*, *52*(3), 263-276.

Rutter, M. (1995). *Psychosocial disturbances in young people: challenges for prevention*. Cambridge: New York: Cambridge University Press.

Rüütel, E., Sisask, M., Värnik, A., Värnik, P., Carli, V., Wasserman, C., . . . Wasserman, D. (2014). Alcohol consumption patterns among adolescents are related to family structure and exposure to drunkenness within the family: results from the SEYLE project. *Int J Environ Res Public Health*, *11*(12), 12700-12715.

Saban, A., & Flisher, A. J. (2010). The association between psychopathology and substance use in young people: a review of the literature. *J Psychoactive Drugs*, *42*(1), 37-47.

Sarchiapone, M., Mandelli, L., Carli, V., Iosue, M., Wasserman, C., Hadlaczky, G., . . . Wasserman, D. (2014). Hours of sleep in adolescents and its association with anxiety, emotional concerns, and suicidal ideation. *Sleep Med*, *15*(2), 248-254.

Savage, J. (2007). *Teenage: the creation of youth culture*. New York: Viking.

Sawyer, S. M., Afifi, R. A., Bearinger, L. H., Blakemore, S.-J., Dick, B., Ezeh, A. C., & Patton, G. C. (2012). Adolescence: a foundation for future health. *The Lancet*, *379*(9826), 1630-1640.

Schlegel, A., & Barry, H. (1991). *Adolescence: an anthropological inquiry*. New York : Toronto : New York: Free Press ; Collier Macmillan Canada ; Maxwell Macmillan International.

Shaffer, D., Gould, M. S., Fisher, P., Trautman, P., Moreau, D., Kleinman, M., & Flory, M. (1996). Psychiatric diagnosis in child and adolescent suicide. *Archives of general psychiatry*, *53*(4), 339-348.

Sisask, M., Värnik, P., Värnik, A., Apter, A., Balazs, J., Balint, M., . . . Cosman, D. (2013). Teacher satisfaction with school and psychological well-being affects their readiness to help children with mental health problems. *Health Education Journal*, 382-393.

Snaza, N., & Weaver, J. A. (2014). Posthuman(ist) Youth: Conrol, Play, and Possibilities. In A. Ibrahim & S. Steinberg (Eds.), *Critical Youth Studies Reader* (pp. 349-359). Peter Lang Publishing Inc.

Smith, H. A. (1977). *Don't get perconel with a chicken*. Stein and Day.

Sofaer, S. (2002). Qualitative research methods. *International Journal for Quality in Health Care*, *14*(4), 329-336.

Spear, L. P. (2010). *The behavioral neuroscience of adolescence* (1st ed. ed.). New York: W. W. Norton.

Steptoe, A., Deaton, A., & Stone, A. A. (2015). Subjective wellbeing, health, and ageing. *The Lancet*, *385*(9968), 640-648.

Stirling, K., Toumbourou, J. W., & Rowland, B. (2015). Community factors influencing child and adolescent depression: A systematic review and meta-analysis. *Australian and New Zealand Journal of Psychiatry*, *49*(10), 869-886.

Stewart-Brown, S. L. (2015). Public mental health: an interdisciplinary subject?

The British Journal of Psychiatry, *DOI: 10.1192/bjp.bp.114.157966*, 192-194.

Susser, E., & Patel, V. (2014). Psychiatric epidemiology and global mental health: joining forces. *International journal of epidemiology*, dyu053.

Talburt, S., & Lesko, N. (2014). Historicizing youth studies. In Ibrahim A., Steinberg S. (Ed.), *Critical Youth Studies Reader* (pp. 26-37). Peter Lang Publishing Inc.

Thornicroft, G., Rose, D., Kassam, A., & Sartorius, N. (2007). Stigma: ignorance, prejudice or discrimination. *The British Journal of Psychiatry*, *190*(3), 192-193.

Tilleczek, K. C. (2011). *Approaching youth studies: being, becoming, and belonging*. Don Mills, Ont.; New York: Oxford University Press.

Titelman, D., & Wasserman, D. (2009). In D. Wasserman & C. Wasserman (Eds.), *Oxford textbook of suicidology and suicide prevention: a global perspective* (pp. 509-514). Oxford; New York: Oxford University Press.

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care*, *19*(6), 349-357.

Tulloch, J., & Lupton, D. (2002). Consuming Risk, Consuming Science The case of GM foods. *Journal of Consumer Culture*, *2*(3), 363-383.

Tulloch, J., & Lupton, D. (2003). *Risk and everyday life*. London; Thousand Oaks: Sage Publications.

UN. (1989) Convention of the rights of the child, http://www.ohchr.org/en/professionalinterest/pages/crc.aspx. United Nations. Visited on December 22, 2015.

UN (2015). *Youth factsheet*. http://www.un.org/esa/socdev/documents/youth/fact-sheets/youth-definition.pdf. United Nations. Visited on December 22, 2015.

Vogt, D. S., King, D. W., & King, L. A. (2004). Focus groups in psychological assessment: enhancing content validity by consulting members of the target population. *Psychological assessment*, *16*(3), 231.

Voss, M. W., Nagamatsu, L. S., Liu-Ambrose, T., & Kramer, A. F. (2011). Exercise, brain, and cognition across the life span. *Journal of Applied Physiology*, *111*(5), 1505-1513.

Wasserman, C., Hoven, C. W., Wasserman, D., Carli, V., Sarchiapone, M., Al-Halabi, S., . . . Poštuvan, V. (2012). Suicide prevention for youth--a mental health awareness program: lessons learned from the Saving and Empowering Young Lives in Europe (SEYLE) intervention study. *BMC Public Health*, *12*, 776.

Wasserman, D., Carli, V., Wasserman, C., Apter, A., Balazs, J., Bobes, J., . . . Hoven, C. W. (2010). Saving and empowering young lives in Europe (SEYLE): a randomized controlled trial. *BMC Public Health*, *10*, 192.

Wasserman, D., Hoven, C. W., Wasserman, C., Wall, M., Eisenberg, R., Hadlaczky, G., . . . Carli, V. (2015). School-based suicide prevention programmes: the SEYLE cluster-randomised, controlled trial. *Lancet*.

WE-STAY Report (2013). *Final Report to the EU Commission.* Available for download at www.we-stay.eu/WESTAY_finalreport.pdf.

Westerlund, M., & Wasserman, D. (2009). The role of the Internet in suicide prevention. In D. Wasserman & C. Wasserman (Eds.), *Oxford Textbook of Suicidology and Suicide Prevention: a Global Perspective* (pp. 525-532). Oxford: Oxford University Press.

Whitley, R. (2014). Beyond critique: rethinking roles for the anthropology of mental health. *Cult Med Psychiatry*, *38*(3), 499-511.

WHO. (2001) The second decade: improving adolescent health and development. Geneva: WHO.

WHO. (2003) Investing in Mental Health. http://www.who.int/mental_health/media/investing_mnh.pdf. Geneva: WHO. Visited on December 22, 2015.

WHO. (2015) Health promotion. http://www.who.int/topics/health_promotion/en/ Geneva: WHO. Visited on December 22, 2015.

Willig, C. (2001). *Introducing qualitative research in psychology: adventures in theory and method*. Buckingham; Philadelphia, PA: Open University Press.

Wilson, R., & Crouch, E. A. C. (2001). *Risk-benefit analysis*. Harvard Univ Pr.

Woo, Y. Y. (2012). Age. In N. Lesko & S. Talburt (Eds.), *Keywords in youth studies: tracing affects, movements, knowledges*.

Wu, P., Bird, H. R., Liu, X., Fan, B., Fuller, C., Shen, S., . . . Canino, G. J. (2006). Childhood depressive symptoms and early onset of alcohol use. *Pediatrics*, *118*(5), 1907-1915.

Yardley, L. (2000). Dilemmas in qualitative health research. *Psychology and health*, *15*(2), 215-228.

YRBSS. (2015). http://www.cdc.gov/healthyyouth/data/yrbs/overview.htm. Visited on December 22, 2015.

Zeigler, D. W., Wang, C. C., Yoast, R. A., Dickinson, B. D., McCaffree, M. A., Robinowitz, C. B., & Sterling, M. L. (2005). The neurocognitive effects of alcohol on adolescents and college students. *Preventive medicine*, *40*(1), 23-32.

Zhou, Z., Xiong, H., Jia, R., Yang, G., Guo, T., Meng, Z., . . . Zhang, Y. (2012). The risk behaviors and mental health of detained adolescents: a controlled, prospective longitudinal study. *PLoS One*, *7*(5), e37199.