adRisk
European action on adolescent and injury risk

TACKLING INJURIES AMONG ADOLESCENTS AND YOUNG ADULTS IN THE EU:

STRATEGY AND FRAMEWORK FOR ACTION

EuroSafe
European Association for Injury Prevention and Safety Promotion

KfV
Kuratorium für Verkehrssicherheit

Impressum:

Project: AdRisk – European action on adolescents and injury risk.
Title: Tackling Injuries among Adolescents and Young Adults: Strategy and Framework for Action(September 2008).
Authors: Löwe, Ursula; Braun, Eveline; Kisser, Rupert (KfV).
Reviewers: Koller, Gerald; Laflamme, Lucie; McWhirter, Jenny; Rogmans, Wim; Schlembach, Christopher; Scott, Ian; Vincenten, Joanne.
Editor: KfV (Austrian Road Safety Board), Vienna.

Suggested citation: Löwe, Ursula; Braun, Eveline; Kisser, Rupert (KfV): Tackling Injuries among Adolescents and Young Adults: Strategy and Framework for Action. EU-Project AdRisk, 2008. KfV (Austrian Road Safety Board), Vienna. Available at: http:/// www.adrisk.eu.com

This report provides a strategy and a framework for action in order to tackle injury risk of adolescents and young adults. The paper points out efficient strategies of the past and suggests an additional, supplementing approach of developing risk competence. Main areas for intervention are presented and targets specified.

The following AdRisk deliverables are available at http:/// www.adrisk.eu.com :

- Document: Injuries and risk-taking among young people in Europe –The European Situation analysis.
- Document: Good Practices Guide on adolescents and injury prevention in Europe.
- Document: Injuries and risk-taking among young people in Europe – Data summary of European situation analysis.
- Document: Guide for initiating national action on adolescents and injury prevention in Europe.
- Toolbox.

Project co-ordination and contact:
KfV (Austrian Road Safety Board),
Ursula Löwe
Schleiergasse 18
1100 Vienna, Austria
Tel.: +43 5 77077 1342;
e-mail: Ursula.loewe@kfv.at

The following institutions are partners in the AdRisk project consortium:

KfV	Austrian Road Safety Board	Austria	Workpackage 1: Coordination Workpackage 5: Strategy
	Azienda ULSS 20 di Verona	Italy	Workpackage 2: Dissemination
	National Center for Health Care Audit and Improvement	Hungary	Workpackage 3: Evaluation
KTL Kansanterveyslaitos Folkhälsoinstitutet National Public Health Institute	National Public Health Institute	Finland	Workpackage 4: European Situation Analysis Report and Good Practices Guide
	Consumer Safety Institute	The Netherlands	Workpackage 6: Toolbox development

This project is supported by a grant from the European Commission DG SANCO (AdRisk: 2005310) under the Public Health Programme 2003-2008.

ISBN 978-3-7070-0087-0

CONTENTS

EXECUTIVE SUMMARY		3
1	PURPOSE	5
2	WHY TACKLE INJURIES AMONG ADOLESCENTS AND YOUNG ADULTS?	7
3	DIMENSIONS OF THE PROBLEM	7
4	CURRENT PRACTICES	9
5	FILLING GAPS: BUILDING RISK COMPETENCE	13
6	FACTORS FOR SUCCESS	18
7	FRAMEWORK FOR ACTION	21
REFERENCES		26

EXECUTIVE SUMMARY

This document provides a strategy and a framework for action to prevent injury to adolescents and young adults (age group 15–24) in the Member States of the European Union. It is addressed to national governments and responsible ministries as well as relevant national stakeholders in the fields of health, education, youth, workplace, sport and welfare, who are responsible for the issue. This document proposes areas and actions for intervention.

Adolescence is a period of rapid development when young people acquire new capacities but also face new risks – which can lead to injuries. Injuries are the number one killer of young people, accounting for more then 20 000 deaths per year in this age group in EU 27. Between 15 and 24 years almost two thirds of all fatalities are due to injuries, both unintentional (incurred on roads, during sports and leisure and at the workplace) and intentional (injuries due to violence and suicides). Injury also contributes significantly to morbidity rates and life long disability. Inappropriate risk-taking and eagerness to take risks play a significant role in the causation. Risk-taking of young people is a phenomenon in all domains of life (traffic, sports, workplace, social behaviour, alcohol and drug consumption etc.). But risk-taking behaviour has different aspects – on the one hand, it is typical for the age group and a challenge for the development of an adult personality, but on the other, it may also lead to harm.

The existing injury control policies and programmes do not sufficiently address the risk-taking of young people. There are numerous approaches to dealing with injury, but they are fragmented and independently implemented within the specific policy areas (e.g. road traffic, workplace, school).

Injury prevention for young people receives limited consideration within public health policies and is rarely included in health promotion programmes or youth policies. Approaches focusing on engineering, enforcement, legislation and education schemes are effective but not sufficient.

Risk competence measures focus on developing emotional, social and cognitive skills that build resilience. These measures intend to improve the perception and assessment of risks in order to increase the capacity of young people to handle and cope with hazardous situations. They are linked to the creation of learning opportunities and stimulating environments where young people can fully explore and develop their physical, psychological and social skills without undue injury risk. The concept refers to empowerment approaches in health promotion strategies, as well as to successful programmes on harm minimisation in drug and alcohol abuse and for violence prevention. Training in risk competence and life skills for young people is recommended in addition to existing measures.

In order to reduce the high injury rates of young people, stakeholders in the Member States are encouraged to take the following actions:

1) Recognise injury as a health problem. Place injury prevention and safety promotion as an important issue high on the public health agenda. Assess the burden of injury, formulate national interdepartmental action plans, and build capacities to tackle the problem in collaboration with all stakeholders. Implement the Council Recommendation on the prevention of injury and the promotion of safety adopted in May 2007 as well as the WHO European Regional Resolution RC55 from September 2005. Intensify the implementation of proven effective measures of injury prevention for all age groups.

2) Ensure safety, as well as healthy development of young people as a priority within all relevant policies and programmes on injury prevention (interdepartmental plans as well as plans specific to certain sectors like road transport, workplace, or school). Define specific health goals and interventions to prevent injuries in young people.

3) Explore the opportunities of a systematic risk competence development and competence training among young people in the country.

Risk competence can be developed in different settings. On the one hand it means developing competencies within adolescents and, on the other hand providing the necessary structures for this development in different settings. The responsible political sectors should consider the following recommendations:

- **School:**
  Develop and promote a school agenda on risk competence including curriculum development, training standards for teachers, implement school programmes on risk competence and let the youth play an active role in their planning.

- **Sport:**
  Develop guidelines and training standards for safety and risk competence in specific sport areas targeting young people, and implement training schemes for trainers.

- **Extra curricular youth settings (youth work):**
  Integrate risk competence and life skill development in policies for youth work, disseminate and publicise effective good practices for developing risk competence, support the development of favourable settings for learning risk competence in the public space (e.g. adventure areas), develop youth pilot projects based on the needs of target groups in specific social settings.

- **Workplace and vocational training:**
  Mainstream risk competence development in programmes for occupational safety and health in different sectors with a specific focus on young workers.

- **Road traffic:**
  Integrate risk competence training in road safety education schemes and driver rehabilitation,

- Include risk competence development for young people as a strategy within the existing framework **of health promotion**.

1. PURPOSE

The strategy will contribute to prevent injury among adolescents and young adults in the Member States of the European Union with a specific focus on risk-taking behaviour. It gives recommendations for initiating action and implementation of measures by different responsible policy sectors.

Many factors impact the incidence and severity of injuries among young people. Challenges and risks emanate also from social changes and social inequality. Policies and interventions can be started from very many different viewpoints with different targets and specific objectives. When addressing youth injury, self harm and violence, the diverse causes need to be taken into account. The focus of this document is on encouraging behavioural change to reduce injuries. The intention of this strategy is also to link with other policy areas where young people have heightened risk, where substantial work has been done and where risk-taking and behaviour modification are central tools of action e.g. drug and alcohol prevention or life skill approaches to reduce violence.

The document covers the primary and secondary prevention of unintentional (accidents) as well as intentional injuries (interpersonal violence and self-harm), it does not deal with trauma care and rehabilitation.

The Council Recommendation on the prevention of injury and the promotion of safety adopted May 31, 2007 (Commission of the European Communities, 2007) recommends that Member States set up interdepartmental national actions plans on injury prevention, put injury prevention on the public health agenda, improve their injury surveillance systems, enhance their capacity for tackling the injury problem, and pay special attention to underdeveloped areas like preventing injuries among adolescents. The Council requests the Commission to support these national initiatives, e.g. by maintaining a Community injury information system, facilitating the exchange of information on good practice, providing policy guidelines and a framework for joint actions in the priority areas.

This document addresses national governments and responsible ministries as well as relevant national stakeholders within the fields of health (public health, health promotion, and injury prevention), education (schools, vocational trainings), youth, workplace, sport and welfare.

It advocates the implementation of the various effective measures available in the different sectors (road transport, workplace, school, suicide and violence prevention) for preventing injuries among adolescents and young adults. It makes the case for putting the prevention of injuries in young people higher on the political agenda, also on the agenda of health policy. Finally, it recommends specific programmes to directly tackle the high risk-taking of young people by providing risk competence training and life skill development.

This document has been prepared by the AdRisk project team (Community action on adolescent and injury risk) in an interdisciplinary and intersectoral consultation process with experts from the field of public health, injury prevention, youth research, youth work, social psychology and pedagogues, with input from the World Health Organization WHO and the European Association for Injury Prevention and Safety promotion (EuroSafe). The AdRisk project has been co-financed by DG Health and Consumer Protection within the Public Health Programme 2003 - 2008, work plan 2005.

The AdRisk project has published a Situation Analysis Report about adolescents and injury in the EU (AdRisk Injuries and risk-taking among young people in Europe – The European Situation Analysis; Kumpula & Paavola, 2008), a Good Practices Guide (AdRisk Good Practices Guide to Prevention of Injuries among Young People; Paavola et al., 2008) and has provided tools for effective communication and campaigning with young people (AdRisk Toolbox, 2008). The present strategy is based on the main findings of the AdRisk project. Further and detailed information as well as all the documents are accessible at: www.adrisk.eu.com

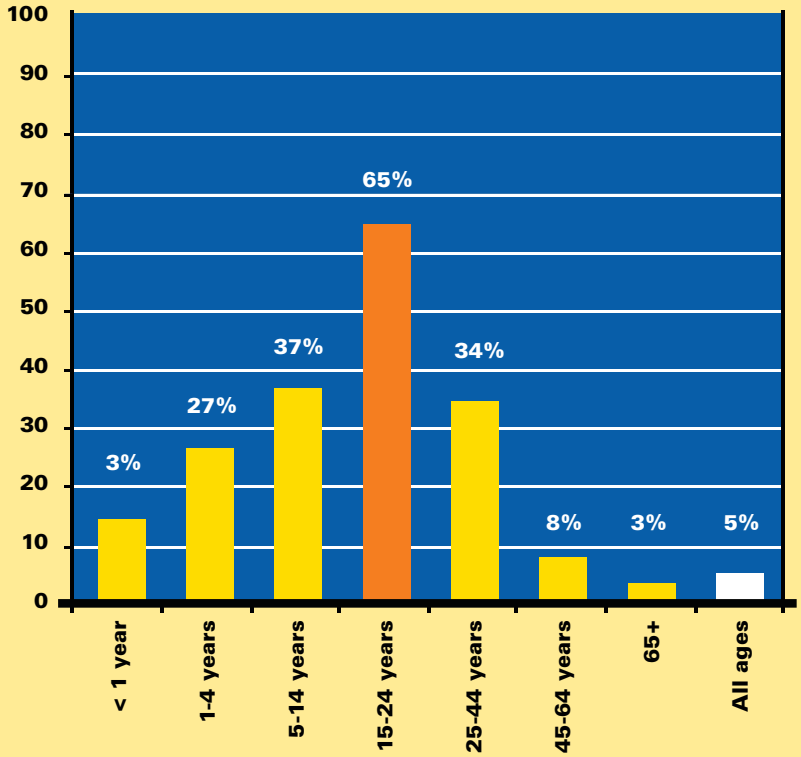


Figure 1: Injury deaths in % of all fatalities by age group in the EU 27 (KfV, 2007)

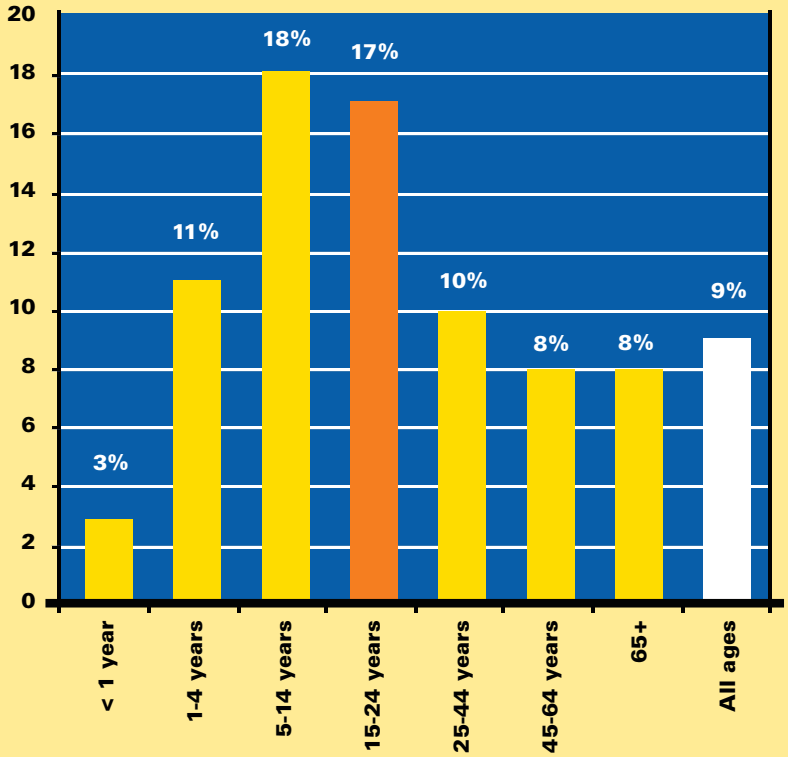


Figure 2: Injury hospitalisations in % of all hospital discharges by age group in the EU 27 (Source: EUROSTAT; hospital discharges due to injuries (2003-2005), data preparation by KfV

2. WHY TACKLE INJURIES AMONG ADOLESCENTS AND YOUNG ADULTS?

Injury is one of the most important health threats to young people
In the European Union (EU27) unintentional and intentional injuries account for 64% of all deaths among adolescents and young adults (age group 15–24 years). Injuries are the leading cause of hospitalisation among young people. Up to 20% of injuries have serious consequences, there are enormous human costs in terms of premature death and years of life to be lived in disability and there is an important amount of annual health care costs related to injuries and a major loss of productivity (Currie et al., 2004). Tackling the risk factors of accidents and injuries with a specific focus on young people would result in significant gains in public health.

Injuries among young people are widely preventable
The huge disparities between Member States indicate that there are potential gains to be made by stepping up existing efforts. If the fatality rates of young people (15-24) in all the Member States were reduced to the level of the Netherlands, the country currently with the lowest rate, almost 10,000 lives in this age group could be saved annually within the EU.

The existing injury control policies and programmes do not sufficiently address the specific topic of young people
There are numerous effective approaches to injury control but they are fragmented and more or less independently implemented within the specific policy areas (e.g. road transport, workplace, school). Programmes within the different areas of action (e.g. road transport, workplace, school) mainly apply injury control measures which are effective for all age groups. Specific interventions aiming to reduce the high injury rates of youth are less developed. Injury prevention for young people is hardly considered within public health and youth policies, rarely included in ongoing health promotion programmes.

Nor do they sufficiently address risk-taking among young people
Interventions in injury prevention dealing with risk-taking among young people are rare and, if available, not implemented on a large scale. Risk-taking among young people is a phenomenon in all domains of life (traffic, sport, workplace, social and sexual behaviour, alcohol and drug consumption etc.). Age specific psychological and social developments contribute to the rise in health threats, mainly between 15 and 24 years of age. During the ages of 15 to 24 new behaviours are explored and further habituation of negative behaviours can be prevented by providing pro-active guidance and a facilitating risk exploration environment.

3. DIMENSIONS OF THE PROBLEM

Injuries are the leading killer of young people
There are 63 million youths between the ages of 15 and 24 in the 27 Member States of the European Union (EU27). Injury, unintentional and intentional, is the leading cause of death, accounting for more than 64% of fatalities. This amounts to 20,000 deaths per year among young people and a mortality rate for youth of 31.9 per 100,000 persons (AdRisk The European Situation Analysis; 2008).

Huge burden on health
Injury is also the leading cause of hospitalisation in this age group with youth representing 15-20% of all visits to accident and emergency departments in most EU Member States although the youth group is only 9% of the population. Rates for disabilities are not known, but many

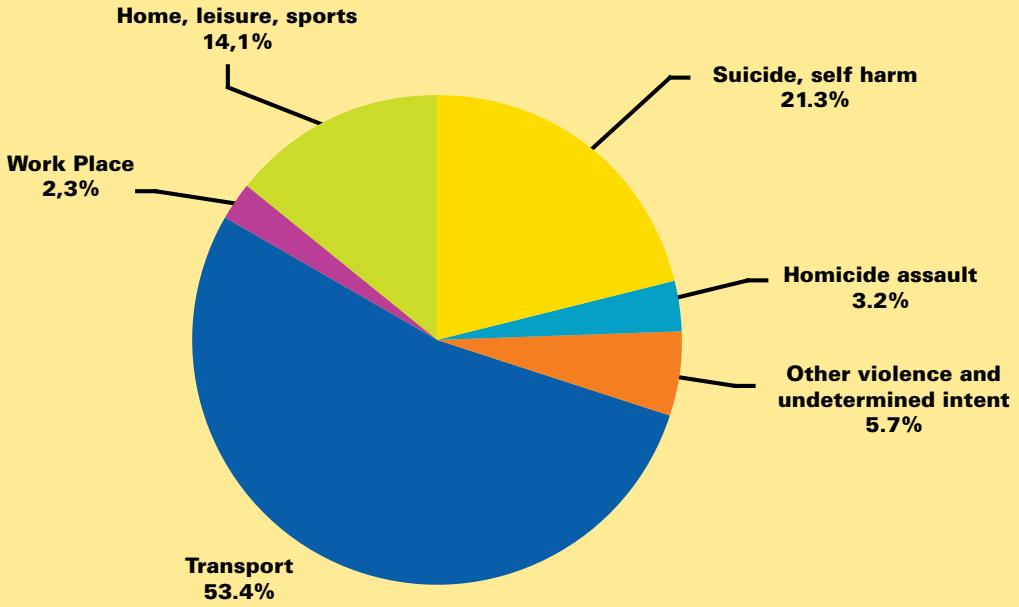


Figure 3: Causes of death by sector due to injuries within age group 15-24 (EU27) (Eurostat, Crude death rates due to external causes of injury and poisoning (V01 – Y89), 3 year average of the latest available years, mostly 2003-2005. Data preparation: KfV)

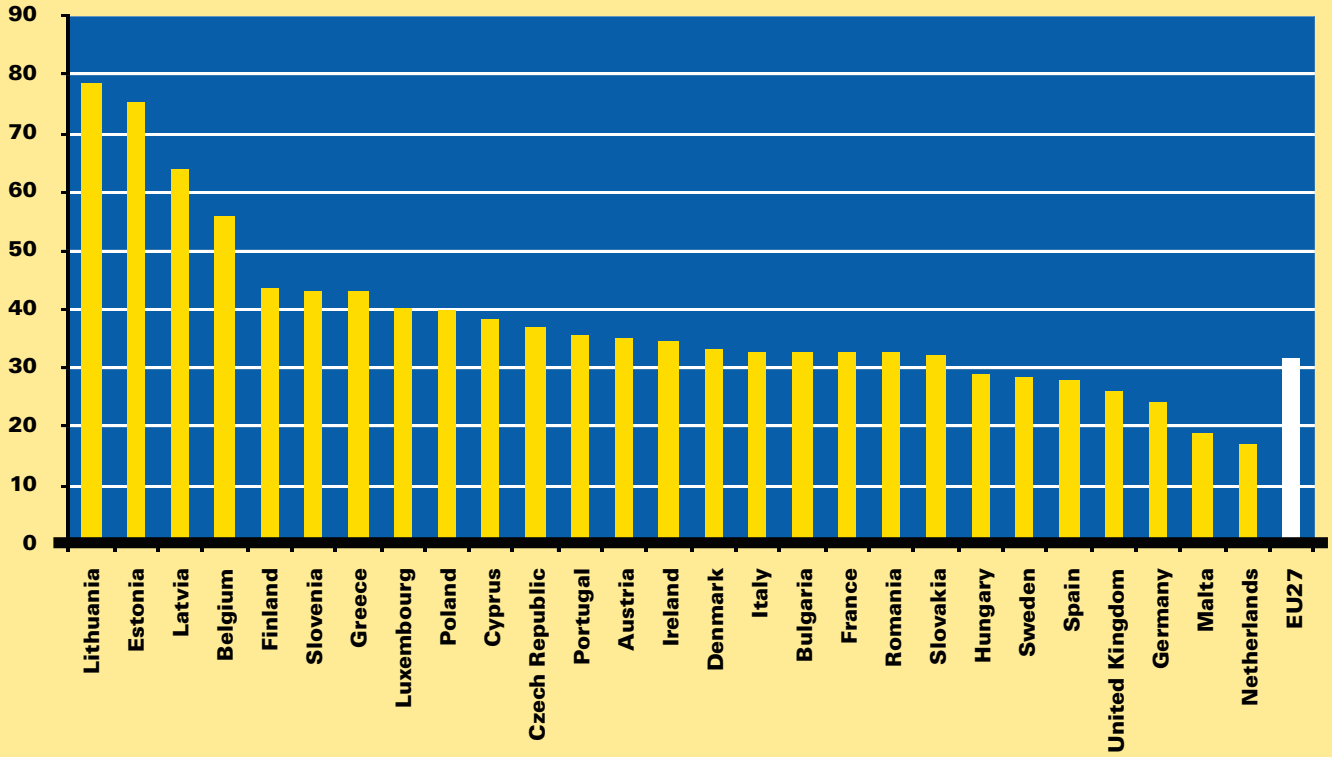


Figure 4: Crude injury deaths rates for age group 15-24 in all MS of the EU 27 (Eurostat, Crude death rates due to external causes of injury and poisoning (V01 – Y89), 3 year average of the latest available years, mostly 2003-2005. Data preparation: KfV)

serious injuries lead to life long disabilities, and injury among the young is a significant contributor to the loss of healthy life years. Death and invalidity of young people are a catastrophe for individuals, for families and the ageing EU societies.

Road transport, suicide, leisure and sport deliver main contributions to the burden of health

Transport and suicide/self harm account for three out of four deaths. Unintentional injuries account for 70% of injury fatalities in youth. Motor vehicle accidents are the cause of more than 50% of the fatal injuries in young people, much higher than the 21% of injury deaths they represent in the EU population as a whole. It should be noted that this data is for deaths and the pattern and burden of non fatal injury is different with locations such as home, leisure and sport and workplaces having fewer deaths but accounting for many non fatal injuries.

Huge disparities between Member States highlight the considerable potential for prevention

There is a four-fold difference in the crude youth injury death rates among Member States, from 17 injury deaths per 100,000 15-24 year olds in the Netherlands to 80 per 100,000 in Lithuania. The size and pattern of differences in death rates across Europe indicate substantial potential for reducing the burden of youth injuries by extending existing efforts across countries.

Striking disparities in injuries between young men and young women

Injury hospitalisation and death is three times higher in males than in females (AdRisk The European Situation Analysis, 2008).

Young males appear more inclined to outward oriented risk-taking behaviour like aggressive driving, violence or dangerous sports behaviour. Young women also take risks but they are much more inwards oriented in their risk-taking behaviour than young males (Raithel, 2004). They tend to consume an overdose of medication more often (e.g. barbiturates) than young males, are more vulnerable to deliberate self harm, attempt suicide more often and show more often problematic eating behaviours. Young males are more likely than women to concentrate on the possible benefits rather than on the possible costs of risky behaviour (Mitchell et al. 2001 quoted in AdRisk The European Situation Analysis, 2008). The reasons for these differences are multifaceted and influenced by the social environment, education and role models. The gender disparities indicate a need for future gender specific measures, which requires further research.

4. CURRENT PRACTICES

What has been done and what are the lessons learned?

Injuries occur in all areas of life. Therefore the political responsibility for the implementation of effective measures crosses administrative and political boundaries – education, health, workplace, road traffic, sport, consumer safety, youth welfare, police, justice etc. – as well as business, civil society, families and individuals. Short or medium-term action schemes to implement single interventions are usually called "programmes". Governmental schemes on a broader issue and with a long-term perspective are frequently called policies. Interventions are designed to cope with the risk of certain hazardous situations.

Effective policies and interventions for all age groups

The World Health Organisation (WHO, 2006) and the European Commission (EC communication, 2006) specify how to intervene effectively in specific areas in order to reduce both intentional and unintentional injuries, also for young people. The following are important recommendations for interventions that have proved effective in the past.

Prevention of road traffic injuries

- Set and enforce speed limits, establish protecting conditions for vulnerable road users
- Increase the use of cycle and motorcycle helmets supplemented by laws and educational campaigns
- Pass laws mandating seat-belt use backed up by public campaigns
- Take steps to reduce driving under the influence of alcohol and other drugs.
- Enforce legal limits on blood alcohol through laws and penalties
- Reduce speed among drivers using infrastructural engineering measures; speed cameras
- Build safer road infrastructures, plan and design roads and urban environments for safety: Mark pedestrian crossing, road lighting
- Encourage safer vehicle design for protecting people in crashes

Prevention of poisoning

- Adopt legislation and fiscal policy to reduce access to alcohol and unlicensed alcohol
- Restrict the availability of dangerous substances specifically to young people

Prevention of falls

- Barrier free construction
- Ensure product and design to prevent falls
- Implement occupational safety standards

Prevention of drowning

- Fence in waters, teach swimming skills
- Provide supervision for water users
- Ensure the availability and use of personal floatation devices

Prevention of sport injuries

- Promote safe sports
- Use personal protective equipment
- Ensure adequate qualification of coaches

Prevention of injuries caused by products and services

- Safety equipment should be appropriate and properly used
- Quality assurance and maintenance of equipment

Prevention of self harm injures

- Restrict access to means, such as firearms and harmful substances.
- Ensure early identification and treatment of at-risk groups.
- Reduce poverty and social isolation.
- Treat mental health, particularly the prevention of depression.

Prevention of interpersonal violence

- Provide parenting training and home visitation
- Strengthen police and judicial systems
- Promote control of firearms and safe storage
- Reduce alcohol availability
- Train health professionals in detection of violence
- Train children and adolescents in life skills (e.g. conflict solution without violence).
- Reduce high concentrations of poverty and income inequalities
- Change cultural norms to make violence unacceptable
- Reduce portrayals of violence in the mass media

General policies addressing injury prevention

General directions for injury prevention have been given by the Council Recommendation on the prevention of injury and promotion of safety (Commission of the European Communities, 2007). Recommendations are:

- Recognise injury as major health problem and put it on the agenda of health policy.
- Implement representative injury surveillance and reporting; monitoring the evolution of injury risks.
- Set up national action plans; support interdepartmental coordination and international cooperation.
- Priority should be given to children and adolescents, but especially also to elderly and disabled, as well as pedestrians and two-wheelers, furthermore the areas sport and leisure, products and services, violence and self-harm.
- Introduce injury prevention in schools and in trainings of health and other professionals, so that they can serve as advisers.

In the priority area of adolescents the AdRisk Project supports the Council Recommendations with guidelines and cooperation for initiating national action. (AdRisk A guide for initiating national action on adolescents and injury prevention in Europe; Löwe, 2007).

Recommendations for injury prevention have also been given by the WHO European Regional Committee (WHO 2005). These recommendations represent innovative approaches and implementation is still in the early stages. While general understanding that almost all policy sectors contribute to health is growing, strong interdepartmental collaboration for health is not yet a reality in most Member States.

General policies addressing youth

The White Paper on Youth (European Commission, 2001) argues that EU Member States increase cooperation in four youth priority areas: participation, information, voluntary activities and a greater understanding and knowledge of youth.

In 2002 the of the Council of the European Union established a framework for European co-operation in the field of youth with three strands:

- Young peoples' active citizenship (Youth in Action Programme);
- Social and occupational integration of young people (The European Youth Pact);
- Including a youth dimension in other sectoral and in European policies.

The underlying principles of these programmes are empowerment, participation in public life and decision making, focusing on resources and potentials of youth - principles that apply also for health policies.

Good practices for injury prevention of young people

Effective actions for young people can be found in the areas of road transport, school, work, sport, violence prevention and extracurricular youth work. Within the AdRisk Project a Good Practices Guide to prevention of injuries is available for further reference (AdRisk Good Practices Guide, 2008).

Examples of efficient measures for young people presented within this AdRisk Good Practices Guide are:

- Concerning **traffic** (legislation and regulatory measures have been proven to be successful; graduated driver licensing for novice drivers, lowered speed limits, lowered drink driving (BAC) limits, improved enforcement of drink driving rules, full- face helmets for motorcyclists. Behaviour change counselling on seatbelt use and bicycle helmets is recommended. Furthermore measures such as late–night transport, improvements in street lighting can help to reduce incidents of injury.

- Concerning **sports** (e.g. mouth guards in contact sports, warm-up exercises and balance training to prevent sports injuries among young athletes, mandatory use of a face protector for minor ice hockey players significantly decreased the rate of eye injuries, jump training programme to decrease the incidence of serious knee injury among high-school female athletes).

- Concerning **work** (e.g. special training sessions on specific work tasks).

- Concerning **violence** (e.g. school-based violence prevention interventions, mentoring programmes teaching problem solving skills to decrease the likelihood of drug use and to reduce self-reported forms of antisocial behaviour). Social development programmes that concentrate on emphasising social competence and skills can prevent youth violence. School- based violence prevention interventions are most effective when they are backed up by other changes in the community, e.g. legislation or enforcement are narrow in focus, are part of a whole school curriculum, run over multiple sessions and involve family and community.

- Concerning **substance abuse** (e.g. life skill development programmes have been found to be effective to help young people to develop essential skills found to significantly reduce tobacco, alcohol and drug abuse, violence).

- Interventions that target a variety of aspects, embedded in a wider context, aiming at different target groups like community based programmes (including education, enforcement and engineering) are most likely to be effective e.g. community programmes involving the cooperation of local authorities, agencies and individual citizens and comprising changes to the physical environment, information, education and supervision.

- Promising **innovative projects** are based on approaches to develop protecting skills and competences in youth to cope better with risk and danger, but also to face challenges. (see e.g. Risk&Fun project in AdRisk Good Practices Guide, 2008 and AdRisk Toolbox).

Lessons learned and gaps

- Numerous safety policies and programmes are in place. They embrace the safety of young people but rarely address it explicitly and tend to be sector specific. In particular, laws and programmes are in place in the domains of traffic safety, work place safety, and consumer product safety. Many injury prevention measures are implemented in these areas even when no comprehensive policy or action plan has been formulated.

- Injury prevention and safety promotion are less well developed in areas such as the "private" domains of home and leisure time activities, e.g. sport. Sport and exercise have positive effects on health (and other societal aspects) and are

therefore justifiably promoted, in particular amongst young people. Obviously a high proportion of the positive health effects of sport is annihilated by injuries. It is necessary to work towards a joint perspective of the promotion of sport and exercise and of health and safety in order to achieve a maximum of health benefit.

- At the national level youth policies are often thinly spread over different sectors. The division of youth-related policies may reduce the overall visibility of the scale and scope of youth related issues such as risk-taking and injury prevention.

- Classical policies and interventions mainly focus on technical and behavioural regulations (engineering and education) and associated enforcement. Current practice supports their integration with education and this approach has been particularly successful in reducing injuries on the roads and at work.

- Programmes that strengthen self protection, such as life skills and risk competences have been found to be effective (e.g. Kern et al. 2003, US National Health Promotion Associates, no date), but are not widely implemented within injury prevention.

- Current interventions tend to treat youth as the objects of interventions rather than the stakeholders. Often programmes, rules and services are created for rather than with youth. Viewing youth as a resource and as collaborators in the process of programme development and social policy construction, can avoid piecemeal solutions to problems and help programmes realize their potential (Galabos & Leadbeater, 2000).

5. FILLING GAPS: BUILDING RISK COMPETENCE

Classic approaches are helpful but not sufficient

Injury prevention in its classic form focuses on engineering, enforcement and legislation, often supported by education schemes like mass media campaigns, or training of rules of conduct (e.g. for the field of road safety see the EU-Projects SUPREME 2007; ROSEBUD, 2003; ROSE25, 2005). These actions make strong use of standards, regulations and codes of conduct: "dos" and "don'ts" and much has been achieved over the past decades. However, new approaches are required to fill the ever more obvious gaps associated with the high injury rates and the special circumstances of youth: approaches that are innovative in their vision of youth as a resource and having their focus on strengthening youth competence to tackle risks and challenges.

Risk-taking is important for young people

Why do young people have such high injury rates? What is the role of risk-taking in relation to injuries?

When addressing youth injury, including self harm and violence, multiple factors of causation need to be taken into account. These factors include risk-taking behaviour, basic exposure, inexperience, reluctance to speak up about hazards (especially in sport and at work place), lifestyle factors such as fatigue, stress, busy lives. Challenges and risks emanate also from social changes and social inequality.

Risk-taking behaviour is not irrational. It is related to demands of individual development during adolescence. Social science research indicates that risk-taking behaviour is a normative behaviour within the period of adolescence (Raithel, 2004). The heightened risk-taking during

adolescence is likely to be inevitable. Adolescents seem to have an increased need for the stimuli that risk-taking creates. Therefore interventions ought to focus on reducing the harm associated with risk behaviour rather than intending to minimise the risk-taking behaviour itself (Steinberg 2004 quoted in AdRisk The European Situation Analysis, 2008). Experiences which transcend borders are highly attractive to adolescents and risk-taking leads to acceptance within the peer group and delimitation to adult norms (Silbereisen & Reese, 2001).

Risk-taking is a major factor in areas of injury, especially for road accidents linked to drinking, drug taking and involvement of crime. The risk of injury has been shown to increase with the frequency of risk behaviour with young people engaging in multiple (=more than one) risk-taking behaviours being 10 times more likely to experience a traumatic injury than those who do not (Pickett et al., 2002). There is a strong association between different kinds of dangerous acts and psychoactive substance use, antisocial behaviour, risky driving and sexually promiscuous behaviour (Bonino et al., 2005 quoted in AdRisk The European Situation Analysis, 2008).

The difficulty when working with concepts of risk-taking behaviour is that there is no common definition in scientific literature (for an overview on studies concerning risk-taking behaviour see AdRisk The European Situation Analysis, 2008). Scientific literature mostly refers to risk behaviour. This is a broader definition, including all behaviours and habits developed which may lead to impairment and damage of health.

The literature shows that different scientific theories give different answers to what risk-taking is and to where risk-taking in young people comes from. There is an ongoing debate on the causes of risk-taking behaviour and whether it can be used as a homogenous concept (ibidem, p.34, also Raithel 2004).

Risk behaviour of youth may be a result of psycho-social burdens and lacking coping strategies in order to overcome those pressures (e.g. Problem-Behaviour-Theory by Jessor (Jessor and Jessor, 1977; Jessor 2001), others consider it to be an opportunity to cope with developmental tasks (Havighurst, 1948/1974 quoted in Raithel, 2004). Risk-taking may result from psycho-social stressors or socio-economic frame conditions or represent a social expression of the biologic gender (sociological perspective of „Doing gender", Stoller, 1968 quoted in Raithel, 2004). So violence and risk-taking behaviour can be seen as modes to express masculine gender.

Risk-taking behaviour may be explained on the basis of decision making (Health-Belief-Modell; Rosenstock, 1974; Theory of Planned Behaviour; Ajzen und Fishbein (Ajzen, 1985) focusing on perceived benefits, disbenefits, dangerousness, barriers and costs for preventive behaviour, perceived behaviour control.

Other concepts consider milieu and lifestyles as major factors. Social structures and frames seem to be of high importance in determining and explaining behaviours dangerous to health. Furthermore, the risky shift phenomenon in groups contributes to expounding risk-taking behaviour (Thomas, 1992 quoted in Raithel, 2004).

But also neurological development of the brain and biological factors in combination with psychological aspects may be considered in explaining risk-taking behaviour ("sensation-seeking" concept by Zuckerman, 1979).

So there is a variety of models that offer explanations for risk (taking) behaviour and their information contributes to designing appropriate measures for and with youth.

Communicating with young people

Irrespective of the explanatory power of models for risk-taking behaviour, the particular communication processes necessary for appealing to adolescents need to be considered. The

differences in communication with adolescents as opposed to children and adults need to be considered. Adolescence is a transitory period from childhood to adulthood. It is first of all determined by development of identity. This process includes differentiation from parents and parental norms and the young person's peer group becomes highly important. Prescriptions, proscription and advice can cause strong negative reactions and communication processes need to be carefully considered. Having youth participate in designing and conducting the measures, taking them seriously, integrating their ideas and knowledge has been shown to improve the success of a measure (e.g. Bäumer et al., 2002, EU-Project YES, Hoppe et al., 2005).

In line with this experience AdRisk conducted pilot workshops with focus groups of young people in schools in the Netherlands and in Hungary. Participants selected videos downloaded from the Internet e.g. HYPERLINK "http://www.youtube.com" www.youtube.com and discussed them with the assistance of an external facilitator. Discussion topics included what risk-taking means for them, how they deal with hazardous situations, how they master risk in groups, etc. This material was then used to design an MTV campaign for injury prevention for young people entitled "Split the risk" and is also part of the AdRisk communication tools. Examples can be seen in the AdRisk Toolbox (2008), including information sheets, videos and games on communication strategies, sites to be used or avoided.

As outlined above, the underlying principle of empowering youth, promoting their participation and responsibility in political and social life as well as integrating their knowledge has also been adopted in Youth Policy by the European Union.

Developing risk competence

Taking risks is a challenge in individual development of adolescents. Adolescents need to learn to manage complex and hazardous situations and avoid harm.
The AdRisk project focuses on measures linked to risk-taking behaviour, attitudinal and behavioural change in order to avoid injuries: this is the concept of risk competence.

What is meant by "risk competence"?

Risk competence is the capacity of individuals to recognize risk and dangers, to handle and cope with them, to make responsible decisions to avoid harm and the ability to learn about and integrate challenges. This paper argues that success of this process among young people requires a stimulating and challenging environment as well as resources for adequate promotion

The sections below give a short description of the underlying concept, the content of measures, factors to be considered, and suggest framework conditions and provide recommendations.

Risk competence can be developed in different ways

Risk competence development can be seen as part of the larger concept of life skill training. The Life-Skills-Approach (Botvin et al., 1995), developed in the 80s, is based on the Theory of Social Learning (Bandura) and the Theory of Social Behaviour by Jessor and Jessor (see e.g. Jessor, 2001). In 1994, the World Health Organisation (WHO, 2001) defined criteria for the development of Life Skills Programmes. Ten life skills were identified as generic life skills for psychosocial competence - identified by WHO as core life skills applicable across a wide range of contexts in daily life and risk situations. The ten skills are: self-awareness, empathy, communication skills, interpersonal skills, decision-making, problem solving, creative thinking, critical thinking, coping with emotions, coping with stress.

A range of programmes and curricula exist for the implementation and conduct of programmes in different contexts (e.g. see WHO, 2001a; intentional injuries – youth violence: WHO 2007b; mental health and substance abuse: WHO 2001b; sexual behaviour: Advocates for youth, 2002).

As life skill development is a broad concept linked to empowerment of young people, it is well suited to tackle different problem behaviours under one umbrella. Ideally the life skill training will be embedded in a setting linked to the developmental process of young people, for example school. Life skill training is primarily designed as a long term programme, but some curricula models are designed to last a period of several weeks (see e.g. http://www.lifeskillstraining.com/).

Risk competence may be developed in specific situations. The AdRisk Good Practices Guide shows promising examples of measures directed at youth. These measures tend to be oriented to the short term. Promising measures in this field involved youth peer groups.

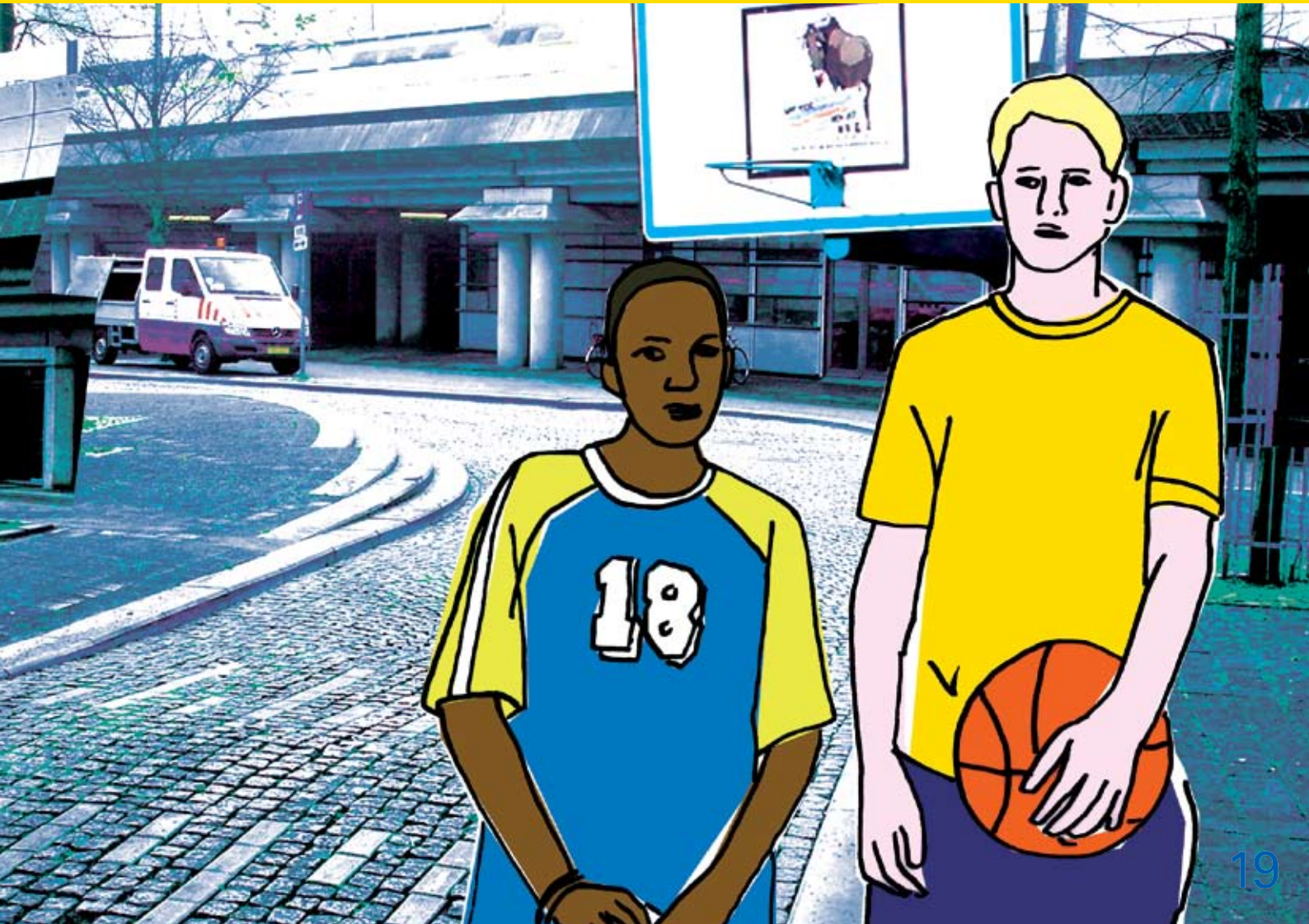
The main approach is to develop - within the individual - adequate perception of risk and competence in estimating risk and deciding on appropriate behaviour (Einwanger, 2007).

Special abilities and competencies are developed for specified situations such as alcohol consumption (see Risflecting; Koller, 2003, 2007); or snowboarding (see Risk&Fun, no date; 2002 in AdRisk Good Practices Guide; 2008), paying particular attention to the need for resilience to group /media/social influences. It is intended that adolescents learn about adequate estimation of social situations, a specific example of risk perception; the perception of their own mental and physical state; and appropriate decision making in risky situations. A repertoire of alternative behaviours is developed for handling risky situations, integrating the training with past experiences, to reduce the risk of future injury.

Stimulating and challenging environments

While risk competence development means strengthening human protective factors it is not limited to individuals, it also involves the creation of an environment that provides the necessary structures for this process. In order to develop risk competence in adolescents, society needs to develop appropriate stimulating and challenging structures (see e.g. Kern et al., 2003).

Specifically this might involve: a positive climate and attitude about adolescents and their development; using advocacy to influence leaders, readiness to support the developmental process of youth; challenging sport- and leisure facilities in the public space; provision of curricula which accompany adolescents during their period of development, in settings such as school and workplace; the adoption of supportive legislation and regulations; educating trainers to mediate the contents of the programmes; ensuring further training of trainers; appropriate resources; and appropriate structures to maintain achieved results.


18

6. FACTORS FOR SUCCESS

This chapter considers the factors necessary for success in planning and conducting measures directed at young people.

Leadership
Government leadership is needed for successful programmes. It works best coming from a single ministry. The leading role can be taken by the health, youth, or education sector. The benefit of having the health sector takes on this leadership for cross sectoral coordination is that it plays an important role in advocating primary prevention and health promotion.

Communicate with the young people and get them to join in
Strengthening the human factor starts from perceived safety problems of young people and comes to solutions by involving them in the process thereby avoiding their resistance. The goal is to support young people to learn responsibility and how to tackle risks. This is in contrast to the common practice where educational measures are focussed on dishing out advice and telling young people what to do.

The guiding principles for effective work with youth include: participation of youth as the basis for credible solutions; respect for young people and their needs; "starting where young people are" and understanding the role of risk-taking. Focus on risks that youth actually confront and respect youth feeling and beliefs regarding risks. This will help in addressing young people´s motivations for behaviour. The content of programmes should be defined by the target groups. Programmes should include motivating instruments based on the understanding that adolescents are receptive to new ideas and are keen to make the most of their growing capacity for making decisions. According to Bäumer et al. (2002) the message conveyed should be oriented to the life situation of youth and framework conditions as well as integration of cultural leading motives (e.g lifestyle orientation: leisure time as compensation in the "burn out society"). The messages need to relieve youth from the pressure "you have to be perfect", and to strengthen resistance to group dynamics. In their work on adolescent health WHO, UNFPA & UNICEF recommend recognition of young people as a resource and not as a problem – viewing their curiosity and interest as a tremendous opening to foster personal responsibility for health and safety (WHO, 1999).

Connect to new media
It is crucial to effective communication with youth that it takes place in forms and in forums that suit young people. The current tendency is for health education professionals to develop campaigns for people who read instructions and apply the measures as advised. To reach the target, project activities should be embedded in the youth culture e.g. use new media and interactive internet tools. The methods used should be fitting to modern forms of communication (e.g. visuals that appeal to youth; for the assessment of risk perception the AdRisk project used videos from www.youtube.com, selected by the young people).

Consider peer influence
High risk activities are seldom individual activities, especially for youth, they often involve a peer group. Peer influence and pressure has a notable effect on the attitude and behaviour of young people and is essential for them to form their identity. Consequently, youth peer group education and mentoring should be integrated into measures aiming to influence risk-taking behaviour.

Involve the parents
The family is important to youth behaviour, family members can be positive role models (AdRisk Good Practices Guide, 2008) and studies on family and risk-taking have shown that adolescents with supportive home and school environments have lower relative odds of

engaging in risk-taking behaviour and lower relative odds of injury (Pickett et al., 2006). This confirms WHO conclusions that parent counselling is an important means of reaching young people and addressing problem behaviour (WHO, 2007b).

Qualify the trainers
If trainers, teachers and youth workers are to engage in the field of building risk competence, then new attitudes, standards for curricula and additional methods for training and teaching have to be introduced. Teacher training will need to include participative forms of training with youth. Support for young people while their risk competence grows is a necessary framework condition for a positive learning climate (Kern at al.,2003). In addition to general training the trainers will need an ethos based on partnership with young people, open minds about new solutions and curiosity; they will have to encourage the process of finding solutions, even within conflicts. This attitude demands a new view on the role and competencies of trainers and is linked to a learning process in the adult world.

Evaluate
Evaluation is a critical part of ensuring the programmes are and remain effective.

A pivotal measurement of the outcome of the projects in the field of injury prevention is the reduction in accident rates. There are often methodological difficulties in this and the multi-dimensional aspect of youth behaviour and change does not lend itself easily to randomised control trials (McWhriter, 1997). Fortunately, within the approaches of health promotion and primary prevention, reduction of injury is not the only way to measure effectiveness. For example, educational programmes can be successful if positive changes can be seen to attitudes, beliefs and risk factors. Psychological profiles may be used to identify changes in individuals, also learning steps or specific parameters in the environment can be defined, observed and evaluated. (e.g. peer rejection, perception of social support (e.g. http://guide.helpingamericasyouth.gov).

Other scientific approaches to measuring behaviour change still have to be designed and developed in further qualitative approaches (e.g. in-depth interviews).

Build capacity and share experiences
Capacity building is "the process of equipping individuals with the understanding, skills and access to information, knowledge and training that enables them to perform effectively" (definition e.g. used by United Nations Development Programme).

Co-operation at a national and international level is needed to share knowledge, materials and evidence for effective practice concerning risk competence and education. This cooperation should be between health-promoting agencies, the education sector and political departments responsible for youth welfare. The AdRisk Project in cooperation with Eurosafe has build up an international knowledge network of institutions working on youth injury prevention and risk behaviour. Data on existing policies and programmes has been collected in collaboration with the WHO focal points. Reports, studies and tools are available for public use on the website www.adrisk.eu.com. Political action plans on youth injury prevention are under preparation in five pilot countries in Europe.

Increase public awareness and media
Public awareness and advocacy can be central to the creation of public opinion that fosters, permits and supports public activities. Media activities and policies should advocate youth and risk competence, create a positive image of youth, reflect on structural conditions for youth, inform about health and psychological development needs for young people, promote commitment and integrate into on-going policy subjects such as youth violence, youth culture, social norms. Further advocacy should accompany all the activities.

7. FRAMEWORK FOR ACTION

Developing a national policy on adolescent injury prevention

As injuries to young people are becoming recognised among leaders as a serious health problem the time is ripe for creating comprehensive national policies. Such policies can contribute to a common vision among the various stakeholders, facilitate co-ordination and raise political commitment.

The AdRisk Guidelines (AdRisk Guide, 2007) provide tools for national stakeholders to develop and initiate national action on adolescents/young adults and injury prevention.

National policies can act as a road map for action to be taken by both government and non-government stakeholders. The road map for action may be a 'stand alone' policy document or may be integrated into broader initiatives such as a national Injury Prevention Strategy or a Health Promotion Strategy. Finally it should lead to the implementation of national programmes and projects.

In each country, the advantages and limitations of single document, such as a national action plan, covering all aspects related to adolescents and injuries prevention should be weighed against the benefits of developing specific policies that address specific aspects. The appropriate choice will depend on such factors as the political environment; such as framing the subject within an overall health promotion approach, on the magnitude of certain types of injuries, including different population groups, age groups, and settings; on possible budgetary constraints; and on existing policies, strategies and programmes.

In certain circumstances it may be more efficient to integrate key statements on preventing injuries into existing national policies and/or legislation that address related issues, such as the national health, the health promotion, accident prevention, adolescence education policies. For example, this could mean to strongly focus political action on integrating risk competence programmes and propose key statements to be included in a national health or education programme.

Even if the overall aim is the development of a general policy on injury prevention for the age group, a step by step approach, addressing highly visible problems or implementing readily available solutions may be the most realistic strategy.

Public support for a new view on adolescents/risk and injury is important to long term success. Gathering and distributing data on the impact of injuries, publishing information concerning effective interventions and good practice can bolster public support.

Effective approaches and interventions should be tested in pilot programmes and projects. If these are successful, they can be used to attract attention to the problem, show that something can be done and may thereby become the starting point for a larger policy debate. In many countries a successful national policy has been preceded by small sample projects.

Important steps are:

- Establish clear priorities for analysis and for action;
- Bring together stakeholders to share information and ideas to cooperate on interventions;
- Link risk–related injury prevention work to other areas of risk-taking interventions related to young people and of primary importance;
- Establish a range of options for agencies and institutions to work together;
- Wider application of effective, proven interventions;

- Extension of multi agency approach and active implication of NGOs.

This strategy addresses injury prevention in youth with a particular focus on risk behaviour and provides a specific framework for action related to programmes and interventions for implementing risk competence development. It proposes to include risk competence development as a strategic part of the larger field of injury prevention measures in different policy fields. The framework for action adopts a general approach to building risk competence.

Implementing risk competence development

Chapter 5 outlined two levels for building risk competence: strengthening individual development and providing societal structures which create a challenging environment in which to promote and support these processes.

The following chart displays the different possibilities available for implementing these measures. The aim of all measures is, in the end, to strengthen individual risk competence (the ultimate focus of the measures is "the individual", see middle of the chart).

The different rings of the chart symbolize different levels of social concern (family, community and peer group, living and working environment, and society, socio-economic environment), the wedges symbolise different (political) sectors (school, road traffic, sports, ..).

Single measures are displayed by boxes. Within every wedge a different number of activities and measures can be implemented. Some measures are independent, some are strongly linked together. An example: Within the sector school a curricula for risk competence should be developed including a teacher's trainings programme and a programme to be conducted with the pupils in order to develop their risk competence. Curriculum, teachers' trainings programme and carrying out the programme for pupils are strongly linked together and have to be developed in parallel. Parents counselling may be related to these activities, but it is also possible to plan separated activities (e.g. providing background information on risk behaviour of adolescents, info addresses).

The following chart displays different settings and suggests different measures.

In the following settings (displayed by the wedges in the chart above), risk competence can be developed systematically: school, sports, extra curricular youth work, vocational training and work place, road traffic. The responsible policy sectors should consider testing and implementing systematic risk competence development in these areas.

Successful examples of measures can be found in the AdRisk Toolbox (2008) and the AdRisk Good Practices Guide (2008).

Integration in existing drug and alcohol harm reduction programmes is strongly suggested.

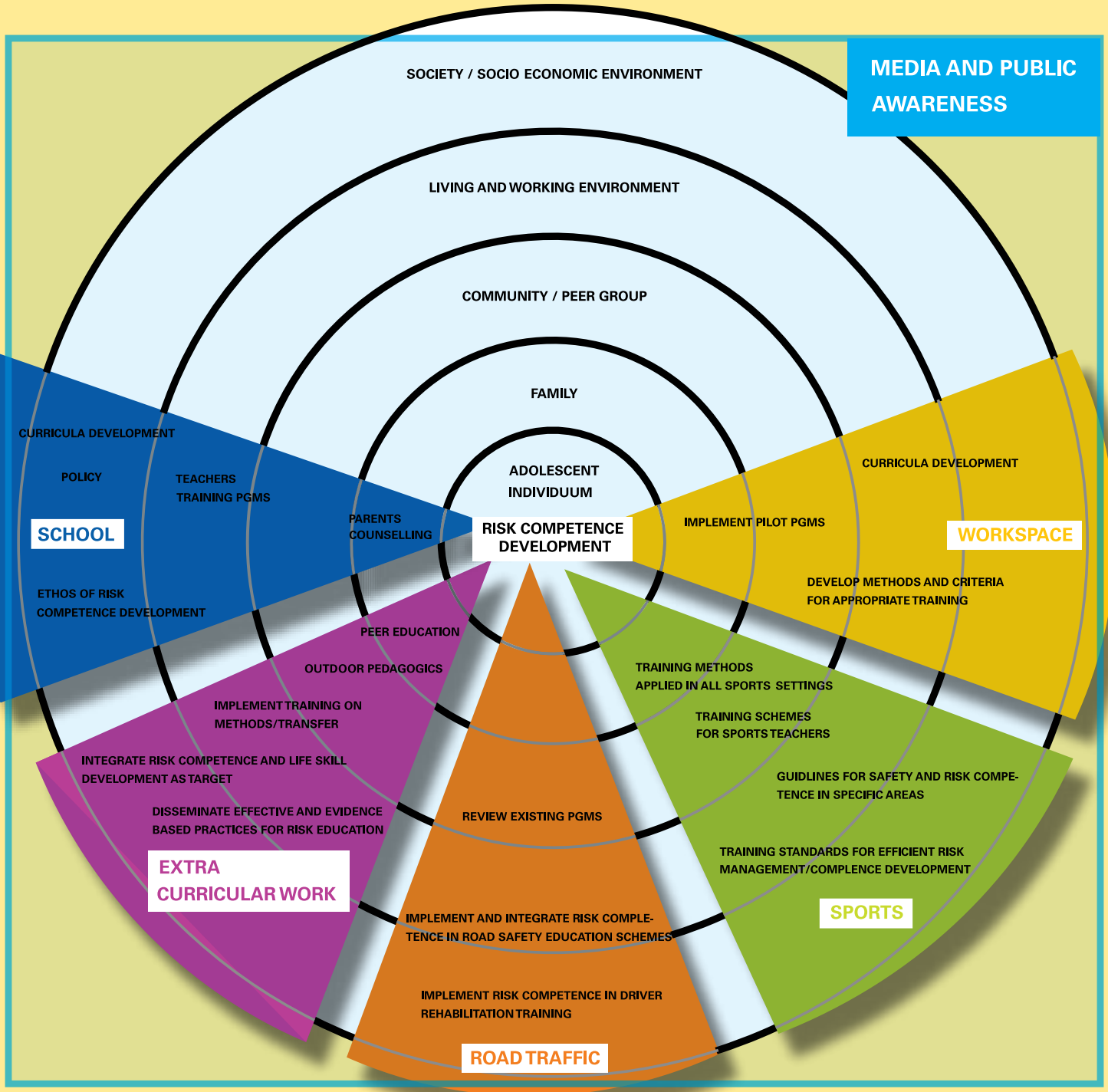
Setting: School

School plays a major role in boosting and supporting the mental, social and personality development of young people. Risk, safety and life skill education should support an overall policy for civic education, embedded in a comprehensive personal and social as well as health curriculum. This approach provides opportunities to learn specific and transferable skills and knowledge in a wide range of circumstances, but with attention to feelings, skills, attitudes, values and attributes of the pupils and reinforcing the importance of individual protective factors such as confidence, resilience, self esteem, and self efficacy. The Ministry of Education should adopt this agenda and implement measures.

Recommendations

- Government engagement to promote comprehensive school and safety approach including an explicit safety policy, integrated curriculum and an ethos of risk competence development.

RISK COMPETENCE DEVELOPMENT: SETTINGS FOR INTERVENTION



- Develop a curriculum for risk competence training to be integrated in existing national framework.

- Develop training standards/methods for teachers.

- Develop and implement teacher training programmes (all subjects, different school levels, target specification).

- Implement school programmes on risk competence actively involving youth and based on self reflecting learning methods that include acquiring accurate knowledge, clarifying personal values and attitudes and developing peer support for safer behaviour.

Setting: Sport

Promoting physical exercise is a prominent strategy for health promotion. Enhancing risk competence leads to a reduction in injuries when young people play sports. Risk competence in sport increases self awareness and self confidence and prevents injuries. Developing more efficient sports safety and risk management schemes is a key issue. Implemented methods for motion and sport pedagogy should be supplemented by risk-coping development modules in order to enhance the mental and physical health of young people.

Recommendations

- Sport federations should develop guidelines for safety and risk competence in specific sport areas and define efficient risk management schemes.

- Define training standards for efficient risk management / competence development (e.g. improved techniques for warm ups, learning to regulate use of body power and metal strengths).

- Implement training schemes for the trainers.

- Implement risk competence training and awareness raising in all sport settings.

Setting: Extra curricular youth settings (youth work-programmes)

Extra curricular youth work activities are also of special interest to raise awareness for risk-taking behaviour and develop risk competence. Extra curricular youth work already provides numerous good practices programmes and projects to promote risk awareness and capacity development with and among young people (e.g. outdoor and adventure activities). Integration of different elements is essential: learning hard skills, improving awareness for the environment, reviewing the peer group role and exercises strengthening self-esteem and confidence.

Recommendations

- Integrate risk competence and life skill development as a target for work in youth programmes.

- Disseminate and publicise effective and evidence-based practices for risk education.

- Support the development of favourable settings for young people to learn risk competence in the public space and at a community level (adventure areas, roller skate parks, climbing walls…).

- Implement training on methods/ transfer to different actors in extra curricular youth work.

- Develop youth pilot projects based on needs of target groups in specific social settings.

Setting: Workplace and vocational training

In the field of occupational safety and health, safety training, educational and health promotion measures are well accepted and implemented. Risk competence training with a specific focus on young workers/ employers will add an extra dimension to increase safety and health at work.

Recommendations:

- Integrate the concept of risk competence and methods for teaching it in the curricula of occupational safety and health professionals.
- Mainstream risk competence in education programmes for occupational safety and health.
- Develop methods and criteria for appropriate training at the workplace in different sectors.
- Implement pilot programmes including peer education and mentoring projects.

Setting: Road traffic

Traffic and road safety programmes for youth injury prevention have proven to be effective in reducing a substantial number of injuries. But more improvement and innovative programmes are still needed, as road accidents are the number one killer among young people.

Recommendations:

- Review existing traffic safety and driver training programmes for appropriate methods on risk communication and competence development.
- Implement and integrate risk competence in road safety education schemes for children and adolescents.
- Implement and integrate risk competence in training centres and driver rehabilitation programmes.

References

AdRisk Toolbox (2008). Available at: http://www.adrisk.eu.com

AdRisk European Situation Analysis, 2008 (see Kumpula, H. & Paavola, M., 2008 below)

AdRisk Good Practices Guide, 2008 (see Paavola et al., 2008 below)

AdRisk Guide, 2008 (see Löwe, 2008 below)

Advocates for youth (2002): Life Skills Approaches to Improving Youth's Sexual and Reproductive Health. Available at: www.advocatesforyouth.org/publications/iag/lifeskills.pdf[26.6.2008]

Ajzen, I. (1985): From intentions to actions: A theory of planned behaviour. In Kuhl, J. & Beckmann, J. (Eds.): Action - control: From cognition to behaviour. Springer, Heidelberg 1985, 11-39.

Bäumer, D., Gruß, E., Jansen, U,. und Schafarik, G. (2002): Mobile Jugend. Ausgewählte Mobilitätsangebote für Jugendliche und junge Erwachsene. Institut für Landes- und Stadtentwicklungsforschung des Landes Nordrhein-Westfalen. Forschungsbereich Verkehr. Dortmund 2002.

Botvin, G.J.; Baker, E.; Dusenbury, L., Botvin E.M. & Diaz, T. (1995): Long-term follow-up results of a randomized drug abuse prevention trial in a white middle-class population. Journal of the American Medical Association 1995, 273 (14), 1106-1112.

Commission of the European Communities. Communication from the Commission to the European Parliament and the Council on Actions for a Safer Europe (COM/2006/0328). Brussels, 23 June, 2006. (CELEX-Nr. 52006DC0328). Available at: ec.europa.eu/health/ph_determinants/environment/IPP/documents/com_328_en.pdf [12.4.2008]

Council of the European Union. Council Recommendation of 31 May 2007 on the prevention of injury and the promotion of safety. Official Journal of the European Union 2007/C164/01 of July 18, 2007. (CELEX-Nr. 32007H0718) Available at: www.eurosafe.eu.com/csi/eurosafe2006.nsf/wwwVwContent/l3councilrecommendation.htm [12.4. 2008]

Currie, C., Roberts, C., Morgan, A., Smith, R., Settertobulte, W., Samdal, O., Barnekow, Rasmussen, V. and World Health Organization Regional Office for Europe (2004): Young people's health in context Health Behaviour in School-aged Children (HBSC) study: international report from the 2001/2002 survey. Copenhagen: World Health Organization Regional Office for Europe.

Einwanger, J (2007) (Ed.): Mut zum Risiko. Herausforderungen für die Arbeit mit Jugendlichen. Reinhardt; Basel 2007.

European Commission (2001): The White paper on Youth. Available at: http://youthweek.eu/you-in-europe_en.html and http://ec.europa.eu/youth/index_en.htm [15.4.2008]

European research project (no date): The appropriation of new media by youth. Available at: http://www.clemi.org/international/mediappro/Mediappro_english.pdf [26.6.2008]

EUROSAFE. Available at: http://www.eurosafe.eu.com/csi/eurosafe2006.nsf [15.4.2008]

EUROSTAT. Available at: http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1090,30070682,1090_33076576&_dad=portal&_schema=PORTAL [15.4.2008]

Galabos, N. L. & Leadbeater, B. J. (2000): Trends in adolescents research for the new millennium. International Journal of Behavioral Development 2000; 24; 289-294. Available at: http://jbd.sagepub.com/cgi/content/abstract/24/3/289 [24.6.2008]

Hoppe, R., Tekaat, A. und Woltring, I. (2005): Förderung der Verkehrssicherheit durch differenzierte Ansprache junger Fahrerinnen und Fahrer. Berichte der Bundesanstalt für Straßenwesen. Mensch und Sicherheit, Heft M 165, Bergisch Gladbach 2005.

Jessor, R. & Jessor, S.L. (1977): Problem behaviour and psychosocial development. A longitudinal study of youth. Academic Press, New York 1977.

Jessor, R. (2001): Problem Behaviour Theory. In: Raithel, J. (Ed): Risikoverhaltensweisen Jugendlicher. Formen, Erklärungen und Prävention. Leske und Budrich, Opladen, 2001, 61-78.

Kern, W.; Koller, G. und Zentner, M. (2003): 4. Bericht zur Lage der Jugend in Österreich. Teil B: Prävention in der außerschulischen Jugendarbeit . Im Auftrag von: Bundesministerium für soziale Sicherheit, Generationen und Konsumentenschutz erstellt von jugendkultur.at – Institut für Jugendkulturforschung und Kulturvermittlung, Pädagogische Hochschule Zürich und Verein Vital. Wien, 2003.

Koller, Gerald (2003): Entwicklungspool für Rausch-

und Risikokompetenz. http://www.risflecting.de" www.risflecting.de [26.6.2008].

Koller, Gerald (2007): risflecting – Ein pädagogisches Handlungsmodell zur Entwicklung von Rausch- und Risikokompetenz . In: Einwanger, J. (Ed.): Mut zum Risiko. Herausforderungen für die Arbeit mit Jugendlichen. Reinhardt; Basel 2007, 99-108.

Kumpula, H. & Paavola, M. (2008): Injuries and risk-taking among young people in Europe – The European Situation Analysis. EU-Project AdRisk, 2008. KTL (National Public Health Institute), Helsinki. Available at: http://www.adrisk.eu.com" www.adrisk.eu.com

Kumpula, H. (2008): Focus on Injuries and risk-taking among young people. EuroSafe, Alert, Vol. 3, issue 1, March 2008. Available at: http://www.eurosafe.eu.com/csi/eurosafe2006.nsf/wwwNewsletterCurrent/1A12932D44C65CE8C12571770035F47C/$file/Alert.pdf 12 April 2008 [15.4.2008]

Kuratorium für Verkehrssicherheit (2007): Injuries in the European Union. Statistics summary 2003 – 2005. Supported by the Euro-pean Commission, Health and Consumer Protection. Vienna: 2007.

Löwe, u. (2007): A guide for initiating national action on adolescents and young adolescents and injury prevention in Europe. EU-Project AdRisk, 2008. KfV (Austrian Road Safety Board), Vienna. Available at: http://www.adrisk.eu.com" www.adrisk.eu.com

Mc Whriter, J (1997): Spiralling into control? A review of the development of children´s understanding of safety related cocneots. RoSPA research. Available at: J. Mc Whriter, Royal Society of the prevention of accidents (Rospa) 353 Bristol Road Birmingham B5 7ST

Paavola, M.; Råback, M.; Kumpula, H. & Idehen-Imarhiagbe, E. (2008): Good Practices Guide to Prevention of Injuries among Young People. EU-Project AdRisk, 2008. KTL (National Public Health Institute), Helsinki. Available at: http://www.adrisk.eu.com

Pickett, W., Schmid, H., Boyce, W., Simpson, K., Scheidt, P., Mazur, J., Molcho, M., King, M., Godeau, E., Overpeck, M., Aszmann, A., Szabo, M. ,& Harel, Y. (2002). Multiple Risk Behavior and Injury. An International Analysis of Young People (pp.786-793), Arch Pediatr Adolesc Med. 156.

Pickett, W., Dostaler, S., Craig, W., Janssen, I., Simpson, K., Shelly, S., & Boyce, W. (2006): Associations between risk behaviour and injury and the protective roles of social environments: an analysis of 7235 Canadian school children. Injury Prevention, 12, 87-92.

Raithel, J. (2004): Jugendliches Risikoverhalten. Eine Einführung. VS Verlag für Sozialwissenschaften, Wiesbaden.

risk'n'fun (no date). Available at: http://www.alpenverein.at/risk-fun/background_statements/Luis_Toechterle.php?navanchor [26.6.2008]

ROSE 25 (2005): Inventory and compiling of a European Good Practice Guide on Road Safety education targeted at young people. Available at: http://ec.europa.eu/transport/rose25/index_en.htm 12 April 2008 [15.4.2008]

ROSEBUD (2003): Road Safety and Environmental Benefit-Cost and Cost-Effectiveness Analysis for Use in Decision-Making. Available at: http://ec.europa.eu/transport/roadsafety/publications/projectfiles/rosebud_en.htm [15.4.2008]

Rosenstock, I. (1974): The health belief model and preventive health behaviour. Health Education Monographs, 2, 354-386.

Silbereisen, R. & Reese, A. (2001): Substanzgebrauch Jugendlicher: Illegale Drogen und Alkohol. In: Raithel, J. (Ed.): Risikoverhaltensweisen Jugendlicher. Formen, Erklärungen, Prävention. Leske und Budrich, Opladen, 2001, 131-154.

SUPREME (2007): SUmmary and publication of best Practices in Road safety in the Eu MEmber States. Available at: ec.europa.eu/transport/roadsafety/publications/projectfiles/supreme_en.htm [15.4.2008]
(US) National Health Promotion Associates (no date). Available at: http://www.lifeskillstraining.com/ [26.6.2008]

World Health Organisation (WHO): Programming for Adolescent Health and Development. Report of WHO/UNFPA/UNICEF. WHO Technical Report Series 886, Study Group on programming for adolescent health. WHO, Geneva 1999. Available at: http://www.who.int/child_adolescent_health/documents/trs_886/en/index.html [24.6.2008]

World Health Organisation (WHO) (2001) (Ed.): Regional Frame-work for Introducing Lifeskills Education to Promote the Health of Adolescents. Based on Intercountry Meeting to Promote the Incorporation of Lifeskills for Health of Adolescents into School Education. Bangkok, Thailand, 5 -9 June 2000 WHO Project: ICP HSD 002/II. World Health Organization, Regional Office for South-East Asia, New Delhi, April 2001.

World Health Organisation (WHO) (2001a): Life Skills

approach to child and adolescent healthy human development. Available at: http://www.paho.org/English/HPP/HPF/ADOL/Lifeskills.pdf" www.paho.org/English/HPP/HPF/ADOL/Lifeskills.pdf [26.6.2008]

World Health Organisation (WHO) (2001b): Mental Health and Substance Abuse, including Alcohol in the South-East Asia Region of WHO. Available at. libdoc.who.int/searo/2001/SEA_Ment_123.pdf [26.6.2008]

World Health Organisation (WHO) (2005) (Ed.): Regional committee for Europe. EUR/RC55/10. Available at: http://www.euro.who.int/document/RC55/edoc03rev1.pdf" www.euro.who.int/document/RC55/edoc03rev1.pdf [15.4.2008]

World Health Organisation (WHO) (2006) (Ed.): Injuries and violence in Europe. Why they matter and what can be done. Available at: http://www.euro.who.int/InformationSources/Publications/Catalogue/20050907_1" [15.4.2008]

World Health Organisation (WHO) (2007a) (Ed.): Youths & road safety in Europe. Policy briefing, 2007. Available at: http://www.euro.who.int/InformationSources/Publications/Catalogue/20070420_1 [15.4.2008]

World Health Organisation (WHO) (2007b) (Ed.): Preventing injuries and violence. A guide for ministries of health. Available at: http://www.who.int/violence_injury_prevention/publications/injury_policy_planning/prevention_moh/en/index.html [15.4.2008]

YES (Young Europeans in Search for Solutions) EUROPEAN ROAD SAFETY FEDERATION (ERSF), 1997, European Platforms for Young Drivers & Multipliers. Brussels, 18. November 1996. Copenhagen, 24. February 1997. Rome, 26. May 1997., European Road Safety Federation (ERSF), Brussels 1997.

Zuckerman, M. (1979): Sensation seeking: beyond the optimal level of arousal. Lawrence Erlbaum Associates, Inc.; Hillsdale 1979.Disseminate effective and evidence based practices for risk education