

Music and Risk in an existential and gendered world

Margareta Bohlin

Department of Psychology, University of Gothenburg

Department of Social and Behavioral Studies, University West



UNIVERSITY OF GOTHENBURG



©Margareta Bohlin

Printed in Sweden by Geson Hylte Tryck AB
Gothenburg, 2011

ISSN 1101-718X I
SRN GU/PSYK/AVH--244--SE
ISBN 978-91-628-8304-1

Varför gavs mig livet?

*Varför gavs mig livet,
att blixtra förbi allt folk i en triumfvagn
oupphinneligt snabbt som ödet,
utan vett och vilja
längtande efter mer?*

*Varför gavs mig livet,
att med ringprydda händer
fatta den skimrande skålen,
den frambesvurna,
törstande efter mer?*

*Varför gavs mig livet,
att gå som en magisk bok från hand till hand
brännande genom alla själar,
drivande som en eld över askan,
törstande efter mer?*

(Edith Södergran, 1892-1923)

DOCTORAL DISSERTATION IN PSYCHOLOGY, 2011

Abstract

Bohlin, C. M.* (2011). Music and Risk in an existential and gendered world. Department of Psychology, University of Gothenburg, Sweden and Department of Social and Behavioural Studies, University West, Sweden.

Adolescents in Western society often expose themselves to high levels of sound at gyms, rock concerts, discotheques etc. These behaviours are as threatening to young people's health as more traditional risk behaviours. Testing boundaries and risk taking are fundamental aspects of young people's lives and the processes of developing their identities. There is, however, a need to balance reasonable risk taking and risks that can damage health. The aim of **Study I** was to analyze the relationship between self-exposure to noise, risk behaviours and risk judgements among 310 Swedish adolescents aged 15-20 (167 men/143 women). The adolescents' behaviour in different traditional risk situations correlated with behaviour in noisy environments, and judgements about traditional risks correlated with judgement regarding noise exposure. Another finding was that young women judge risk situations as generally more dangerous than young men, although they behave in the same way as the men. We suggest that this difference is a social and culture based phenomenon which underlines the importance of adopting a gender perspective in the analysis of risk factors. Adolescents reporting permanent tinnitus judged loud music as more risky than adolescents with no symptoms and they did not listen to loud music as often as those with occasional tinnitus. The aims of **study II** were to illuminate the complexity of risk behaviour, the meaning and purpose of adolescent risk-taking in both a traditional sense (e.g. smoking and drug use) and in noisy environments (e.g. discotheques and rock concerts), in relation to norms and gender roles in contemporary society. In total, 16 adolescents (8 men/8 women, aged 15-19) were interviewed individually and in focus groups. The interviewees' responses revealed social reproduction of gender and class. Main themes of the phenomena for both genders emerged: Social identity and Existential identity of risk taking. The descriptive sub themes, however, which together formed the general structure, were rather diverse for men and women. The incorporation of social and existential theories on gender as basic factors in the analysis of attitudes towards risk-taking behaviours is considered to be of utmost importance. Likewise, research on hearing prevention for young people needs to acknowledge and make use of theories on risk behaviour and similarly, the theories on risk behaviour should acknowledge noise as a risk factor.

Study III aims to increase the knowledge about young women's and men's risk judgement and behaviour by investigating patterns in adolescent risk activities among 310 adolescents aged 15-20 (143 women; 167 men). The Australian instrument ARQ, developed by Gullone et al, was used with additional questions on hearing risks^[1] and a factor analysis was conducted. The main results showed that the factor structure in the judgement and behaviour scale for Swedish adolescents was rather different from the factor structure in the Australian sample. The factor structure was not similar to the Australian sample split on gender and there were differences in factor structures between genders among Swedish adolescents. The results are discussed from a gender and existential perspective on risk taking, and it is emphasized that research on risk behaviour needs to reconceptualize stereotypical ideas about gender and the existential period in adolescence. The aim of **Study IV** was to investigate possible gender differences regarding psychometric scales measuring risk perception in noisy situations, attitudes towards loud music, perceived susceptibility to noise, and individual norms and ideals related to activities where loud music is played. In addition, the purpose was to analyze whether these variables are associated with protective behaviour, e.g. the use of hearing protection. A questionnaire was administered to a Swedish sample including 543 adolescents aged 16 to 20. The result revealed significant gender differences for all the psychometric scales. Furthermore, all psychometric measures were associated with hearing protection use in musical settings. Contrary to previous studies, gender did not solely contribute to any explanation of protective behaviour in the analysis. One conclusion is that although gender does not contribute solely to the explanation of protective behaviour, gender may affect psychological variables such as risk perception, attitudes and perceived susceptibility and these variables may in turn be valuable for decision-making and protective behaviour in noisy situations. Although women tend to be more 'careful' psychologically, they nevertheless tend to behave in the same way as men regarding actual noise-related risk-taking.

Key words: Adolescents, Noise, Music, Risk taking behaviour, Gender, Existential theory, Hearing, Youth

* *Margareta C Bohlin, Department of Social and Behavioural Studies, University West, 461 86 Trollhättan, Sweden. Phone: +46 520 22 37 03, E-mail: margareta.bohlin@hv.se*

Svensk sammanfattning

Forskning om riskbeteende som fokuserar på musik har främst koncentrerats till att musik kan vara en utlösare till ett riskbeteende, inte att det också kan vara skadligt för hörseln. Musik spelas ofta på hög volym för att göra upplevelser starka och mäktiga (Arnett, 1992; Wang, 2001; Zuckerman, 2000). Musik kan skapa gemenskap, ingjuta hopp och ge existentiell mening åt livet under ungdomsåren (Bossius, 2001; Carlson, 2003; Fitzgerald, 2005; Hacker, 1994). Studier har dock visat att vistelser i miljöer där musik spelas på hög volym kan skada hörseln (Biassoni et al, 2005; Sathra, Jackson, Ryder & Brown 2002; Serra et al, 2005). Få studier har fokuserat på relationen mellan exponering för höga ljudnivåer och generell risktagande, trots att det är vanligt att ungdomar tar multipla risker, till exempel genom att festa, dricka, köra fort och samtidigt lyssna på musik på hög ljudvolym. Normer och ideal om hur ungdomar bör anpassa sig till kvinnliga och manliga könsroller styr också hur risker bedöms. I vilken utsträckning unga kvinnor och män engagerar sig i risker påverkas alltså av de könsnormer som finns i det moderna samhället (Deaux & Kite, 1987; Whitley & Ægisdóttir, 2000; Öhman, 2009). När individer beter sig på ett sätt som kan härledas till det motsatta könet ses det inte alltid på ett positivt sätt av omgivningen.

Syftet med denna avhandling var att studera relationen mellan risktagande som i traditionell mening avser till exempel droganvändning och fortkörning och risken att utsätta hörseln för skadligt ljud som kan ske vid till exempel rockkonserter och på klubbar. Fokus i avhandlingen var att studera innebörder och mening med risktagande, samt hur normer och värderingar i samhället kan inverka på attityder till risker och stark musik. Den första studien var explorativ till sin karaktär, och ur resultaten från den studien tog studie två, tre och fyra sin form. Genom den stegvisa processen kom delar av de teoretiska aspekterna i avhandlingen att utgöras av ett genus- och existentiellt perspektiv. På så sätt blev det också möjligt att identifiera och förstå olika riskbeteenden på ett delvis nytt sätt, det vill säga genom att relatera dessa till existentiella överväganden, normer och könsroller i vårt nutida samhälle.

Syftet med studie 1 var att undersöka samband mellan svenska ungdomars risktagande i miljöer med höga ljudnivåer och traditionellt risktagande. I studien deltog 310 ungdomar, 15-20 år från 6 olika program på 3 skolor. De svarade på frågor om hur de bedömer risker och hur mycket de engagerar sig i de beskrivna riskerna. Frågorna grundades på ett instrument som använts i en australisk undersökning ”Adolescent Risk taking Questionnaire” (ARQ, av Gullone, Moore, Moss & Boyd, 2000) till vilket frågor om hörselrisktagande hade lagts till samt frågor om upplevda hörselsymtom. Resultaten visade att det fanns samband mellan

riskbedömning och beteende i traditionellt avseende och bedömning och beteende i miljöer med höga ljudvolymmer. Ett något oväntat resultat var att kvinnor bedömer risker som mer farliga än vad män gör, men de engagerar sig samtidigt i riskfyllda aktiviteter i lika stor utsträckning. Ungdomar med permanent tinnitus bedömde hörselriskerna som farligare än vad ungdomar utan sådana symtom gjorde och de lyssnade inte lika ofta på stark musik som de med tillfällig tinnitus.

I studie 2 var syftet att belysa komplexiteten kring risktagande, meningen och innebörden av ungdomars risktagande i traditionellt avseende och i miljöer med stark musik. Studien omfattade 16 ungdomar (8 kvinnor/8män, 15-19 år) från 6 program på 5 skolor. Intervjuerna utgick från vinjetter om olika riskbeteenden och genomfördes i fokusgrupper samt i enskilda intervjuer. Två dimensioner av fenomenet risktagande, ”Social identitet” och ”Existentiell identitet” framkom i analysen som utfördes i enlighet med Interpretative Phenomenological Analysis (IPA). De två dimensionerna utgjordes av sex superordinata teman som var könsöverensstämmande. Könsskillnader fanns däremot i de subteman som byggde upp de superordinata temana. Intervjupersonernas svar präglades av tankar och reflektioner om könsspecifika villkor och existentiella dimensioner av risktagandet, vilket påverkade individerna i vardagen.

I studie 3 var syftet att undersöka mönster för hur unga män och kvinnor i Sverige bedömer och engagerar sig i riskfyllda aktiviteter, samt vilka samband som finns mellan risker i miljöer där musik spelas på hög ljudvolym och riskbedömning och riskbeteende i traditionell bemärkelse. Urvalet av deltagare överensstämde med studie 1, och utgjordes av 310 ungdomar, 15-20 år från 6 olika program på 3 skolor. Ungdomarna besvarade frågor utifrån det australiska instrumentet ARQ med tillagda frågor om hörselrisker och hörselsymtom. Resultatet visade att faktorstrukturerna (riskvariabler som statistiskt grupperats in i strukturer) i bedömning och beteende bland svenska ungdomar skilde sig från faktorstrukturer funna i studierna omfattande de australiska ungdomarna, vilket även gällde strukturerna mellan kvinnor och män. Bland de svenska ungdomarna framkom att faktorstrukturerna skilde sig åt mellan bedömning och beteende, och i strukturerna för kvinnor respektive män. Samtliga faktorer som framkom i traditionellt riskbeteende hade samband med hörselriskbeteende. Det fanns även samband mellan faktorerna i traditionell riskbedömning och hörselriskbedömning.

I studie 4 var syftet att studera svenska ungdomars riskperception, attityder och beteende i sammanhang där musik spelas på hög ljudvolym och hur socialt kön påverkar perception, attityder och beteenden. Studien omfattade 543 (270 kvinnor/273 kvinnor, 16-20

år) i en gymnasieskola i västra Sverige. Ungdomarna svarade på en enkät innehållande 5 delskalor; 1) *Attityder till stark musik*, 2) *Upplevd känslighet för buller och upplevelse av sårbarhet*, 3) *Normer och ideal om risker och risktagande*, 4) *riskperception i ljudrika miljöer*, 5) *Hörselskyddsanvändning och vanor i musiksammanhang*. Resultatet visade signifikanta skillnader mellan könen i alla delskalor samt att det fanns ett samband med hörselskyddsanvändning. Variabeln kön bidrog inte enskilt till att förklara skyddande beteende. En orsak till det kan vara att psykiska variabler som riskperception, attityder, normer och ideal är ”könade”, det vill säga, de är påverkade av de könsspecifika villkor som finns i samhället och i ungdomars liv.

Resultaten av studierna i denna avhandling antyder att forskning om hörselprevention bland ungdomar bör använda teorier omfattande traditionellt risktagande. På samma sätt, borde teorier om risktagande inkludera höga ljudvolymmer/musik som riskfaktorer i framtida teoriutveckling och forskning. Preventiva strategier bör anpassas efter ungdomars verklighet, eftersom ungdomar inte kan ses som passiva mottagare av information. Ungdomar avgör själva om de vill ta del av, eller lyssna till information, eftersom all information är dubbelriktad (Olofsson, 2009). Nyheter, media, Internet, radio och tv är viktiga verktyg för kommunikation, men kommunikationen är inte alltid en strategisk information om risker - information kan också vara oavsiktlig. Media har, tillsammans med myndigheter och makthavare, ett relativt starkt inflytande på den diskurs och debatt som förs om risktagande beteenden. Vissa risker nämns ofta och är diskuterade brett, medan andra knappast nämns. Ett sådant exempel är att musik som en ”trigger” till att köra bil med hög fart diskuteras, medan musik som en fara för hörseln i ett sådant sammanhang inte nämns lika ofta. Resultaten i de fyra studierna presenterade i avhandlingen visar, att trots att det finns en medvetenhet om att stark musik kan ha en skadlig effekt på hörseln, så ses inte sådana risker som risker i ett traditionellt sammanhang, och är därför inte adresserade i samhällets riskdiskurs. Den existentiella meningen som musik har för många människor, i det här fallet för ungdomar, kan vara en av orsakerna till att hörselrisker inte förekommer i den allmänna riskdiskursen. Av det skälet kan införandet av ett existentiellt perspektiv i studier om risker öka vår förståelse av risktagande beteende generellt liksom risktagande i miljöer där stark musik spelas, något som denna avhandling har visat.

Vidare är förståelsen av de sociala aspekterna av risktagande nödvändig för att öka vår kännedom om hur könsnormer reproduceras. Litteraturgenomgången inför arbetet med denna avhandling visade till exempel, att teorier om risktagande ofta är präglade av könsnormer, och då i synnerhet av en manlig norm. De uttalanden som både unga kvinnor och män gör, och de

svar som de ger i enkäter speglar en reproduktion av könsmonster. När könstillhörigheten är stark kan det vara komplicerat att uttrycka och utveckla den egna identiteten. Den som är involverad i praktiskt- och forskningsinriktat arbete med unga människor behöver betänka att risktagande inte endast är ett hot, utan ger också existentiell mening och möjligheter för unga människor att mogna. Preventivt arbete behöver därför utformas på ett sätt som gör att ungdomarna blir engagerade. Budskap om sjukdom, lidande och död kan orsaka att ungdomar ”stänger av” känslomässigt, istället för att balansera risker som ger existentiell mening så att de inte blir en fara för hälsan. Min uppfattning är att genusteori tillsammans med existentiella perspektiv i forskningen om risktagande beteende bland ungdomar kan bidra till förståelsen för hur komplext risktagande kan vara och därmed även till den rådande diskursen om risker.

Acknowledgments

I would like to express my deepest gratitude to my supervisor, Professor Soly Erlandsson at the Department of Social and Behavioural Studies, University West, for giving me this opportunity and for her invaluable expertise, support and wisdom. I would also like to thank my supervisor and examiner, Professor Annika Dahlgren-Sandberg at the Department of Psychology, Gothenburg University. Emma Sorbring, PhD, University West, thank you for your support and valuable expertise as my supervisor for the second part of the thesis.

My warmest gratitude also goes to Professor Emerita Lillemor Hallberg for reading the manuscript and providing important suggestions for improvements. Thanks are also due to Eleonora Gullone at Monash University, Australia, for generously providing me with the original version of the instrument on risk taking.

I am very grateful for the financial support I have received from the department of Social and Behavioural Studies, University West, the Stinger Foundation and the Swedish Association for the Hearing Impaired (HRF) and Majblommans riksförbund.

I would also like to thank Alastair Henry and Leona Johansson Bunting for reviewing the manuscript and for suggesting invaluable linguistic improvements. Thank you also to all the students who participated in the studies and also to Tina Andersson who helped me with the data collection, as well as gave me great support.

I must also thank all of my colleagues at the Department of Social and Behavioural Studies at University West for all the support and encouragement they have given me. Special thanks are due to Linda Olsson Olavarria, Linda Lundin, Sevtap Gurdal, Jonas Hallberg, Sven Hassler and Gunne Grankvist for all your support both as friends and colleagues. I would also like to thank the members of the Forum for Critical Social Studies (KSXS) and the Forum for Child and Youth studies, both at University West, for support and valuable comments on my research.

Stephen Widén, Örebro University, my dear friend and colleague – thanks for all of our stimulating and amusing conversations and all the work we have done together. If it were not for you and Tina, I would never have come this far. Finally, I would like to thank my parents, my sister and brother and their families for always being there and, last but not least, my beautiful family, Maja, Nora and Johnny. Thank you for allowing me to fly in my own direction. I love you.

List of publications

This thesis consists of a summary and four papers, which are referred to by roman numerals below:

- I Bohlin, M., & Erlandsson, S. (2007). Risk taking and noise exposure among adolescents. *Noise & Health*, 9, 55-63.
- II Bohlin, M., Sorbring, E., & Erlandsson, S. (2010). Voices on risk taking.- Young women and men in an existential and social world. *Research reports 2010*, University West.
- III Bohlin, M., Sorbring, E., Widén, S. & Erlandsson, S. (2011). *Risk and music – Patterns among young women and men in Sweden*. Manuscript accepted for publication.
- IV Widén, S.E., Bohlin, M. & Johansson, I. (2011). *Gender perspectives in psychometrics related to leisure time noise exposure and use of hearing protection*. Manuscript submitted for publication.

Table of contents

Introduction.....	1
Aims of the thesis	2
<i>Definitions and terms</i>	3
Risks in changing arenas.....	6
<i>The individual and the risk</i>	6
<i>The individual, culture, society and risk</i>	9
<i>Music as health risk</i>	11
Adolescence and the meaning of risks.....	14
<i>Adolescence and the changeable identity</i>	14
<i>Youth culture and music</i>	17
<i>A gendered and social world</i>	19
<i>Existence and risk</i>	22
Summary of empirical studies.....	25
<i>Aims</i>	25
<i>Methods</i>	26
Study I.....	26
Study II	27
Study III.....	27
Study IV	28
<i>Methodological considerations</i>	29
<i>Results</i>	32
Study I.....	32
Study II	33
Study III.....	36
Study IV	39

General discussion	41
<i>Risks in different settings</i>	41
<i>Gender, social relations and risk</i>	43
<i>Existentialism and risk</i>	47
<i>Methodological implications</i>	49
<i>Conclusions</i>	51
References	53
Appendix 1a.....	65
Appendix 1b.....	69
Appendix 2.....	71

Study I. Risk taking and noise exposure among adolescents.

Study II. Voices on risk taking.- Young women and men in an existential and social world.

Study III. Risk and music – Patterns among young women and men in Sweden.

Study IV. Gender perspectives in psychometrics related to leisure time noise exposure and use of hearing protection.

Introduction

The teenage period is a time when social and psychological abilities are developed and roles and responsibilities are prepared. This period is often a time when you find an acceptable way of creating an identity in addition to maturing psychically and psychologically. The search for an individual identity involves experimenting with roles, musical styles, clothes and relationships, processes which can include the use of drugs, alcohol and tobacco as well as sexual experimentation. In general, risk taking behaviour, is a complicated process influenced by psychological, social and biological, as well as cultural factors (Jessor, 1998). Taking risks is a part of young people's lives and allows them to develop and create meaning; however, the same risk taking behaviours can also pose a threat to adolescent health. Adolescents and young adults frequently expose themselves to loud music, often for hours at a time. However, exposure to loud noise (e.g. at concerts, discotheques and from personal music players) has not traditionally been seen as a risky activity, despite the fact that hearing impairments are well known. Also, it is known that there are correlations between risk behaviours and health among young individuals; something that probably is the case for many age groups (Cook & Bellis, 2000).

Testing boundaries and taking risks are self-evident elements in young people's lives which allow them to develop; however, it is the balance between reasonable risk taking and risking personal health that is difficult to achieve. Whether a risk is perceived as voluntary or involuntary, perceived as immediate or if the consequence lies in the future and/or perceived as a possible benefit or a loss, also affects risk-taking behaviours (Olofsson, 2009). Listening and conforming to warnings and rules is considered to be difficult by many young people and not all are willing to restrict their freedom and their lives to the extent the adult generations might regard as appropriate. Young men and women obtain innumerable messages from the media, schools, health care services and parents about how to adapt their behaviour to norms in society. Nevertheless, activities that, from an adult perspective, present a risk to adolescent health are not always the same as the adolescents' own perceptions of risky activities (Gullone & Moore, 2000; Siegel & Cousins, 1994). Some of these central dimensions are, for example, gender aspects, the existential meaning of risk taking and young people's own thoughts on risk taking. It is therefore worthwhile to study different aspects of risk taking and the conditions under which young people live in relation to voluntary risk taking. In spite of important research within the area, there are still gaps in our knowledge, and many dimensions remain to be studied regarding the complexity of risk behaviour.

Aims of the thesis

Participating in activities where music is played loud does endanger hearing according to a number of studies (Biassoni et al., 2005; Sadhra, Jackson, Ryder & Brown, 2002; Serra et al., 2005). When adolescents engage in risky activities, such as partying, drinking, and speeding, they often expose themselves to loud music. Research on risk behaviour, when focused on music, has concentrated mainly on music as a trigger or as a companion to a risky behaviour; not that it is harmful to hearing. The **general aim** of this thesis is to study relationships between risk taking in a traditional sense (e.g. smoking, speeding) and hearing risks (e.g. discos/clubs and concerts). The focus in the studies is the purport and meaning of risks, the impact of current norms in society on attitudes to risks and loud music.

The approach of the first study was exploratory, and through the results of this, study two, three and four have evolved. It is also due to this progressive process that gender- and existential aspects of risk taking have come to constitute parts of the theoretical approaches presented in this thesis. These perspectives are used to identify possible new ways of understanding different risk behaviours related to norms and gender roles in contemporary society.

Frequently, the music is played at high volumes in order to make the experience strong and powerful (Arnett, 1992; Wang, 2001; Zuckerman, 2000). There have been few studies focusing on relations between risk taking in noisy environments and risk taking in general, although multiple risk behaviour is not unusual among adolescents. Hence, the purpose of **Study I** was to analyse the relationship between Swedish adolescents' self-exposure to high levels of noise, and their involvement in risk activities in a traditional sense (i.e. smoking and alcohol use). Since research indicates that men, in general, are more involved in risky activities than women, we also assumed that gender plays a role in the way young people judge and become involved in risk situations.

Certain lifestyles can sometimes include musical styles that create hope and meaning in life among groups of young people (Bossius, 2001). Research has shown that young women and men should adhere to the norms about being feminine or masculine and those who have adopted behaviour associated with the opposite gender are seen in a less positive way (Whitley & Ægisdóttir, 2000). Also, the results from **Study I** reveal that young women judge risky situations to be more severe than men do, but they nevertheless seem to engage in risks to the same extent as men. Hence, the aim of **Study II** was to shed light on the complexity of risk behaviour and the meaning and purpose of adolescent risk taking both in a traditional

sense (e.g. smoking and drug use) and in noisy environments (e.g. discos/clubs and rock concerts). According to the results from the analysis, the theoretical assumptions were placed in a gender and existential perspective.

The results from **Study I** showed gender differences in judgement but not in behaviour and that risk behaviour among Swedish and Australian adolescents differed. Along with this, it is also shown that gender attitudes are related to risk behaviours (Pleck & O'Donnell, 2001). Further, **Study II** showed that even though the dimensions (Social and Existential identity) and the overall themes regarding the phenomena of risk taking were the same for men and women, the sub-themes differed due to norms and values in society. In light of these results the aim of **Study III** was to explore patterns in risk taking (judgements and behaviours) among Swedish young men and women and how risks in musical settings relate to traditional risk judgements and behaviours.

The first study showed that there were a significant relationship between risk taking in noisy environments and risk taking in general. Further, all three studies disclosed that gender is an important factor in risk taking behaviours and also that there are existential considerations involved in the experience of risk taking. Olsen Widén and Erlandsson (2004a;b) and Widén (2006) assert that questionnaires on risk taking should consider not only risk perceptions, attitudes and behaviour, but also adolescent's norms and ideals. Therefore, the focus in next study is narrowed down to risk taking in musical settings. The aim of **Study IV** were to investigate Swedish adolescents' risk perception, attitudes and behavior in musical settings (e.g. pop concerts, discos and clubs) and how adolescent's social gender effect perception, attitudes and behavior.

Definitions and terms

Risk is a rather confusing term and somewhat difficult to define. Risk and danger are often defined as something forward-looking, for example that the consequences of using tobacco may eventually lead to early death. The risk is therefore related to an event, e.g. an accident or sickness. A catastrophe, e.g. a snowstorm has already happened or is about to happen – the risk is present and in the real world (Olofsson & Rashid, 2009; Renn, 1998). There is also a distinction between a crisis and a catastrophe, where the latter involves more extensive consequences than the crisis. A crisis is often associated with organizations, politics and relations, whilst catastrophes are associated with nature and technology. The risk can be said to occur before a crisis has happened. The crisis does not need to happen in order for the risk

to exist. However, the risk cannot be restricted to future negative consequences; risks may also be related to positive consequences and experiences. People expose themselves voluntarily to risks such as speeding while listening to loud music or mountain climbing, and some people experience this as something positive (Olofsson & Rashid, 2009).

As already mentioned, a risk is difficult to define and there is no way to simplify risks. A risk is an interdisciplinary phenomenon and several aspects should be taken into account in both research and practice. In this thesis I will regard risk as an interdisciplinary phenomenon. By taking this approach the definition will be rather wide and indistinct. However, I will explain important aspects that have had an influence on the thesis.

A risk can be seen as the possibility, or the experience of the possibility, that human action or other events will lead to consequences which will affect something of value (Renn, 1998). There is a relationship between a phenomenon and a certain result, or the experience of that there is such a relationship. The social aspects are important since the individual own experience is enough to define something as a risk (Olofsson & Rashid, 2009; Renn, 1998). Also, people do not always react rationally. There is a difference between what the experts and the individuals experience and perceive as risks. People have subjective perceptions and there are differences between individuals, groups and cultures. People react due to their own experience of the risk and not from the actual, objective risk (Olofsson & Rashid, 2009; Renn, 1998). Risks seem to be defined and reproduced in culture and in social contexts. The risks cannot entirely be seen as a result of nature, technology or behaviour, since our collective conceptions about the risk will affect the risk itself. Consequences and risks are filtered through different perceptions, values and interests in the society. The concept of risk differs between, for example, countries, communities, socioeconomic conditions, genders and ages (Taylor-Gooby & Zinn, 2006; Tulloch & Lupton, 2003). The objective risk, the subjective risk perception and our collectively shaped perception of what a risk and risk behaviour are changes over time. Hence, a risk is a double edged sword. Taking a risk can damage health, but it can also provide experience, pleasure and meaning in life.

There are several theories explaining identity and how it is manifested in the life of humans. In this thesis, no distinct theory of identity is used. There are, however, some aspects that my assumptions rest upon, which originate from several theories. The identity is seen as changeable in time and space; the adolescent period changes over time in relation to changes in the surrounding society and in the world (Wall, 2009). People are socially active, they are influenced by and influence the social world, and also adopt different ways of life, sometimes certain life styles, in the ongoing creation of identity (Giddens, 1999; Ziehe, 1986). The

identity is tested through many channels in relation to significant others and in different contexts (for example through musical experiences, films, the Internet and travelling) (Johansson, 2007). Also, humans are searching beings that *exist* in the real world in which they take part and are aware of. The main issue is what it means to live in a particular psychological, cultural and historical context, and therefore identity is seen from a social/cultural- and existential perspective.

The identity is influenced by social norms and ideals, which in turn can be affected by and be the source of certain attitudes of the individual. Norms, ideals and attitudes are terms that are frequently used within this thesis. Again, these terms are inspired by aspects in different theories and perspectives. Social norms can be seen as subjective experiences of others' expectations about how you ought to behave. Normative ideals can be the subjective experience of expectations of how you should be as a person (Widén, 2006). Further, among members in social groups social norms are important and the norms are shaped collectively. The behaviour is adjusted to these norms and is influenced by how strong the individual's identification to the group is (Turner & Oakes, 1989; Turner, Hogg, Oakes, Reicher & Wetherell, 1987). Hence, social norms and normative ideals can affect and can be affected by the individual's self-image/self-identity and will in turn affect the attitudes of the individual. Also, interpersonal relationships reproduce the norms in society, for example norms regarding gender. One of the most important social categories is gender and the individual's thoughts and behaviour are formed by norms of how to be and behave as a woman and a man (Sherif, 1982; Whitley & Ægisdóttir, 2000; Widén, 2006).

Throughout this thesis the terms hearing risks, risks in noisy environments or in musical settings, traditional risks and risks in general are frequently used. The terms "traditional risky situations" and "risk in general" are somewhat blunt tools to name both norm breaking and thrill seeking activities as we sometimes define them in the western society (for example alcohol use, speeding, drinking and driving, parachuting and staying out late). The terms "noisy environments", "risk behavior in musical settings" and "hearing risks" are used to name activities that can cause hearing damage (for example loud music, rock concerts and discotheques). Music is often seen as something that enhances pleasurable experiences that can give meaning in many situations. Music is for example related to lower stress levels, and higher health scores, according to Helsing (2010). Noise, on the other hand, is something that often is perceived as unpleasant and annoying and even harmful to the hearing. To mention music in terms of noise can therefore be rather complicated. However, studies show that music quite often is played at high volumes in order to perceive the musical experience as

more intense and powerful (Arnett, 1992; Wang, 2001) and music is listened to within the arenas of concerts, discotheques, pubs, clubs, aerobic classes, and on mp3 players (Sadhra et al., 2002). If the music is played at too high a volume, the music is regarded as noise to the ear, at least in a physical sense, because of the danger of harm (hearing impairment and tinnitus).

Risks in changing arenas

The individual and the risk

According to research on risk perceptions there is a gap between what researchers and society perceive as risks and the individual's own risk perception. Objectively, there are risks in the world which people are dissuaded from, for example speeding or mountain climbing. However, some people, for example adolescents chose to take the risk in spite of knowing that their actions are risky. Studies on risk perceptions today play a dominating role in psychological and social psychological research. One of the reasons for this is the possibility to affect and change people's risk perceptions. There is, however, no simple relation between human risk perception and the individual's behaviour (Olofsson, 2009). The research on perception is often based on cognitive psychology. The research of Tversky and Kahneman (1974) represent economical psychology and has been important for understanding risk perceptions. They found that individuals often draw the wrong conclusions when they judge and compare risks, because of biases. Accessibility is the most common bias. A situation which can be linked to a memory, earlier experiences or to information from their surroundings (e.g. media or authorities) is judged as more likely to be risky than other alternatives. The phenomenon is exaggerated and therefore plays a bigger role than it is supposed to do. The individual does not adjust the interpretation. People also tend to judge the likelihood of an event happening by comparing the present event with another past experience. We conclude that the same knowledge about a risk might be generalized to include other situations to a higher degree than is realistic.

Slovic (2001) suggests that the individual's risk perception is subjectively defined and that perceptions are affected by psychological, social and cultural factors. These aspects are possible to measure by quantitative methods and may show how people in general react to certain situations. The source of the risk affects how people perceive risks. The character of the risk, its source, the effects of the risk and if it is possible to affect, are important factors in

risk taking behaviours. If the risk is experienced as known or unknown affects if the risk is perceived as risky or not risky, suggesting that a certain risk can change over time. Changed knowledge about a phenomenon, for example the knowledge of the harmful effect of smoking discovered in the sixties, will change the perception of a risk. When a risk is perceived as catastrophic with consequences that will lead to many deaths over a long period of time, especially among children and future generations, the more negative the judgement of the risk. Whether people experience that they have control over a risk is also an aspect which affects the risk taking. If we, for example, drive very fast while listening to loud music, we can feel that we are in control of the vehicle and the music. Therefore the risk is underestimated. People usually accept risks that are perceived as natural (for example snowstorms, flooding). However, if the risk is seen as a result of human actions (nuclear power or environmental risks) it is seen as negative (Enander, 2005; Taylor-Gooby & Zinn, 2006). Whether a risk is perceived as voluntary or involuntary can explain why some risks are accepted as positive risks, e.g. speeding or mountain climbing, and this is an important factor in risk taking. In addition, when a risk is perceived as immediate or if the risk consequence lies in the future also affects risk-taking behaviours. If the risk is perceived as a possible benefit or a loss can result in people avoiding or not avoiding risky situations. Still these aspects of risk taking cannot fully explain why people expose themselves to risks when they know that the activity is risky (Olofsson, 2009).

According to research in personality psychology risk taking can be explained by the individual's traits or personality. Some people tend to take more risks because of their temperament or disposition (Olofsson, 2009). Worrying or feelings of vulnerability are linked to personality traits. There is research in which the individuals' mental models; e.g. attitudes, values and perceptions have been investigated in order to explain seemingly irrational choices (Bostrom, Morgan, Fischhoff & Read, 1994). People have, according to Sjöberg (2000) a tendency to judge the consequences of risks as more severe for other people than for themselves. The phenomenon that other people are more vulnerable than you is called unrealistic optimism.

Risk perception includes affects and emotions. Affects are subconscious sensations of what feels right or wrong. This intuition is not irrational; it facilitates the risk judgement and is based on earlier experiences (Slovic, 2006). Strong positive or negative reactions influence our analytic opinions and our knowledge. Based on the hypothesis "Risk as feelings", Loewenstein, Hsee, Weber & Welch (2001) suggested that the theoretical framework should enlighten the experienced affect at the moment when a decision is made. People often

experience fear in advance of an unknown situation and may feel a discrepancy between the sense of fear and their cognitive evaluation. Reactions and feelings vary as a result of several factors, such as the tendency of people with a high level of anxiety to judge risks as more threatening than those with a low level of anxiety. Loewenstein et al. (2001) assert that phenomena should not only be interpreted in Cognitive- Consequence analytic terms, but are indeed often better explained by the Risk as Feelings hypothesis. Gains and losses are common explanations in discussions of psychological theories and models on decision making and risk taking.

The Self-Categorization Theory (SCT) provides an explanation of how the social context may affect an individual's (health) behaviour. Social groups have specific norms and collective behaviour form the group identity based on voluntary participation. SCT involves three aspects. First, individuals define themselves as members of a social group. Secondly, individuals observe and form stereotypical norms of the group they belong to (Turner & Oakes, 1989). Thirdly, the individuals assign these norms to themselves and their behaviour becomes normative for the group. People create and activate the social norms of the group to which they belong. Social groups are products of cognitive classification, which means that people tend to categorize themselves as being similar to the members of one social group but not to others. The influence of the peer group norm on the individual's behaviour is moderated by the strength of the identification with that group (Turner et al., 1987).

There is also a tendency for people in general to judge some risks as hazardous for themselves but other risks as hazardous for others. For example, alcohol use and smoking is dangerous to people in general and car accidents and pollutions are more dangerous to their own life (Sjöberg, 2000). In addition, risks which are perceived as controllable are judged as less severe than those which are less controllable. You tend to overestimate your invulnerability and your own ability to control the risk. One way of explaining the feeling of invulnerability is offered by the findings of Widén and Erlandsson (2007). They interviewed 16 young musicians and found that self- image, risk consideration, norms and ideals were important aspects of risk taking. Young people's self-identification as vulnerable or not seem to be connected to their health-risk involvement. Norms, how to act in accordance with social norms, and ideals, how to act in accordance with normative ideals, are of importance to the engagement in risky behaviours. Men were found to have a more difficult time acknowledging vulnerability than women (ibid). Accordingly, Vogel, Brug and Huhu (2008); Vogel, Brug, Van der Ploeg (2010) found that among Dutch adolescents, men in particular expressed low personal vulnerability to music-induced hearing loss and did not want to

change their music-listening habits. Risk taking should not be understood only from individual considerations, since individual considerations often are based on available knowledge, norms, values and ideals within a certain culture. Furthermore, attitudes, norms, values and ideals are associated with factors such as age, socioeconomic status, gender and ethnicity (Widén & Erlandsson, 2007; Widén, 2006).

The individual, culture, society and risk

Risks can also be understood as social constructions (Öhman, 2009). The expectations on how to be and behave according to social norms and ideals affect how people react and relate to risks. Expectations, norms and values are products from the individual's socialization process. Individuals are shaped in the interaction between other people and society. Individuals' norms and values are affected by parents, friends, teachers and other people in their surroundings. Norms and values transferred from people in the individual's surroundings will reflect at the specific culture. Expectations, norms and values are seldom reflected upon and are seen as natural constituents. There seems to be different views on what a risk is and what a risky behaviour is when culture, gender, socioeconomic status and age are taken into account. The context is defined by the individual's surroundings; family, work, everyday life, friends etc. All these components affect how risks are perceived, because we have different roles in different contexts. In other words, the individual is both an expert and a layman, and the knowledge of risk perception is based on this (Öhman, 2009). Knowledge, perceptions and behaviour are imbedded in different contexts and sub-cultures and are affected by the roles of the individual (Tulloch & Lupton, 2003). Beck (1992) argues that risks propel the development of the society, and thus names modern society "risk society". Modern, technological and economical risks were unknown before but people are confronted by them in modern society. In society individualization is in progress which means that norms, values, attitudes and behaviours become based on personal choices (Beck, 1992; Giddens, 2009). People create their own opportunities in life, and Giddens suggests that lifestyles are open to changes. Certain lifestyles may lead to certain risk taking behaviours, and those can change over time.

Jessor (1998) combines the individual, psychosocial and social aspects in the "Problem Behaviour Theory". The theory is rooted in a social psychological aspect of adolescent risk behaviour and was developed from research on drug use, smoking and other risky activities, defined by society as problem behaviours (Donovan, 1996). In a psychosocial context, three

systems can be defined; personality, environmental and behaviour system. They are explained as either encouraging or obstructing risk behaviour. These systems create dynamic structures and affect dispositions to participate in normative transgressions or problem behaviour. The personality system consists of motivation, personal values and personal control. These structures form the environmental systems, together with self-lived social control and the transgression of norms that are experienced by others as important or serious. In the behavioural system, we find both problem- and conventional behaviour. Problem behaviours are those behaviours that society considers unsuitable for adolescents, where social and legal norms are transgressed and, in many cases, demand the imposition of legal sanctions (e.g. drugs, smoking, and speeding). The conventional system contains approved behaviours, normative expectations and activities deemed suitable for adolescents, e.g. achievement in school and religious observance. The extent to which behaviour is seen as a problem is affected by the balance between problem and conventional behaviour (Jessor, 1998; Donovan, 1996). Conventional risk behaviours can for example be loud music, inline skating, skiing and entering a competition, which can be seen as problematic but still not life-threatening for the individual.

Hence, risk perception is influenced by the social and cultural contexts in which the individual is living (Boholm, 1998). People adapt to norms and values in their environment, for example, family, friends and authorities. Douglas and Wildavsky (1982) assert that people have certain types of risk perceptions in specific cultures and in certain parts of society. Risk perception is not an objective phenomenon or individual conceptions; instead the individual and the society are fused together. Cultural theory claims that cultural patterns create structures for humans, in which they choose or reject norms and values. The norms are often the same in a certain culture but can be different between cultures and sub-cultures. Hence, risk perception cannot be a generalized phenomenon, since groups and cultures relate to the world and reality differently (Tulloch & Lupton, 2003; Renn, 1998). The norms in society affect attitudes, norms and values among its habitants. However, the norms of the individuals also affect the society's norms and values (Douglas & Wildavsky, 1982). Wilkinson (2001) argues however, that there are several factors besides the cultural context which have an impact on risk judgement and behaviour for example gender, ethnicity and age.

In modern society, media, school, health care services and parents constantly send messages to adolescents about how they should adapt their behaviour to norms in society, in particular when it comes to risky activities (Gullone & Moore, 2000; Siegel & Cousins, 1994). However, these messages do not always bring the wanted effect, adolescents still

engage in risky activities. One possibility is that society does not regard risk taking as inherent elements in young people's lives which allow them to develop. Preventive strategies are often solely informative and not adjusted to the reality of adolescents. There are no passive receivers of information. Regardless of what messages is sent out, the recipient is able to decide whether he or she should read, see or hear the information. Accordingly, all communication is bidirectional. This is in accordance with the thought that humans participate and create the social constructions of what a risk is and how to handle it. The individual is complex and anchored in the social context (Olofsson, 2009). News, media, the Internet, radio and television are important channels for risk communication. They do not only communicate strategic risk information, they also communicate risk information that is unintentional. Media has a rather strong influence on the public discourse and debate on risks. Some risks are frequently addressed and are discussed in media whilst other risks are not. These risks are often equally important to bring up and discuss, but do not have the same chance to end up on the agenda. For example, loud music as a trigger to drive fast in cars is frequently exposed in media whilst music as a danger for the hearing is not. Media is not in power to decide which opinion the majority of the population should have, but what to have opinions on. Media has the power to define when risks are described in certain ways and in certain quantities (Olofsson, 2009). One example of a risk which has not been addressed in the media is loud music. Music and high levels of sound have not traditionally been associated with risk-taking behaviours. Loud music may intensify and bring more power to the musical experience and increase the quality of life – but at the same time be harmful to one's hearing (Arnett, 1992; Wang, 2001). This will be addressed in the next section.

Music as health risk

Studies have shown that adolescents often expose themselves to loud music when they engage in risky activities, such as partying, drinking and smoking. Quite often, music is played at high volumes in order to make the experience more intense and powerful (Arnett, 1992; Wang, 2001). Adolescence is a critical period when music preference and taste is determined and there are normative expectations regarding the characteristics and norms of people with certain musical tastes (North & Hargreaves, 1995). People who enjoy music with a high prestige value are expected to possess more positive social traits and are also believed to become more successful in life (North & Hargreaves, 1999).

Young adults listen to music in several arenas, for example at concerts, discotheques, pubs, clubs, aerobic classes, and when they use mp3 players. According to Sadhra et al. (2002) the average sound level at concerts can be between 120 dBA and 140 dBA, and the noise levels at clubs and pubs are usually just above 90 dBA. In addition, the average sound level at discotheques varies between 104.3 and 112.4 dBA, according to research by Serra et al. (2005). These levels increase the risk for hearing loss and tinnitus. Bogoch, House & Kudla (2005) showed that the majority of the adolescents in their study (74%) regarded the sound level at discotheques as being a risk to their hearing. However, only 20% of the adolescents reported hearing protection use. Also, it has been found that frequent exposure to lower levels of amplified music over a longer period have negative auditory effects (Gates, Schmid, Kujawa, Nam & Agostino, 2000; Kujawa & Liberman, 2006). It is also difficult to measure and detect early stages of hearing loss. Early damage to the hair cells in the cochlea cannot always be detected in an audiogram. In an American study 12.5% of the children and adolescents had noise induced threshold shifts (NITS) in one or both ears (Niskar et al., 2001). The threshold shifts were more common among boys (15%) than among girls (10%).

The National board of health and welfare in Sweden has established guidelines for high levels of noise. These is to be applied to both inside and outside premises and places where loud music is played, e.g. discos, clubs, concerts and gyms. The owner of the location should perform self-monitoring actions, through a continuous control of the company in order to prevent health risks to people. This should include continuous controls of the sound levels. The guidelines for locations where children under the age of 13 are not present are 115dB (LAF_{max}^1 , maximum) and 100 dB (LA_{eqT}^1 , equivalent sound). In locations where children are present the guidelines are 110 dB (LAF_{max}^1 , maximum) and 97 dB (LA_{eqT}^1 , equivalent sound). In locations that are especially intended for children the LA_{eqT}^1 should not exceed over 90 dB (SOSFS, 2005: 7).

Adolescents and young adults frequently expose themselves to loud music, often for hours at a time. The prevalence of tinnitus and hearing impairments among young people seems to increase as a consequence of exposure to loud noise, or music played at loud volumes. Both amateurs and professionals, who play musical instruments, may experience hearing problems as a side effect of their interest in music (Hellqvist, 2002; Kähäri, 2002). Seventeen percent of adolescents in Sweden who play musical instruments were found to suffer from tinnitus and reported that this was related to their own playing, and to visits to discotheques, clubs and concerts (Hellqvist, 2002). A study among Swedish adolescents has showed that 89 % of the men and 94 % of the women listened to music more than 3 times a

week (Fritidsvaneundersökningen, 2005). Among those who visited music events on two occasions in a year, 50 % reported that they experienced tinnitus afterwards, although only 14 % of them reported that they had used ear protection. They are, however, often recommended to use ear protection by their parents (Chung, Des Roches, Meunier & Eavey, 2005).

In research by Olsen Widén and Erlandsson (2004a) among 1285 subjects in Sweden permanent tinnitus was reported by 7.8 % of the young women and 9.6 % by the young men. Noise sensitivity was reported by 21.2 % of the women and 12.7 % of the men. In addition, occasional tinnitus, lasting more than 24 hours after exposure, was experienced by 41 % and only 30 % used ear protection at concerts and 11 % at discotheques (ibid). However, in the USA the usage of ear protection is even less frequent (Serra, et al., 2005; Biassoni, et al., 2005; Widén & Erlandsson, 2006). In the studies by Olsen Widén and Erlandsson (2004a; 2004b) it is maintained that gender and socioeconomic status affect attitudes toward noise and risk engagement. Worries about noise and the risk of damaging hearing were significantly more common among those with high SES compared to those with low SES and significantly more common among young women compared to young men. Positive attitudes towards noise as well as low use of hearing protection were found among younger adolescents with low SES, according to Olsen Widén and Erlandsson (2004b). This leads to the conclusion that negative attitudes towards noise among adolescents makes them avoid noise exposure, if it seems unsafe (Chesky, Pair, Lanford & Yoshimura, 2009; Olsen Widén & Erlandsson, 2004b).

The music listening patterns seems to be similar among young people in Sweden and in other countries, such as Brazil and the USA. However, the use of hearing protection is remarkably lower in these countries compared to Sweden (Maria, Zocoli, Catalani Morata, Mendez Marques & Jacob Corteletti, 2009; Widén, Holmes & Erlandsson, 2006). Hearing loss among young people in different parts of the world is a major public health concern. Among Mexican high school students, hearing loss is significantly related to recreational activities like clubs and concert visits (del Consuelo Martinez-Wbaldo et al., 2009). This is also the case among Brazilian and American students (Maria et al., 2009; Rawool & Colligon-Wayne, 2008). Widén, Holmes, Johnson, Bohlin and Erlandsson (2009) conducted a study among 258 American adolescents which indicated that 26% had hearing thresholds poorer than the screening level of 20 dBHL. Attitudes were related to self-experienced hearing symptoms, but not to the actual threshold shifts itself. This may indicate that self-experienced symptoms can function as attitudinal and behavioral changes. Therefore it is possible that smaller and unnoticed threshold shifts do not have any impact on attitude and behaviour.

Hearing protection was preferably used when using firearms, mowing lawns and when using noisy tools, but to a lesser degree when attending, discos, concerts and clubs. In conclusion, young adults seem to expose themselves to hearing risks, since the use of hearing protection, according to this literature review, was found to be very low.

Adolescence and the meaning of risks

Adolescence and the changeable identity

During the course of life we define ourselves through our appearance and our body and this is extraordinary in adolescence. The individual's identity and the shared identities in society are in conjunction with each other. The opinions and approval of peers are important to the young person; even though the behaviour may be culpable to the adult eye (Erikson, 2000; Marcia, 2006). Youth can be seen as a period in life, which all people go through from childhood to adulthood. Erikson asserted, for example, that the identity has a bio-psycho-social origin and that identity formation continues throughout life. In puberty these aspects changes along with the adaptation to society which can give rise to crises in the adolescent's life (e.g. Erikson, 2000; Marcia, 2006).

However, the adolescent period has not always been the same; it changes over time in relation to culture and changes in the surrounding society. Being young in Sweden today is, for example, not the same as before and being young in Sweden is not the same as in other countries and cultures (Wall, 2009). Youth is about learning to make independent decisions, the search and creation of an identity and autonomy. The period between childhood and adulthood in western society has a larger span than before, and youth in particular lasts longer. It is called emerging adulthood and the span of this period can vary depending on the individual (Arnett, 2006; 2007). During this period the individual hovers between being young and an adult. Still, understanding risk-taking behaviours from somewhat novel theoretical aspects, the philosophical and social-psychological, demands a focus on the adolescent identity also from a social/cultural- and existential and gender perspective.

The identity is constructed and reconstructed based on one's own experiences and choices, and it is considered to be a social construction created in a social and cultural context. This creation and recreation is an ongoing and changeable process (Ziehe, 1986). Today's youth is more individualized and adolescents are forced to reflect upon their own future, lifestyle and identity. The creation of identity in youth is influenced by consumption,

and this is one reason for youth culture to become an important aspect of life (ibid). The identity is modifiable and changeable regardless of social class, something that was not so common in earlier generations. Stable structures such as family, work, and gender roles are changing, something that Ziehe call detraditionalization. In modern society there has been a loss of traditions which means that young people no longer can place trust in their family or the immediate environment when forming their identity. The term “cultural release” is used to explain what it means for human beings to be captured in the hands of the market and, at the same time, have ever increasing opportunities to form their own identity (Ziehe, 1986). For adolescents it means that they can experience intense adventures, make new friends, go on exciting trips, and be involved in shifting lifestyles. Cultural release has both positive and negative sides; it may lead to freedom in experimenting with lifestyles and identity, but it may also lead to captivity in the media dream world (Johansson, 2006; Ziehe, 1986). Young people analyze and value their identity and compare their own identity with that of others in weekly magazines and with screen personalities in reality shows. This reflexivity or comparison often shows discrepancies between the identity and the message from the media, something that affects young people’s desire to experiment with culture and identity. They learn to take care of their bodies and lives and learn that they should be self-fulfilled. Johansson (2006) asserts in a similar way, that young people of today are forced to take a stand to new knowledge and new perspective, produced in the late modern society. Ziehe (1986) uses three concepts in order to describe the adolescent’s strategies in late modern society. *Subjectification* implies focus on the self, for example, the learning and discovery of the self. *Potentialization* entails the adolescents’ dramatization of their own identity where it is possible to test boundaries. This is an important part of the creation of the individual myth, the story about a changeable identity. For example, the involvement in risky activities forms a certain identity.

Ontologization is a way to create an identity as a successful individual and adjust to the norms in society of how to live and be visible for others. It may be a special competence or activity appreciated among peers that give meaning and confidence to everyday life.

Old traditions and norms are not in focus in the formation of identity. Identity development seems to be related to changes in society and its information flow that young people take part of in their daily life (Giddens, 1999; Ziehe, 1986). A common belief in today’s society is that it is possible to choose sexuality, body, occupation and the way to approach social reality. In modern society young people are expected to succeed in their studies, and careers whatever the conditions. Giddens (1999) along with Ziehe (1986) uses the term reflexivity to explain how the formation of identity is an ongoing process in which

lifestyles are created from all the choices on offer to the individual. In this process people create a coherent and meaningful narrative about life. People are socially active; they contribute to social influences and choose lifestyles to constitute their self-identity (Giddens, 1991).

The self, according to Johansson (2007), contains four distinct components. The *private self* handles the relationship between the private and the public. In public, the individual constructs a private sphere where important values are protected and spheres where authenticity and existence are handled. When music is related to identity, it is assumed that young people protect their intimacy and the important part of their private identity, but that this is done in relation to the general public. In other words, it is more valid to see music as an inner part of the identity rather than, say, the use of drugs in public. In the *shattered self* there is an image of a complex inner space consisting of a conflicting and fragmented inner world. Humans struggle between opposites, detachment and existential anxiety. Struggling with thoughts about the meaning of life and the presence of good and evil are part of the development of identity- and become a part of the inner self. Music might function both as a reinforcement of shattered feelings, and as a comfort and security in the presence of the unknown. The *disciplined self* is formed by society and therefore society shapes thoughts about obedience, success- and body ideals that function to incorporate individuals in society. The adolescents' different lifestyles however contain elements that sometimes pose a threat to their health and well-being. For example, listening to loud music may imply later hearing damage, whilst intoxication may lead to exposure to crime or physical harm. In contemporary society, individuals are increasingly influenced by the media and such exposure affects conceptions of the self. This part of identity is called the *extended self*. The self seems to extend over boundaries as a result of new opportunities mediated by new technologies (for example mobile telephones and the Internet). The self, or one's identity, is therefore allowed to be tested through several channels, for example, through shared musical experiences, films and other interests, together with others and in a context that would otherwise have been impossible to exploit (Johansson, 2007).

The creation of the identity in an existential framework is based on the assumption that in order to experience life and the world people have to be active participants and influence what they want their lives to consist of. The crucial question is thus what it is to exist in a psychological, cultural and historical context. An advocate for this approach is the existential psychologist May (1981) and according to him, the human being's central problem is the feeling of powerlessness because as it is impossible to do anything about cultural, social and

economic problems. The feeling of powerlessness may cause anxiety, repression and a sense of a lacking in traditional values. This can turn into apathy, as a way of protecting oneself psychologically. Powerlessness can make people become violent or hostile, which may lead to individuals experiencing feelings of alienation from one another. The way humans reduce anxiety in contemporary society may, according to May's theory (2001), aggravate such feelings. When people try to fill feelings of emptiness, they sometimes behave in a destructive way, for example by adopting a dictatorial approach to life or by using drugs or alcohol. Under the following sections some of the perspectives of identity and the meanings of risks will be focused further.

Youth culture and music

Youth is said to be a physiological developmental period initiated by puberty which is completed when the body is fully grown (Fornäs, 1994). It is also a psychological period in life which lasts throughout the adolescent and post- adolescent stages. Youth is also a social category framed by institutions in society, mainly school, but also by rituals such as age limits and laws, leaving home, education, building family, social actions etc. Youthfulness is something that is culturally determined in a discursive act with musical, visual and verbal symbols that concludes what is young or adult. Youth, culture, and modernity are linked to each other. Young people are culturally oriented, and express themselves in text, art, music and style and they are also perceived by others to be culturally expressive in society. Young people are mobile and are associated with being modern and the future. Symbols and language are changeable and are formed in current cultural phenomena. Youth has even become a cultural main theme in society (Fornäs, 1994).

Music is a part of youth culture and are therefore also a part of identity development for many young people. Youth culture bears the mark of rapid changes and variations, flowing alongside fashion and styles that are traded with other new trends. Joint experiences in youth are based on being young physically, psychologically, socially and culturally. Youth groups are used as symbol- and identity laboratories to help young people to handle the surrounding world (Lalander & Johansson, 2002). Symbolic markers of independence and a complimentary character to match can be found in drugs, film, irony and music. Youth culture, groups and the lifestyles are all parts of the adolescents' identity creation but they are also a part of the complexity inherent in adolescent risk-taking behaviours. Ziehe (1986, 1993) suggests that many adolescents long for a more stable society, which is now gone. To

compensate, they build up their own peer groups to remind them of such stability. Accordingly, there is an ontological aspect to life in which young people seek to relate their own being to a law that puts life in order and imposes regularity. This results in efforts to make laws and regulations for one's own existence. To construct robust boundaries against others and to create clear rules about what is right and wrong, true or false, entails unifying one's existence into a group context. Thus, the world can be experienced as stable and the individual is important in the collective context. Sometimes when a group of people join together and exceed norms and ideals in society, a sub-culture is formed. When meeting each other for example, adolescents create a lifestyle in which the norms and rules in the culture of the established society are transcended. In such alternative sub-cultures behaviors might be created that often are seen as problematic by the authorities and worth fighting (Lalander, 2009). The sub-culture is used by its members, to create experiences of independence, power and freedom. The members are somewhat ambivalent in their attempts to master the norms of the majority society and also create a culture with own identities. In relation to this, Bauman (1991) asserts that the authority of modern societies is questioned by the media and other global actors. A liberalized film- and music market has made it difficult for society to keep unwanted cultures away. The cultural hegemony, realized by the state through for example the education system, is harder to maintain.

The parents' roles are important in the lives of their offspring and they have to struggle to keep up with them in a world characterized by rapid social and technological change, and where there are many new ways of communicating, for example, by e-mail, mobile phone and instant text messaging. In addition, teens are also flooded with passive, but influential messages via movies, video, television, computer games, advertisements and the fashion industry. These sources of information compete with parental influence on their daughters' and sons' lives (Wolfe, Jeffe, Crooks, 2006). According to the Council of communication and media in the US (2009), parents are often unaware of the influence of music in adolescent life. Popular music is a great part of adolescent life, it is present nearly everywhere. It is available through many channels, for example the radio, recordings, the Internet and other technologies and has a role in the adolescents' socialization process. Research on how popular music affects social interactions, schoolwork, behaviour and emotions have been presented by the Council of Communication and Media (2009). It has been shown that some genres of lyrics are used as markers for negative behaviours, connected to for example sexuality, drugs and violence. Music videos often contain stereotypical images of gender, sexuality, drugs and violence, and research has implicated that abuse in videos might change behaviour and

attitudes among viewers. However, some musical styles, often accompanied by specific lifestyle choices in identifiable groups of adolescents, can create hope, power and meaning in life (Bossius, 2001). In line with this, Klosterberg (2001) asserts that popular culture, and the formations of a certain youth culture characterizes young people's life conditions, meaningfulness and self- understanding, something which constitute a significant part of everyday life. Popular artefacts, for instance music, do not exist independent of young people's basic conditions, daily activities and self-understanding. Young people reflect the different cultural contexts where they function – something that Ziehe (1993) names identity testing.

A gendered and social world

Gender is one of the most important social categories and it is a lens through which thought and behaviour are formed (Sherif, 1982). Gender as a social category is associated with other forms of social distinction, for example power and status where men has greater power and status than women. Interpersonal relationships reproduce society's ideology, including gender. The model "Gender Belief System" (GBS), includes concepts such as gender stereotypes, attitudes to suitable roles for both genders and apprehensions about people who do not conform to traditional gender roles (Deaux & Kite, 1987). People expect others to fit into a relatively stable set of gender roles, qualities and physical attributes. You are not supposed to change your identity as feminine or masculine from one situation to another. Men and women who have adopted a behaviour that is associated with the opposite gender are not seen in a positive way by others around them (Whitley & Ægisdóttir, 2000).

A normative and contextual change seems to have taken place between the generations, which in particular has had an impact on girls (Abbot-Chapman, Denholm & Wyld, 2007). Due to the struggle for equality, and for young women especially have more opportunities today to test their limits and engage in risky activities. Risk taking is affected by globalization and individualization, changing gender roles, increased competitiveness for young women in education and employment, and social exposure in public arenas. This has contributed to increased impulsive and hedonistic behaviour, and a narrowing of gender differences in risk-taking behaviour. Some young women see risk taking as a positive way of accessing resources and enhancing life skills (ibid).

Gender attitudes are related to risk behaviours among both young women and men, according to Pleck and O'Donnell (2001). These relationships still exist when age, ethnicity, family structure, strictness of family rules, religious involvement and school involvement are accounted for. Men's sexual risk behaviours are positively related to traditional beliefs about masculinity. It also seems likely that traditional masculinity attitudes are related to violence-related behaviors as well as heterosexual risk behaviours. In addition, traditional beliefs on gender differences are unrelated to heterosexual risk behaviour among women. However, women who are sexually active often hold traditional beliefs about masculinity (ibid). A study among Swedish and Kenyan adolescents shows that sexual risks are perceived as minor if they lead to a socially accepted and morally correct sex life in both countries. This finding was especially critical for girls, but boys were also concerned with moral aspects, albeit not for their own sake, but for that of the girls (Maina Alberg, Kylkäs & Krantz, 2001). If a girl dresses or behaves in a sexy manner, she is not seen as a good woman. This does not however, stop the boys from having sex with these girls, but they do not consider those girls as candidates for longer relationships. Sexual risk taking and avoidance is complex because sexual norms are gendered. Women are not only assessed by male standards but they are also expected to take responsibility for both their own and the men's sexuality, to maintain moral standards and ensure safety (ibid). Paradoxically, without gender equality women are not empowered to initiate protection.

There seems to be an overall variation between the sexes regarding how they reason over risky sound exposure and prevention. Young men and women reason in different ways over occasional tinnitus after sound exposure. In a study conducted by Olsen Widén and Erlandsson (2004a; 2004b), women responded with anxiety more often than men and worried about occasional symptoms. These women were also more inclined to use hearing protection at rock concerts and discos. Interviews with young women and men reveal that men tend to preserve an appearance of invulnerability in order to follow social norms of masculinity. It is, however, socially permissible for women to divulge themselves as vulnerable by demonstrating concern and worry, by using hearing protection or indeed leaving the source of threat (i.e. the discotheque or rock concert) (Widén & Erlandsson, 2007). Visits to discotheques, concerts and partying have different connotations for men and women. Since men do not have as many boundaries as women when they are partying, dancing, drinking, experiencing music and engaging in social relationships, they learn to develop and master the public arena. This is different for young women; they learn to fear the public arena. Women learn not to be out late, not to be alone, not to frequent solitary places, not to drink alcohol or

make the acquaintance of unknown men. The public arena constitutes a threat to young women and their lives become restricted and limited. This incorporates and becomes an unconscious form of self oppression (Lalander & Johansson, 2002). There are boundaries among working class women limiting how women are allowed to “be” (Skeggs, 1997). Within these boundaries they can use constructive and creative strategies to produce an idea about themselves in which they are valuable as human beings. Young women live with the demands of respectability that are imposed on them both by society and themselves. They experience that they are constrained to live out a femininity that is hard to possess; thus they create an appearance of being feminine. In the light of this condition, one could expect that their judgments might be more coloured by norms than by actual behaviour. Socioeconomic status (SES) affects individuals’ health in several ways (Marks, Murray, Evans & Willig, 2000). Stress, self-esteem, and social relationships, may be central influences on health, which points to social consequences and different circumstances as affecting factors (Wilkinson, 1992). The relationship between SES and health is a consequence of class-related differences between humans in social support, according to Carrol, Davey Smith and Bennet (1996). Research shows that adolescents with low socioeconomic status (SES) parents take more risks in noisy environments than adolescents with high SES parents (Olsen Widén & Erlandsson, 2004b). Olsen Widén & Erlandsson’s Swedish study of 1285 adolescents discloses that social background correlates with the use of ear protection at discotheques and rock concerts. Children of parents with low educational attainment report positive attitudes (i.e a pro-risk attitude) to noise and they also use ear protection to a lesser degree than children of parents with middle and high levels of educational attainment. The group who had high SES parents reported having more concerns about temporary hearing symptoms derived from noise exposure. That hearing problems or impairments increase among low SES children has been recognized by Niskar et al. (2001). Similarly, children of low socioeconomic status parents are involved in traffic accidents to a higher degree than children of high SES parents and, moreover, the more serious the accidents are, the greater the difference between the groups. Young people with low SES are the group most exposed in motor vehicle accidents, but there are also socioeconomic differences in accidents involving pedestrians and cyclists (Hasselberg, 2004).

Existence and risk

Young people test their limits and affect their development in both a positive and negative way. Thus a balancing act is required in the sense of, on the one hand, adapting to norms in society whilst, on the other, still remaining free and unafraid. Many adolescents experience feelings of euphoria, excitement and tension when they participate in risky activities. They perceive a state of transcendence into another consciousness. This is close to what Maslow (1970) described in his theory on peak experiences. A peak experience can be a state of transcendence that resembles a religious event but is more frequently moments in time when the individual feels whole, in touch with life and as if she coalesces with the world around her. Csikszentmihalyi (1992) describes a similar theory on “flow”, an experience when phenomenon involves all the senses, and when the attention is totally absorbed in the activity currently undertaken. Flow implies that consciousness is directed to something specific, for example mountain climbing, speeding or music experiences. When a person experiences flow, he or she is often in a creative state, and this may be related to musical experiences which not infrequently stimulate creativity. According to Damasio (1999), pain and pleasure are important for human functions and the ability to act strategically. We are motivated to develop and handle painful experiences and to develop strategies aimed at preventing, for example pain from reoccurring. Thoughts related to hedonistic motives can be found in several philosophical theories, for example that of Demokritos (f. 472 f. Kr) who expressed that mankind’s foremost motive is the quest for pleasure and the avoidance of pain. Philosophers and psychologists such as Aristoteles (384-322 f. Kr.), Bentham (1748-1832) and Spencer (1820-1903) have been advocates of a hedonistic approach. Freud, too, embraced the principal of desire, which implies that humans are guided by two forces – the quest for desire and the avoidance of pain (Freud, 1995). Damasio (1999) considers some lifestyles in contemporary society to approach a more hedonistic attitude to life.

Fitzgerald (2005) and Carlson (2003) suggest that the adoption of an existential perspective on risk behaviour in youth allows the use of new concepts, terms and ideas that enable us to obtain a better understanding of both risk behaviours and preventive strategies. A young person who engages in risky activities such as speeding or drug use is also likely to listen to loud music or to experience intense feelings (Wang, 2001; Zuckerman, 2000). Music has an existential meaning for many young people and seems to be related to life and death in a deeper sense. North and Hargreaves (1999) found that adolescents’ musical preferences are related to self-concept and self-esteem, which indicates that music is a part of the identity and

the lifestyle of young women and men. Radical experiences characterized by danger and exposure are, for example, seen as a status symbol among backpackers and young travellers and they often describe themselves as risk-taking adventurers who are trying to create an identity which is different from others' (Elsrud, 1998). This finds expression in their choice of destinations, activities, clothing and social relationships. It can be seen as a form of potency where young people direct their identity towards a new one filled with freedom, individual experiences, and intensity.

Sometimes the future or current health is not of a major concern to young people since they feel physically healthy, are satisfied and happy, or simply do not care (van Exel, de Graaf & Brouwer, 2006). The study indicates that men are more inclined to take risks compared to women and that protective strategies are more frequently used by women who, as a consequence, are in less danger of harm. Also, marginalized groups, for example adolescents with a chronic illness, are more inclined to use tobacco, alcohol and drugs than those who enjoy good health and seem to be related to low self-esteem and feelings of emptiness (Erickson, Patterson, Wall & Neumark-Sztainer, 2005). Reasons for adolescents to take dance-related drugs in nightclubs have been explained by theories on impulsive disorders, childhood trauma and peer pressure, although this phenomenon may also be explained by hedonistic motives. Many adolescents experience that dance-related drugs and alcohol give them longer and more meaningful weekends, which are experienced as an expansion of freedom (Measham, Aldridge & Parker, 2001). Ellsworth (1999) emphasize that dark lyrics in some genres of music, the way young people dress, their lack of interest in the future and their own survival may be seen as manifestations of the existential phase that constitutes adolescence. Young men and women who experience anxiety may choose to escape through drugs, alcohol, speeding and intense, loud music. Adolescence is sometimes characterized by conflicts and some behaviour function as reminders of existential issues such as increased freedom, choices, responsibility, death, awareness, increased anxiety and feelings of emptiness.

Existential issues and anxieties are inherent parts in the lives of humans and are related to risks in contemporary post-industrial society, according to Langford (2002). There is a range of individual and social responses to risk that are related to global anxieties about the functioning of a future world. Therefore, communications about risks can only work if people are provided with a valid chance to understand, hope and believe that the conditions can be changed. Risk perception plays an important role when humans structure their identities and try to understand the discourses in society in order to make sense of the world. If we cannot

make sense of the world, our reactions in everyday life may be characterized by fear of the unknown, alienation and helplessness (Langford, 2002). Since risk behaviour often is perceived as irrational actions with a negative impact on health it should be fairly simple to stop risk behaviour. But studies indicate that information campaigns on their own do not prevent individuals from engaging in risky behaviours, e.g. noise exposure (Weichbold & Zorowka, 2003).

Hacker (1994) also views the individual as a complete, existential person. Development is not seen in stages, it occurs during a process that includes the past, present and future. Many factors contribute to this process; Adamsson & Lyxell (1996) point out that one these factors are the meaning and purpose in life. In their study adolescents, aged 18-20, answered questions regarding their self-concept and their existential considerations and they were also asked to write an essay. The result showed a somewhat balanced self-concept in the group and that existential considerations often were related to the future. A positive self-concept was related to whether the adults' were interested in the adolescents' existential thoughts or not (Adamsson & Lyxell, 1996). Accordingly, the social environment is important to the social and existential aspects of identity development in adolescence. Young people live in different contexts and environments, and Bilsker (1992) suggests that two environmental categories can be identified; those who an individual is thrown into (for example social class, gender, biological constitution) which are not easily changed, and those who an individual falls into (culture, social and collective assumptions), which can be possible to change. These components act to take freedom, responsibility and choice away from humans because the standards are set by other people. When the individuals continue their process of development they will be more aware of the things they have fallen into and the things that are really true and meaningful to them. The maturation and development throw the individual into uncertainty and he or she longs for meaning, and it is the same components that allow him or her to be independent and free (ibid).

Summary of empirical studies

The summary of the empirical studies start with a presentation of the aims of the four studies. Further, the methods for each study will be described and after that the results will be reported. The section will also include methodological considerations.

Aims

Study I

The aim of **Study I** was to investigate the relationship between Swedish adolescents' judgements and behaviours in noisy environments (e.g discos/clubs and rock concerts), and judgements and behaviours in traditional risk situations (i.e. smoking and alcohol use) from a gender perspective.

Study II

The aim of **Study II** was to shed light on the complexity of risk behaviour and the meaning and purpose of adolescent risk taking in a traditional sense as well as in noisy environments from a gender perspective.

Study III

The aim of **Study III** was to explore patterns in risk taking (judgements and behaviours) among Swedish young men and women and how risks in musical settings related to traditional risk judgements and behaviours.

Study IV

The aim of **Study IV** was to investigate Swedish adolescents' risk perception, attitudes and behaviour in different musical settings and how social gender effects perception, attitudes and behavior.

Methods

Study I

The participants were 310 adolescents (143 women/167 men, age range: 15-20). They were recruited from three upper secondary schools in the west of Sweden, located in a large urban centre (N= 83), in a middle-sized town (N= 131), and in a small rural community (N= 96). Six different theoretically and vocationally oriented study programs were selected. All pupils in the classes were asked to participate in the study. The response rate was 84.2 %.

The Australian “Adolescent Risk Taking Questionnaire” (ARQ by Gullone et al, 2000) was used for the measurement of risk judgements (22 items) and risk behaviours (22 items) on a five-point Likert scale. The instrument was translated from its original language by the researchers (Bohlin & Erlandsson) and was proofread by a bilingual (Swedish and English) person. The translation was carried out with the assistance of its original creator (Gullone). The risk judgement scale considers the degree of risk that is perceived to attach to various activities and the risk behaviour scale the extent to which the adolescents engage in the same activities. Questions concerning exposure to high levels of sound, designed as the original scale, were added to the ARQ (Appendix 1a & b). Questions on hearing protection use and hearing status were selected from the “Hearing Symptoms description” scale and the “Youth Attitude to Noise Scale” (HSD and YANS; Olsen Widén & Erlandsson, 2004a;b). Cronbach’s alpha for the risk judgement and behaviour were satisfying (.88/.82) and when the four items on noise exposure were included in the judgement and the behaviour scales, the alpha increased (.89 and .83).

The questionnaires were administered during lesson-time. A researcher was present during all of the administrations in order to give instructions on how to fill in the questionnaire and to answer any questions raised by the students. In each classroom the teacher provided assistance by referring any questions that emerged during the approximately 25 minutes it took to fill in the questionnaires to the researcher.

Descriptive statistics were used to examine the collected data in terms of numbers, means, standard deviations and frequencies. Gender-related comparisons regarding hearing problems were examined by the use of the Chi-square test. MANOVA-tests were conducted to analyze variation in gender for the total ARQ scales and were also calculated for each item of the risk judgement scale. To maintain control over the experiment-wide error rate, the MANOVA is the appropriate procedure, according to Hair et al. (1998). Pearson product moment correlations were performed for the risk behaviour and risk judgement scales. The

Kruskal Wallis test was used for studying comparisons between symptom groups on risk judgment and behaviour. This test was used because of few and unequal numbers in the symptom groups. Oneway Anova was performed to compare risk judgment and risk behaviours in different schools.

Study II

The study included 16 adolescents (8 women/8 men, age range 15-19) from five upper secondary schools in Sweden located in a large urban centre (N= 83), in a middle-sized town (N= 131), and in a small rural community (N= 96). The participants were recruited from six different study programs and were interviewed in focus groups and in individual interviews.

Four vignettes were created in order to facilitate the discussions both in the focus groups and in the separate interviews. The subjects of the vignettes were adolescents' risk taking behaviour, such as loud music, street racing and drug use (Appendix 2). The interviews were otherwise in an unstructured format in order to make the discussions dynamic and authentic. The focus groups proceeded for 1 ½ to 2 ½ hours on one occasion and were tape-recorded. Discussions among the adolescents were introduced by the use of 4 different vignettes in the focus groups and individual interviews. The individual interviews lasted between 1 and 2 hours on one occasion and were performed in rooms at the participants' schools.

Interpretative phenomenological analysis (IPA), which explores how individuals make sense of their personal and social world, experiences, events or states, was used as an analytical approach. The individual's first-hand experience describes what happens in their lives and in the context that the experience takes place (Smith, 2003). The recorded sessions were typed out verbatim before the analytical process was commenced. In accordance with IPA methodology, the text in the interviews was coded into meaning units which, thereafter, were categorized a number of times into sub-themes. The sub-themes yielded super ordinate themes which finally constituted the dimensions. The analyses were separated according to gender and yielded six super ordinate themes and two dimensions in each group. The sub-themes differed between the men and women.

Study III

This study is based on the same sample as **Study I**. There were 310 adolescents (143 women/167 men, age range: 15-20) participating in the study. They were recruited from three upper secondary schools in the west of Sweden. Six different theoretically and vocationally oriented study programs were selected. The response rate was 84.2 %.

The “Adolescent Risk Taking Questionnaire” (ARQ by Gullone, Moore & Moss, 2000) was used for the measurement of risk judgements (22 items) and risk behaviours (22 items) on a five-point Likert scale. The risk judgement scale considers the degree of risk that is perceived to attach to various activities and the risk behaviour scale the extent to which the adolescents engage in the same activities. Questions concerning exposure to high levels of sound, designed as the original scale, were added to the ARQ. Questions on hearing protection use and hearing status were selected from the “Hearing Symptoms description” scale and the “Youth Attitude to Noise Scale” (HSD and YANS; Olsen Widén & Erlandsson, 2004a;b). The questionnaires were administered during lesson-time. A researcher was present during all of the administrations in order to give instructions on how to fill in the questionnaire and to answer any questions raised by the students. In each classroom the teacher provided assistance by referring any questions that emerged during the approximately 25 minutes it took to fill in the questionnaires to the researcher.

A principal component analysis (PCA) followed by an oblimin rotation was computed for the whole sample for the judgement and the behaviour scale. Reliability (Cronbach’s alpha) was calculated for each factor in both scales. Patterns of risk taking in gender based sub-groups were explored and a PCA along with an oblimin rotation was executed. The reliability (Cronbach’s alpha) was calculated for each factor in the sub-groups for the judgment and the behaviour scale. The number of factors was set according to scree-plots and eigenvalues (<1). Despite some low alpha-values no factors were excluded from the analysis, as the purpose was only to compare the factors between genders and with the Australian sample. Relations between the evolved factors in the ARQ risk judgement/behaviour scale, including the questions on hearing risk judgements and hearing risk behaviours were examined by Pearson’s Product moment correlation.

Study IV

The study included 567 adolescents (270 women/273 men, age range 16 – 20), from one upper secondary school in the west of Sweden. There were no external dropouts; however, 24 questionnaires were excluded resulting in a sample of 543 subjects.

Five measurements were constructed (see table 1): 1) Youth Attitude towards Noise Scale- Revised focuses on attitudes towards loud music in certain environments, in specific youth cultures. 2) Perceived Susceptibility to Noise measure the individuals’ own perception of being vulnerable or invulnerable to noise and loud levels of music. 3) Norms And Ideals measures a) the norm of acting invulnerable to negative outcomes of a certain hearing related

risk-taking behaviour and b) the ideal of being a risk taker 4) Risk perception Inventory measures risk perception in activities where loud music is played. 5) Adolescent Habits and Use of Hearing protection includes items on how often different noisy activities take place, and for how long a period of time and the use of hearing protection.

Table 1. Name of instruments, items and Cronbach's alpha

	<i>Instrument</i>	<i>Items</i>	<i>Cronbach's alpha</i>
1)	Youth attitude to noise scale-revised (YANS-R)	11	$\alpha = .80$
2)	Perceived Susceptibility to Noise (PSN)	14	$\alpha = .74$
3)	Norms And Ideals (NAIS)	14 (7+7)	$\alpha = .84$ ($\alpha = .70, \alpha = .80$)
4)	Risk perception Inventory (RPI)	14	$\alpha = .81$
5)	Adolescent Habits and Use of Hearing protection (AHH-R)	15	Not executed

A questionnaire was distributed after a short informational letter was given to the class teachers, who in turn administered the questionnaire to the participants during school time. A short information letter about the study was attached to the questionnaire. The questionnaires, which took about 20 minutes to complete, were collected by a researcher at a given time. The focus was to analyze potential gender patterns in the adolescents' attitudes towards noise, perceived susceptibility, risk perception, norms and ideals. MANOVA was used in order to control covariance between gender as an independent variable and attitudes, perceived susceptibility, risk perception norms and ideals as dependent variables. Two multiple regression analyses, one for discotheques/dances and another for attending concerts were performed in order to analyze which factors that can explain protective behaviour (use of hearing protection).

Methodological considerations

The research problem directed the research approach and methodological considerations. Qualitative and quantitative methods complement each other and were therefore seen as the rational choice of approach in the present thesis. Generally, quantitative research includes measurements of variables and statistical analysis of data and qualitative research emphasizes

the understanding and penetration of the essence of a phenomenon, often by analyzing different text materials. However, Åsberg (2001) asserts that methods cannot be defined as either qualitative or quantitative. Neither the method nor the analysis can be defined as quantitative or qualitative since they refer to characteristics of the phenomenon we seek knowledge about. The data can be qualitative (words) or quantitative (numbers), but according to Åsberg (2001) the distinction should end here (if there should be a distinction at all). It could be claimed that quantitative data always have qualitative elements since questionnaires are based on qualitative sentences determined by active theoretical choices as is the interpretation of the statistics. Inversely, qualitative methods have elements from a similar sorting process to the one in quantitative analysis when categorizing words and sentences into, for example, themes or dimensions. In other words, there is no completely objective (or subjective) way to perform research whether we call it quantitative or qualitative (Allwood, 2007). For example, the phenomenological method by Giorgi is an empirical method that has the ambition to generalize the emerged result about a phenomenon to other situations. The aim of such a method is to identify the essence of one, or a few, dimensions in a phenomenon. Other approaches advocate caution when generalizing statistical results (ibid).

In this thesis, several methods are used which traditionally could be called qualitative and quantitative. The interpretative phenomenological analysis of texts is intermingled with statistical analyses such as the analysis of variance, correlations and factor analysis. With this procedure it is possible to approach problems, in this case research questions, from different angles and perspectives. The intention of statistical analyses is to reach a general picture of variations, correlations and structures, whilst the phenomenological analysis aims to reach subjective views. These can, however, be joint experiences for many young people because of the life they spend together in a social world.

The first, third and fourth study were based on young people's responses on questionnaires and were analyzed using a number of statistical methods. The participants in the second study with focus groups and individual interviews were selected from the participants in the first study. The results of the statistical analyses from **Study I** were followed up by a phenomenological analysis in **Study II** through which the research questions could be scrutinized further. New questions were raised as a result of the phenomenological analysis and interpretations of the findings, leading to a new step in the statistical procedures of the first sample, i.e. the factor analyses in **Study III**. Within the framework of the thesis, the three first studies called for a somewhat new approach in the fourth study. Although statistical analyses were preferred in **Study IV**, the previous broad focus was narrowed down

in order to focus on a tapered area, risk taking in musical settings. A multi-methodological approach was chosen in order to address the field of risk taking from different perspectives. Clearly, there are several perspectives that need to be addressed in research on risk taking, and this thesis can only contribute to a small piece in the puzzle of adolescents' perceptions and experiences of risk.

Researching the lives of young people entails that we, the researchers, need to consider that they are part of the cultural, social and historical constructions of their times. In many respects, research about youth and the youth period is not different to that of other periods or other groups in society (Heath, Brooks, Cleaver & Ireland, 2009). There are, however, some features that are rather specific to research on adolescents compared to other forms of research. In young people's lives, age-specific contexts and institutions (school, leisure time activities, and sub cultures) are targeted as their lives are framed by age-specific policies (for example governmental initiatives). Youth is constructed as a critical time of transition and individual development within the life course, and as such there is widespread societal concern regarding the monitoring of young people. They are also a relatively powerless group within the research process for reasons that are specific to their life phase and they therefore need to be paid particular attention during the research process. For example, young people are likely to be less informed about the nature of research involvement than older people, but they are nevertheless more prone to participate in research. As researchers, we try to create as youth friendly designs as possible to make them participate and they are asked to participate by an older authority. It is important to recognize and balance the power dynamics between the researcher and the young participant and to respect autonomy and social agency (ibid).

All four studies constituting the thesis were conducted according to the Swedish ethics policy; the requirements of information, consent, usage of data and confidentiality (Vetenskapsrådet, 2011). However, no application to the Swedish ethical board was found to be required. A researcher and, in most cases, a teacher were present to make certain that all students were comfortable and well informed about the purpose of the studies (verbally as well as by letter). During the data collection the researcher was available to answer any questions that might emerge. The students were told that their participation was voluntary and that they could terminate their participation at any time. They were informed that research material is public information because of the demand that research must be available for replication; however they were ensured discretion and confidentiality. Apart from when the students were informed and when questions were asked, the researcher took an unobtrusive position. Some adolescents who participated in the first data collection at the school were later

contacted by post. In the letter, they were asked whether they would like to participate in a subsequent interview. The students who responded to this letter were then contacted, and asked to participate in **Study II**. After the interview sessions, as well as in the informational letter, they were given addresses and telephone numbers in case they needed support of any kind from the interviewing researchers or indeed from specialists (e.g. an audiologist or psychologist). All names and places in the transcriptions were erased to ensure confidentiality of the participants and the questionnaires were archived in a secure place.

Results

Study I

The analysis of the relationship between risk judgement and risk behaviour revealed a moderately high correlation between adolescents' behaviour in different risk situations and behaviour in noisy environments ($r = .573$). Weaker, but significant correlations were found between traditional risk judgement and judgement regarding noise ($r = .399$), and between risk judgement and risk behaviour (noise included, $r = .378$) (table 1).

Table 2. Correlation between risk judgements and risk behaviours.

<i>Variables</i>	Pearson product moment
Risk judgement (24 items) and risk judgement (4 items) noise	$r = .399, p < .01$ $r^2 = .16$
Risk behaviour (24 items) and risk behaviour (4 items) noise	$r = .573, p < .01$ $r^2 = .33$
Risk judgement (including noise, 28 items) and Risk behaviour (including noise 28 items)	$r = .378, p < .01$ $r^2 = .14$
Risk judgement (22 items, original scale) Risk behaviour (22 items, original scale)	$r = .365, p < .01$ $r^2 = .13$

Women judged risk situations (including risks in noisy environments), in general to be more dangerous than was the case for the men (1.78 and 2.08 respectively, 0= extremely risky to, 4= not risky at all). The difference in risk judgement between women and men was significant but no gender-related significance regarding risk behaviour was found. There were no significant difference in risk behaviour between women and men (1.06 and 1.11 respectively (0= never done, to 4= done very often). The average value on the risk judgement scale (noise) was 1.76 for women and 1.99 for men. On the risk behaviour scale (noise) the

average value was 1.61 for women and 1.63 for men. Some significant differences between genders were for example that women judged motor sport events and activities as more risky and were engaged in them to a lesser degree than men. Rock concerts were judged by women to be more risky, although they visited concerts just as frequently as men. Women tended to judge loud music at discotheques as more risky than men, although, despite this, they visited discotheques more frequently than men.

The ratings on the risk judgement and behaviour scale (including noise) showed significant differences between schools. The adolescents in the school situated in a large town judged activities to be less risky than the students in the school in the small rural location did ($F(2, 298) = 5.75, p < .01, MS = 1.08$). Accordingly, adolescents from the large town school engaged in risky activities to a greater degree than those from the small rural location and the small-sized town ($F(2, 293) = 3.2, p < .05, MS = 0.43$).

The prevalence of experienced hearing problems, i.e. continuous tinnitus and perceived hearing impairment, were 6.1% and 5.8% respectively. The men had continuous tinnitus to a greater degree than the women, and this was also true for both occasional tinnitus and perceived hearing impairment. Conversely, women perceived that they were significantly more sensitive to noise than the men ($p < .01$). The sample was subdivided into 5 symptom groups; no symptoms ($n=195$), occasional tinnitus ($n=25$), permanent tinnitus ($n=8$), sensitivity to noise ($n=45$), and perceived hearing impairment ($n=7$). There was a significant difference between the groups concerning visiting motor sport events ($H=13.8, p = .01, N = 281$). The group with permanent tinnitus visited motor sport events more frequently than the group with sensitivity to noise. Tendencies were found concerning listening to loud music on both the noise judgement and the noise behaviour scales ($H = 8.72, p = .06, N = 280$ respectively ($H=8.94, p = .06, N = 281$). The group with permanent tinnitus judged “listening to loud music” as more risky than those with no symptoms, whilst the adolescents with occasional tinnitus listened to loud music more often than those with permanent tinnitus.

Study II

The analysis showed two dimensions of the phenomenon risk taking: “Existential identity” and “Social identity”. The two dimensions derived from six superordinate themes and twelve sub-themes (see table 3). The sub-themes were gender-related, whilst the superordinate themes and the dimensions were not.

Table 3. Description of dimensions and superordinate themes and sub-themes of risk taking emerged from the Interpretative Phenomenological Analysis (IPA).

<i>Dimensions</i>	<i>Existential Identity</i>			<i>Social Identity</i>		
<i>Super-ordinate themes</i>	<i>Transcendence</i>	<i>Introspection</i>	<i>Conditional freedom</i>	<i>Expressiveness</i>	<i>Individuality</i>	<i>Accessibility</i>
Sub-themes Women	Presence of threat and desire	To control and conceal yourself	Awareness of how fragile we are	Strain to present an ideal image	Break and adhere to demands	Experience of social restrains
Sub-themes Men	A matter of life and death	Crossing boundaries	Awareness- of autonomy and responsibility	A leeway to feel unrestrained	Suppress feelings of vulnerability	Experience of social control

Existential identity

Existential aspects of identity emphasize thoughts about life and death and feeling alive. Young men and women have questions about health and their conceptions about strengths, weaknesses and limits include thoughts about good and evil, meaning and emptiness in life. *Transcendence* (superordinate theme) consisted of the sub-theme “Presence of threat and desire” among women. Taking risks appeared to imply feelings that comprise excitement, amusement but also danger, a mixture of physiological and psychological sensations. Although they expose themselves to danger, they were aware of the consequences and these ambiguous feelings seemed to be based on that avoidance or protection may diminish the experience of an activity. The sub-theme “A matter of life and death”, applicable to the men, implies that death is the greatest consequence of a risk but at the same time death can also be part of the creation of meaning. Death is not necessarily perceived as a threat because you may lose something by staying alive (e.g. function). In the sense that the surrounding world makes you feel powerless, taking risks may be life-fulfilling. “*Introspection*” deals with the unwanted influence of the outside world, and the will to focus on inner experiences.” “To control and conceal yourself” (sub-theme for women) implies that risk behaviors can make you feel in control and alive. By masking unwanted noise it is possible to shut out the surrounding world. The young men express a need to “Cross boundaries” and when doing so certain risk activities seem to contribute to strong inner experiences. The young men encourage each other to take risks, but, when an accident occurs, they rebuke their peers for being reckless. *Conditional freedom* signifies “Awareness of how fragile we are” and women are trying to balance risk-taking and responsibility for themselves and others. Although the women realize that there are many unavoidable risks in society and they talk about the need to experiment in order to learn and develop, they also feel vulnerable and in need of self-preservation. Risks in life are prevalent, and it is not possible to avoid them all. “Awareness

of autonomy and responsibility” holds that the men sense that they are lacking control and feel powerless because they cannot imagine how to influence the course of events in the world. Everything in life is risky to some extent, and therefore you have to balance the advantages and disadvantages of risk taking. Taking certain risks can fill feelings of emptiness.

Social identity

Social aspects of identity concern how to be a social human being in a world where risks are a part of life. The social context influences the shaping of the identity and therefore also beliefs, and sometimes stereotypes about the individual and the collective social world.

“*Expressiveness*” (superordinate theme), includes the importance of normative looks and behaviour. The sub-theme “Strains to present an ideal image”, for women show how normality like audacity and status are produced. They feel that an attractive appearance is more important in society than intelligence and inner qualities. The pressure can be hard to ignore since a woman likes to be perceived as an attractive person with social skills. The male interviewees argue that young people drink and lose control as a way to “enter a leeway to be unrestrained”. Improvement of the self-esteem and to test the self are important, however this is more acceptable for men than women, since women may risk gaining a bad reputation or being abused.

“*Individuality*” (superordinate theme) refers to the experiences of “Break and adhere to demands” by the women who feel restricted in the way they act and present themselves as individuals. Alcohol is considered to facilitate relationships and group pressure can be powerful and may cause young women to pretend a drunken state to obtain status among peers. “Suppress feelings of vulnerability” refers to the tendency of the men to hide their vulnerability. It is regarded as important for them not to panic or lose control. Music is a way to express feelings that may otherwise be hidden. “*Accessibility*” includes “Experience of social restrains” concerning stereotypes and how they influence both women’s and men’s potentials in life. They seem to live under a severe social pressure to reproduce gender roles. The young men believed that women (and men) in general are impressed by a macho attitude, even though it is a misconstruction of masculinity. According to the sub-theme “Experience of social control”, to behave in a “macho” manner is seen by the men as typically male and requires demonstrations of status and social power. They believe that most men would feel humiliated if a woman performed better than a man. To break norms can lead to problems for,

in particular, a young woman since she would deviate from acceptable behaviour (e.g. getting too drunk or having many sexual partners).

Study III

The focus of the analyses was to discover structures of risk taking judgments and behaviors and the relationships to hearing risks among young women and men.

Judgement scale (ARQ)

In the ARQ judgement scale a five factor solution explained 55.80 % of the variance (table 4). There were double loadings over .3 for several items, particularly in factor 3. The two first factors constituted risk situations, traditionally referred to as *rebellious activities* (Factor 1) and *antisocial activities* (Factor 2). Factor 3 can be regarded as *school oriented risk activities*, and factor 4 as *thrill-seeking activities*. Factor 5 concerned *sports and competitive activities*. Factor 3 and 5 had lower values on homogeneity (Cronbach's alpha) than factors 1, 2 and 4.

Table 4. Pattern matrix for risk judgement from the principal component analysis followed by an oblimin rotation (22 items). Cronbach's alpha is presented for each factor and explained variance for all factors.

Factors risk judgement	Factor 1 α	Factor 2 α	Factor 3 α	Factor 4 α	Factor 5 α
- Underage drinking	.84				
- Getting drunk	.75				
- Staying out late	.67				
- Talking to strangers	.47 ^a	.78			
- Drinking and driving		-.80			
- Sniffing gas or glue		-.75			
- Using drugs		-.70			
-Stealing cars and joyriding		-.57			
- Driving without a licence		-.46 ^a			
- Smoking		-.39 ^a			
- Unprotected sex		-.37 ^a	.79		
- Leaving school			.86		
- Cheating			.70		
- Picking and teasing			.47 ^a		
- Overeating			.33	.63	
- Parachuting				.68	
- Flying in a plane				.67	
- Tae Kwan Do fighting				.61	
- Speeding				.42	.69
- Skiing					.81
- Rollerblading					.75
- Entering a competition					.63
<i>Explained variance</i>	55.80				

^a) This item has a loading over .3 in more than one factor.

Behaviour scale (ARQ)

A four factor solution of the behaviour scale explained 47.47 % of the variance (table 5). There were double loadings over .3 for some items, particularly in Factor 1. Some overlaps were found between this factor and Factor 1 (*rebellious activities*) in the judgement scale. In Factor 1 some items were found that were the same as in factor 3 in judgement (*school oriented risk activities*). Factor 2 was similar to factor 5 (*sports and competitive activities*) in the judgement scale and Factor 3 seems to resemble what traditionally is called *antisocial activities* (factor 2 in judgement). Factor 4 is similar, but not completely to *thrill-seeking activities* (factor 4 in judgement).

Table 5. Pattern matrix for risk behaviour from the principal component analysis followed by an oblimin rotation (22 items). Cronbach's alpha is presented for each factor and explained variance for all factors.

Factors risk judgement	Factor 1	α	Factor 2	A	Factor 3	α	Factor 4	α
- Underage drinking	.89							
- Getting drunk	.85							
- Smoking	.81							
- Staying out late	.79							
- Leaving school	.58 ^a							
- Unprotected sex	.51							
- Talking to strangers	.39 ^a	.84						
- Rollerblading			.70					
- Entering a competition			.60 ^a					
- Speeding			.50					
- Tae Kwan Do fighting			.48	.51				
-Stealing cars and joyriding					-.83			
- Sniffing gas or glue					-.74 ^a			
- Driving without a licence					-.63			
- Picking and teasing					-.62			
- Cheating					-.41			
- Parachuting					-.34			
- Using drugs					-.29	.67		
- Flying in a plane							.60	
- Skiing							.59	
- Drinking and driving							.42	
- Overeating							.29	.33
<i>Explained variance</i>	47.47							

^a) This item has a loading over .3 in more than one factor.

In summary, there are some common denominators between judgement and behaviour in the Swedish sample. However, there are also many examples of dissimilarities, and items are loading in diverse factors for judgement and behaviour which shows that the patterns in the ARQ were rather indistinct.

The relationships of judgement and behaviour to hearing risks

Significant correlations were found between all factors in the ARQ risk behaviour and hearing risk behaviour scales. Factor 1 (e.g. getting drunk, staying out late and talking to strangers) seemed to have the closest relationship to hearing risk behaviour ($r = .57$). Correlations between ARQ risk judgement and hearing risk judgement were found in all factors except for Factor 5 (e.g. skiing, rollerblading and entering a competition). The results suggest that there were common denominators between hearing risk judgment and traditional risk judgement as well as between hearing risk behaviour and traditional risk behaviour.

Factor structure (women/men)

Factor analyses (PCA/oblimin) separated according to gender including the two scales were performed. A six factor solution for women explained 60.87% of the variance in the *Judgement scale* and for men five factors explained 56.09%. Similarities, but also discrepancies were found between factors among the women and the men and the factors for men were one less than those for women. The reliability was rather low for women, especially in the sixth factor. The reliability was more consistent in the factors for men, although it in some cases was low.

A seven factor structure emerged for women in the *Behaviour scale* which explained 66.15% of the variance. For men, the analysis yielded six factors and they explained 59.79% of the variance. Factors 1 and 2 were found to be rather similar when the two factor analyses (women/men) were compared. In general, all other factors differed markedly and the reliability was rather low on some factors in both analyses. In sum, there were difficulties to interpret the gender patterns of the factor analyses.

Relationships between gender on judgement and behaviour

Pearson's Product moment correlation showed that there was a relationship between traditional risk judgement and risk behaviour divided according to gender (women $r = .34$, men $r = .35$) which suggests that if young people judge a situation as risky, they tend not to engage in it and vice versa. There was, however, not a significant correlation between judgement and behaviour regarding hearing risks.

Study IV

Gender differences regarding attitudes towards loud music, perceived susceptibility to noise, norms and ideals and risk perception in noisy environments are presented in table 6. Men reported significantly more positive attitudes towards loud music, and identified themselves more with the norm of being invulnerable, and with the ideal of being a risk taker, compared to women. Women reported a higher degree of perceived susceptibility to noise and risk perception regarding noise exposure.

Table 6. Analysis (MANOVA) of gender differences regarding attitudes towards loud music, perceived susceptibility to noise, norms and ideals and risk perception in noisy environments.

<i>Dependent variables</i>	<i>Independent variable</i>	<i>F</i>	<i>df</i>	η^2
YANS-R	Women Men	17.59***	1	0.04
PSN	Women Men	17.35***	1	0.04
NAIS norms	Women Men	58.73***	1	0.12
NAIS ideals	Women Men	34.22***	1	0.07
RPI	Women Men	17.32***	1	0.04

* = $p < .05$ ** = $p < .01$ *** = $p < .001$

Both women and men reported the same behavioural pattern regarding self-reported habits and use of hearing protection. Significant gender differences were found in two types of activities, how many times a month the person attended discotheques or dances and how many times a year the person attended concerts. Women reported significantly more visits ($m = 2.18/\text{month}$) compared to men ($m = 1.68/\text{month}$). Women reported that they used hearing protection 8.3% of the time and men 5.61% of the time. No significant differences were found in the use of hearing protection or the number of hours they stayed at discotheques or dances. Significant differences were not found between women and men in the reported number of visits to concerts during a year. Men reported significantly longer stays ($m = 4.64 \text{ hours/visit}$) compared to women ($m = 3.74 \text{ hours/visit}$) and men reported use of hearing protection 35% of the time and women 38% of the time.

Since gender differences regarding attitudes, perceived susceptibility to noise, norms, ideals and risk perception already were found, an analysis of gender together with these

independent variables was performed to test if gender itself contributed to the model in terms of explained variance (Table 7). The regression analysis indicated that attitudes and risk perception together explained 15% of the variance in the use of hearing protection at discotheques/dances. Individuals who were negative towards loud levels of noise were more likely to use hearing protection at discos and those who had a high risk perception were more likely to use hearing protection during this activity. Gender, perceived susceptibility norms and ideals did not contribute significantly to the model. The use of hearing protection at concerts was explained by perceived susceptibility to noise, the norm of being invulnerable, and risk perception regarding noise exposure. These three variables explained about 36% of the variance for use of hearing protection at concerts. Gender, attitudes towards loud music and ideals concerning being a risk taker did not contribute significantly to the model.

Table 7. Explanatory variables to the use of hearing protection at disco/dances and concerts.

Dependent variable use of hearing protection disco/dances						
Independent variables	<i>B</i>	Beta	<i>R</i> ²	Adj. <i>R</i> ²	<i>R</i>	<i>F</i>
Gender	3.740	0.106	0.174	0.154	0.417	8.687
YANS-R	-5.117	-0.191*				
PSN	-0.760	-0.022				
NAIS norms	-1.410	-0.052				
NAIS ideals	-1.039	-0.049				
RPI	7.366	0.247*				
Dependent variable use of hearing protection at concerts						
Independent variables	<i>B</i>	Beta	<i>R</i> ²	Adj. <i>R</i> ²	<i>R</i>	<i>F</i>
Gender	4.301	0.058	0.368	0.356	0.607	31.066
YANS-R	-3.687	-0.063				
PSN	11.289	0.161*				
NAIS norms	-8.861	-0.154*				
NAIS ideals	2.827	0.062				
RPI	36.129	0.604***				

* = $p < .05$ ** = $p < .01$ *** = $p < .001$

General discussion

The general aim of this thesis was to study relationships between risk taking in a traditional sense (e.g. smoking, speeding) and hearing risks (e.g. discos and concerts), the purport and meaning of risks and the impact of current norms in society on attitudes to risks and loud music. An existential- and gender theoretical framework have been used as analytic tools in order to identify possible new ways of understanding different risk behaviours. The discussion below is divided into themes, in which the theoretical background and the results of the studies are discussed in line with the aims of the thesis and the four sub-studies.

Risks in different settings

Zuckerman (2000), Arnett (1992) and Wang (2001) have all reported that individuals who expose themselves to risky situations also engage in less risky activities, such as watching scary movies, travelling, partying and listening to rock music and heavy metal to experience intense feelings. The results in **Study I** revealed that there is a correlation between general risk behaviour and risk behaviour regarding loud music, i.e. music that is played at high volumes at concerts and discotheques. Leisure time noise, such as high levels of music at concerts and discos, is a common occurrence in young people's everyday lives, and there is no doubt that noise exposure is one of the causes of hearing impairment, tinnitus and hypersensitivity to noise. The results disclosed that the young people who reported permanent tinnitus judged "listening to loud music" as more risky than those with no such symptoms. Young people with occasional tinnitus judged "listening to loud music" as less risky than those reporting permanent tinnitus. As in the results of Olsen Widén and Erlandsson (2004a) it can be suggested that a trigger, in this case permanent tinnitus, could prompt a person to adopt more health-oriented behaviours.

In **Study II** the interviewees seem to be struggling with the ambivalence between risk-avoidance in order to stay healthy, and risk engagement that offers excitement and new experiences. In other words, future and current health are of concern, something that contradicts the view of van Exel, de Graaf and Brouwer (2006) who claim that young people seem not to care about the future and current health issues. The adolescents sometimes see risks as unavoidable, but nevertheless they try to judge what is risky based on messages from society, the media, schools and parents. When listening at music the volume sometimes is turned up in order to sense the rhythm, bass and drums in the body. This positive experience has to be balanced to the fact that it may endanger the hearing. Risk taking can also function

as a protector against other risks or inconveniences. For example, loud music can help someone to be in control of unwanted noise (traffic or loud speech) and act as a masking of other sounds. These finding is in conjunction with research that states that when a risk is perceived as voluntary it is often seen as positive (loud music), but when a risk is perceived as involuntary the risk is seen as negative (the effect of masking) (Olofsson, 2009).

Although a number of the adolescents participating in **Study I** experience temporary tinnitus and worry about such symptoms (See also Olsen Widén & Erlandsson, 2004a;b; Widén & Erlandsson, 2007), young people, in general, do not perceive hearing risks as serious as traditional risks. Findings in **Study III** revealed a relationship between traditional risk judgment and traditional risk behaviour. No such relationship was found between hearing risk judgement and hearing risk behaviour. The findings are notable in the sense that young people engage in hearing risks and traditional risks, often at the same time (Zuckerman, 2000; Arnett, 1992; Wang, 2001; Bossius, 2001). All factors in the factor analysis of the behaviour scale correlated with hearing risks, and in the judgement scale all except for one correlated. The factor including behaviour such as underage drinking, getting drunk, staying out late and talking to strangers had the closest relationship with hearing risk behaviour. The result is in line with Brady, Song and Halpern-Felsher (2008), who assume that young people' visits at clubs and rock concerts which also includes social activities can be both positive and negative. Concert halls or clubs are arenas for meeting new people late in the evening, although sometimes under the influence of alcohol.

The factor structure of the judgement scale in the Swedish sample differs from the factor structure among Australian adolescents in **Study III**. Only one of the factors had a similar structure as a factor called reckless behaviour in the study by Gullone et al (2000). This factor is, however, easier to interpret compared to the other factors, because the activities are clearly risky and therefore easy to judge. The factor structure of the behaviour scale was also found to be different from that in the Australian sample. In this case, the factor "rebellious behaviour" was the most similar one between countries, and the reason may be that rebellious behaviour is the most common behaviour among young people. According to Boholm (1998) risk perception is influenced by the social and cultural contexts and people adapt to the norms in their environment. Along with this, Douglas and Wildavsky (1982) affirm that cultural patterns create structures in which people choose or reject norms and values. As a consequence, risk perception cannot be generalized since specific cultures relate to the reality and the world in different ways (Tulloch & Lupton, 2003; Renn, 1998). All this

can have an impact on risk perception and attitudes among the Swedish and the Australian adolescents.

In **Study IV** risk perception and attitudes together explained 15% use of hearing protection at discos. Participants who were negative towards loud levels of sound were more likely to use hearing protection at discos. The same was true for those who had a high risk perception, results that are supported by previous research by Olsen Widén and Erlandsson (2004b,) and Chesky et al. (2009) who found that noise exposure that was regarded as unsafe resulted in avoidance of noisy environments. Use of hearing protection at concerts is explained by perceived susceptibility to noise, the norm of acting invulnerable, and risk perception regarding noise exposure (36% explained variance). Vulnerability and worry (susceptibility) are shown to affect attitudes to music-induced hearing loss according to Vogel et al. (2008); Vogel et al. (2010) and Olsen Widén and Erlandsson (2004b). However, the risk of acquiring a hearing loss, young people can enjoy music and at the same time they can have normative expectations on that people with certain music taste engage in risky behaviors (North & Hargreaves, 1995; Öhman, 2009). Since there is a relationship between adolescents' risk-taking in noisy environments and their voluntary exposure to other types of risks, research on hearing prevention need to acknowledge and utilise theories on risk taking.

Gender, social relations and risk

Research has shown that women judge certain types of behaviour as more risky than men, and do not take part in risky activities to the same extent (Gullone & Moore, 2000; Byrnes; Miller & Shafer, 1999). In **Study I**, young women judged certain behaviours as more risky than the young men, but, unexpectedly, they involved themselves in risky activities just as much. The help of a social and cultural perspective can explain this discrepancy in risk judgement and risk behaviour between the sexes. The quest to achieve equality between the sexes may have had an impact on how young women and men perceive risks and engage in them. Young women in Sweden today tend to involve themselves in the same risky activities as men according to Ekervald (2003) an observation that found support in **Study I**. Also, a recent study showed that risky behaviour (for example alcohol and binge drinking) is on the increase among young Australian women (Abbot-Chapman, Denholm & Wyld, 2007). The influence of gendered social norms and patterns of socially accepted behaviour in youth is large and the social changes that affected behaviour may still not have had an influence on judgements and attitudes towards risk behaviours. Norms rooted in traditional values are strong for both

genders, but for the young women especially, such values seemed to create inconsistencies and contradictions. Since women in **Study I** judged the activities as more dangerous but still engage in them, they experientially expose themselves to higher levels of risk than is the case for the men. Widén and Erlandsson (2007) claim that it is socially acceptable for young women to admit their vulnerability by expressing worry. This is not the case for men who need to preserve an appearance of invulnerability to adapt to social norms of masculinity (ibid). These results are consistent with Vogel et al. (2008) and Vogel et al. (2010), who found that men express low personal vulnerability to hearing risks and therefore do not want to change their habits.

The IPA-analysis uncovered the same dimensions and superordinate themes of the phenomena of risk taking for both genders in **Study II**. However, the sub-themes were found to differ, which is in conjunction with Gilligan's critique of Kohlbergs' theory on moral development. The moral stages in life may be accurate but the content differs between men and women due to their different living conditions (Gilligan, 1982). The existing assumption about gender is often based on a male norm. Hence, results from **Study II** suggest that whilst overall dimensions and themes can be the same for both genders, the sub-themes can differ substantively after further analyses. Social freedom can in many ways be limited and restricted in the lives of women, making it difficult for them to base their norms, values, attitudes and behaviours on personal choices. According to Beck (1992) and Giddens (2009) this is something that the modern society advocates. The women were feeling ambivalent regarding risk-avoidance and risking their health when engaging in risky activities. Taking risks were seen by the women as something they should do, however in a lesser degree than men. It is not socially acceptable for women to be too drunk, to drive too fast, and to be too sexually active since it can lead to a bad reputation among friends, especially among the male friends. Skeggs (1997) suggest that women reproduce an appearance of being feminine, to conform to self-imposed ideals and reach a level of respectability in society. Both genders believed, and this is confirmed socially, that women are exposed to abuse and violence in public life, a belief that may restrict the freedom of women (Johansson, 2007).

When a group of people join together and exceed norms and ideals in society, they sometimes form sub-cultures. A sub-culture or a sub-group is used by its members to experience independence and power (Lalander, 2009). Young people seem to construct boundaries against others and create rules, which unify each individual into a group context, for example a group based on educational belonging (Ziehe, 1986; 1993). Besides the impact of educational belonging, who is a risk-taker appear to be class-related, according to both men

and women in **Study II**. Groups of students enrolled on vocational programs are believed to be more prone to take risks than other groups on theoretical programs. Further, it is believed that people with a certain music taste and listening habits have a high prestige value, possess better social skills and are more successful (North & Hargreaves, 1999).

Gullone's et al (2000) study among Australian adolescents indicates that patterns achieved by the factor analyses on both risk behaviour and judgement are equal for men and women. The Australian study results were not confirmed in **Study III**, i.e. we did not find the same patterns in risk judgement and behaviour among the Swedish women and men. However, our findings are in line with those of **Study I** in the present thesis, where women judged risky behaviours as more risky than men but nevertheless engaged in the same activities. The factor analytical structures in judgement appeared to be relatively similar between genders, even though there was one factor less in the analysis including the males and some items also loaded differently. However, in **Study I** the women judged the risk behaviours as more severe. The factor analytical structure of behaviour was not similar between genders, except for two factors. It is notable that the factor solution for the males seemed to fit better to the results of the study by Gullone et al. (2000); antisocial, thrill-seeking and reckless behaviour. A plausible explanation would be that many risk taking questionnaires traditionally are influenced and based on a male norm of behaviour. This interpretation seems to be supported by the diverse factor structures that emerged for women concerning behaviour. Overall, factor analytical structures including the Swedish samples are not similar either in the whole sample or the sample split on gender in comparison to the Australian sample. Underlying reasons for the discrepancies might be related to cultural differences between Sweden and Australia, the translation of the instrument or that there are differences in the social construction of gender roles and gender stereotypes. Tulloch & Lupton (2003) and Renn (1998) maintain that there seem to be different culture patterns both within and between cultures and norms and values reproduced in these structures. In the cultural context, risk judgment and behaviour are also affected by gender, ethnicity and age (Wilkinson, 2001). Further, women are expected to follow the norm of society, and do so when they judge risk behaviours as was showed by Ekervald (2003) and Skeggs (1997). On the other hand, the men's judgment also appeared to be influenced more by social norms than behaviour. How risks are perceived, or judged is influenced by strong social norms and ideals for both women and men, and for that reason the patterns of judgement were more similar between women and men than patterns of behaviour (Öhman, 2009; Deaux & Kite, 1987; Whitley & Ægisdóttir, 2000).

According to **Study IV**, men reported more positive attitudes towards loud music, identified themselves to a higher degree to the norm of acting invulnerable, and to the ideal of being a risk-taker, in comparison to women. Women, on the other hand, reported a higher degree of perceived susceptibility to noise and a higher degree of risk perception as to noise exposure, a result that is consistent with previous studies (Olsen Widén & Erlandsson, 2004a; Maria et al., 2009; Chesky et al., 2009). Men reported having more difficulties in acknowledging vulnerability compared to women, a finding also described by Vogel et al. (2008) and Vogel et al (2010), i.e. men express low personal vulnerability to music-induced hearing loss. In conclusion, risk-taking must be understood from the perspective of social and gender specific norms, something that the results of **Studies I, II** and **III** also suggest as well as studies by Widén & Erlandsson (2007); Öhman (2009); Deaux & Kite (1987); Whitley & Ægisdóttir (2000) and Skeggs (1997). The gender differences in the factor analytical structures for judgment and behaviour in **Study III** may also be understood from the results of **Study IV**. Men and women included in **Study IV** tended to hold different attitudes, norms, normative ideals, risk-perception, and perception of vulnerability. Such “hidden”, not assessed factors in **Study III** may have influenced the participants’ risk judgment and behaviour. No major differences were found regarding noise exposure habits between men and women in **Study IV**, which is interesting in relation to the findings in **Study I** where the women judged risk situations as generally more dangerous than the young men, but nevertheless took as many risks. The use of hearing protection at concerts in **Study IV** was explained by perceived susceptibility to noise, the norm of acting invulnerable, and risk perception regarding noise exposure in the regression analysis. Women tend to worry about noise and the risk of damaging their hearing to a higher extent than men (Olsen Widén & Erlandsson, 2004b). Accordingly, gender differences in perceived vulnerability can partly explain susceptibility to noise and use of hearing protection.

Even though there were gender differences when women and men were compared on risk habits and risk perception, gender did not affect use of hearing protection when regression analysis was computed. Men compared to women had more positive attitudes towards loud music, they hold stronger to the norm of acting invulnerable, and identified themselves in a higher extent to the ideal of being a risk-taker. Women, on the other hand, reported a higher degree of perceived susceptibility to noise and perceived to a higher degree exposure to noise as risky behaviour. There are normative expectations on people’s gender identity and behaviors associated with the opposite gender are often perceived in a negative way by others (Whitley & Ægisdóttir, 2000; Skeggs, 1997). Social gender is experienced and

expressed in a rather constant and oblivious way. It may be so, that how we perceive gender affects our attitudes, adherence to norms and ideals, risk perceptions and perceived susceptibility in such a high degree, that gender does not protrude by itself. Therefore, we may find that the norm of acting invulnerable as well as perceived susceptibility is gendered.

Existentialism and risk

In this thesis, an existential perspective has become important for the understanding of adolescent risk taking. The reason for adopting this rather novel approach in research on youth risk-taking behaviour is the new insights it can bring into the area of research. An existential perspective on risk behaviour can help us find new ideas, terms and concepts to better understand risk behaviour as well as how to prevent poor health among adolescents (Ellsworth, 1999; Carlson, 2003; Fitzgerald, 2005; Hacker, 1994). Young people test their limits and take risks, balancing the need to adapt to norms in society while still remaining free and brave. When someone participates in risky activities she or he might experience feelings of euphoria and perceive states of transcendence. These experiences are existential aspects of people's lives, especially in youth, according to several theorists (Carlsson, 2003; Csikszentmihalyi, 1992; Damasio, 1999; Fitzgerald, 2005; Hacker, 1994; Maslow, 1970; May, 1981 etc). Langford (2002) assumes that risks in the contemporary society are related to existential issues and anxieties which are inherent parts in the lives of humans. The way young people create their lifestyles where dark lyrics or some genres of music can be seen as manifestations of a current existential phase. Occasionally, they can escape existential anxiety through drugs, alcohol, speeding and intense and loud music. There can be experiences of existential matter such as increased freedom, choices, responsibility, death, awareness, increased anxiety and feelings of emptiness that is hard to house (Ellsworth, 1999). From an existential perspective, it is possible to regard risk behaviour as a way for adolescents to fill an existential emptiness. The existential approach is theoretically applied in all four studies, but operationalized in three of them. The participants in **Study II** discussed and expressed themselves in existential terms in relation to risk taking and other areas in life. It could be argued that the existential perspective was somewhat unintentionally operationalized by the participants in the interviews and also by the researcher in the later analyses. The existential perspective in **Study III** is used in the discussion of how to (re)name factors or clusters of risk judgement and behaviours. In **Study IV**, the existential perspective is partly operationalized in the scales measuring susceptibility, vulnerability, norms and ideals.

Hence, in **Study II**, women found it difficult to follow the dictates of society about what you should or shouldn't do, because risks often are experienced as unavoidable. These messages from their surroundings can create anxiety but also an indifference to risks. The physiological feeling (tickling) that can occur in risky situations provides pleasure and the experience of living life. In the same way, the young men described physical and psychological reactions like a feeling of jitteriness, a pounding heart, rushing hormones and feelings of being high and present. The transcendence to another level of consciousness can be related to what Maslow (1970) has described as peak experiences; the state in transcendence when the individual feels whole, coalesces with the surrounding world and is in touch with the meaning of life. However, being in a state of transcendence can also mean that the men exert pressure on each other, which may involve a risk to their own life, as well as the lives of others. Because when an accident does occur, the men are severe in their criticism of the risk-taker. Being responsible for our own lives, choices and consequences are also existential considerations for humans to adhere to (May, 1981). The interviewed men emphasized that taking risks (such as using drugs, speeding and listening to loud music) can be a way to fill internal emptiness and expanding as existential beings, something which also is suggested by Measham, Aldridge and Parker (2001). Another example is that loud music is perceived as arising from the inside of the body and that it can make you feel in control and alive. Loud music is often used in order to articulate intense feelings and to be in control (Arnett, 1992; Wang, 2001). With these findings in mind, it is interesting that May (1981) asserts that the most significant problems faced by humans in Western society are existential anxiety and a lack of power. As already mentioned, loud music can be used to mask sounds that you would like to avoid. To put the ear-plugs in and listen to music of your taste and forget the surrounding world can give you an opportunity to be introspective.

That men tended to adhere to the masculine norm of being invulnerable in **Study II** and **IV** and in an earlier study by Widén & Erlandsson (2007) is important not only in a gender perspective but also in the existential perspective. The interviewees struggled to adapt to the norms of masculinity formulated according to a macho attitude encouraging them to compete and to succeed. To accept that we are vulnerable as humans is an existential stumbling block that we have to face throughout life, in its extreme form; our own death. Ellsworth (1999) emphasizes that some behaviour in adolescence grows from existential issues such as increased freedom, choices, responsibility, vulnerability, death, increased anxiety and feelings of emptiness and the awareness of all those components in life. A young person who experience anxiety and vulnerability may choose to escape through drugs, alcohol, speeding

with intense, loud music. Further, the men stressed that death, which was seen as the ultimate consequence of risk-taking, does not pose as a threat. Death is absolute and probably something the subject is not consciously aware of, and is in that aspect nothing to worry about. Accordingly, Van Exel, de Graaf and Brouwer (2006), have found that the general idea among young people seem to be that; have fun once you live, because everyone will die one day, anyway.

The factors utilized in **Study III** are not easily named, and maybe they should not be named at this stage. We tend to fall into traditional concepts of adolescent behaviour when naming factors or clusters of risk behaviour and judgement. Future research will need to reconceptualize how to interpret and statistically name factored and clustered risk-taking behaviour and judgement. An alternative, existential way of interpreting risk behaviours would mean that not only negative aspects of risk taking is taken into account, but also the more positive side of the coin. Such double-sided aspects would be; feelings of introspection, transcendence, expression and individuality. Since it appears from the empirical studies that risk behaviour has an existential dimension, further investigation of risk taking behaviours would benefit from such theoretical assumptions. In line with this presupposition Csikszentmihalyi's (1992) theory on "flow" can be inspiring, since it describes phenomena in which all of the senses are involved, and attention totally absorbed. Further, what it means to exist in our psychological, cultural and historical base are main questions for the existentialists (e.g Heidegger, Husserl, Kierkegaard, Sartre and de Beauvoir). Powerlessness can make people substitute the perception of emptiness in a destructive way, such as adopting a dictatorial approach to life or by using drugs or alcohol (May, 1981). Therefore, instruments have to be constructed with an aim to capture the existential dimension in the lives of adolescents. In **Study IV** we attempted to touch an existential dimension in the use of new developed scales on hearing risks by questions on norms and ideals, vulnerability and susceptibility. The adoption of an existential perspective on risk behaviour in youth allows the use of new concepts, terms and ideas according to Fitzgerald (2005) and Carlson (2003), leading to a better understanding of both risk-taking behaviour and prevention.

Methodological implications

Biases as the influence of social norms and conditions on the researchers are considered to be present in all studies, quantitative as well as qualitative, when philosophical presumptions are made and analytical methods are chosen. As discussed by Dahlberg, Drew & Nyström (2001)

it is impossible to repress all presumptions that a researcher may have, a statement that is true for the methodological considerations that were made in all four studies in my thesis.

Nevertheless, as a researcher you are constrained to handle your own previous knowledge when data are analyzed (Smith et al, 1999; Smith & Osborne, 2003), and I have tried to live up to this fairly utopian ideal.

Study I and **III** was limited to 310 adolescents in Southwest of Sweden, and therefore additional studies in other parts of the country with more participants are needed for investigating “traditional” and “hearing” risk judgments and behaviors. To use an instrument, developed by researchers from another continent (Australia) with a different cultural and social context can be problematic. Although the translation has been carried out very carefully with help from the original creator, some biases may have occurred. For example, the meaning of the risky activities described in the questionnaire may not be equivalent in the Australian and Swedish samples. Even if it would be desirable to create a world-wide measurement of risk behaviors and judgments, it is an impossible enterprise. There will always be a need to adjust the scales to the social and cultural conditions in the countries. To straighten out biases and issues emerging from **Study I** a different methodological approach was used in **Study II**. The meanings of peoples’ experiences and an examination of their life world were focused in a phenomenological analysis (Smith & Osborne, 2003). Although the subjective perception of the individual is in focus, the essence of the phenomena can be captured, since people live in the same world and have mutual experiences and interests. The advantage of the phenomenological approach is the suggestion that social contexts influence people’s experiences, and in **Study II** this influence also had a relation to gender norms.

The use of focus groups and individual interviews was based on the assumptions that focus groups could be an arena for adolescents to become aware of social and psychological aspects of risk behavior. The individual interviews were suggested to work for adolescents who were not comfortable articulating thoughts in a group. The most important task for data production was that the adolescents were allowed to make their voices heard concerning an important aspect of their lives. Tiller (1991) points out, that adopting a child and adolescent perspective in research on children and youth is indispensable. The vignettes in **Study II** were designed in accordance with results obtained in **Study I** and also influenced by existential and gender-based theories. The narratives in the vignettes can be categorized as rather gender stereotypical risk situations. This was intentional in order to resemble the social and existential contexts of the adolescents. There is, however, a risk that we as researchers reproduce the stereotypical norms and conceptions about risk, gender and existential issues.

A limitation in **Study IV** is that most of the psychometric scales are new and not yet adequately validated. Validation and improvement of the scales are something that we are working on continuously. On the other hand, the results from the analysis are consistent with what could be expected from theoretical standpoints (e.g. **Study I, II & III**; Widén, 2006). The homogeneity (Cronbach's alpha) of items in the scales seems to be satisfying. Furthermore, the concept of vulnerability has been investigated by Vogel, et al. (2008) and Vogel et al. (2010) and is comparable with our findings. "Perceived susceptibility" is previously used in relation to the Health Belief Model (Rosenstock, 1974) as an important variable to understand health risk-taking behavior. In addition, the results from the new version of YANS are comparable with previous findings (Olsen Widén & Erlandsson, 2004b). With this said, we believe that a theoretical validation of the psychometric subscales to some degree is fulfilled, but there is a demand for further validation and strengthening of the set of scales and their inter-relationship. Another important issue concerning **Study IV** is that the scales "overlap" to some extent, meaning that they partly measure the same aspects. Hence, it is important to improve the instrument to make it more reliable and valid.

Conclusions

The general aim of this thesis was to study relationships between risk taking in a traditional sense and hearing risks, the purport and meaning of risks and the impact of current norms in society on attitudes to risks and loud music. The gender- and existential perspective used in this thesis has evolved through a progressive process from **Study I** to **Study IV** and has become a valuable way to understand risk taking. Some main results can be concluded from the thesis. There seems to be relationships between adolescents' risk taking in noisy environments and other risks, which imply that research dealing with hearing prevention among young people should acknowledge and use theories on risk taking. Likewise, theories on risk taking should acknowledge and include noise as a risk factor in future development of such theories. Preventive strategies need to be adjusted to the reality of adolescents, who cannot be seen as passive receivers of information. They are able to decide whether they should read, see or hear the information since all communication is bidirectional (Olofsson, 2009). News, media, the Internet, radio and television are important tools for risk communication and do not only communicate strategic risk information; the information can also be unintentional. Media along with authorities have a rather strong influence on the discourse and the debate on risk-taking behaviours. Some risks are frequently addressed and

are discussed in media whilst other risks are not. For example, loud music as a trigger to drive fast in cars is frequently exposed in media, whilst music as a danger for the hearing is not. It seems clear from the results of all four studies in the thesis that, although awareness about the damaging effect that loud music can have on the hearing is rather high, such risks are not regarded as risks in a “traditional” sense and are not addressed in the risk discourse. The existential meaning music have for many people, in this case adolescents might be the reason for this neglect. Therefore the existential approach, throughout all studies, is important for a broader understanding of risk taking behaviour in general, and risk-taking behaviour in musical settings in particular. To use existential theoretical tools together with the inclusion of music exposure and hearing as risks have greatly contributed to the understanding of both hearing risks and traditional risk taking.

Those who are involved in practical and research-oriented work with young people ought to consider that risk taking does not simply represent a threat; it also provides existential meaning and opportunities for young people to mature. Preventative work need to be designed in a way that makes them engaged and not apprehensive. Messages of illness, suffering and death, can cause them to emotionally switch off, instead of weighing up the risks that give existential meaning. Risk taking should be seen as both a threat *and* a development, and not as either or. Furthermore, it is necessary to understand the social aspects of risk taking, particularly how they are reproduced by gender norms. For example, the literature review on risk-taking behaviors so far show that theory on risk taking often are influenced by gender norms, and in particular the male norm. The statements articulated by both women and men, as well as the answers given in the questionnaires apprehended in the thesis mirror the reproduction of gender and so are their reports in the questionnaires. When gender belongings are so strong that you are unable to express, or even experience, e.g. vulnerability or less susceptibility it is difficult to develop and express your own identity. This might be an important aspect to consider in prevention programs for adolescents at risk. At last, the results of the empirical studies in this thesis underscore the importance of analyzing gender in research on risk behaviour and to achieve an awareness of social changes that takes place and which has an influence on adolescents’ lives. I believe that the use of existential and gender theories is one way of rethinking how to address general risk taking, as well as risk taking in noisy environments among adolescents in the contemporary society.

References

- Abbot-Chapman, J., Denholm, C., & Wyld, C. (2007). Gender differences in Adolescent Risk Taking: Are They Diminishing? An Australian Intergenerational Study. *Youth Society*, 40; 130: 131-154.
- Adamsson, L., & Lyxell, B. (1996). Self-concept and questions of life: Identity development during late adolescence. *Journal of Adolescence*, 19; 569-582.
- Allwood, C.M. (2007). Uppdelningen mellan kvalitativ och kvantitativ forskning är artificiell. *Psykologtidningen*, nr 4, 25-27.
- Arnett, J. J. (2007). The long and leisurely route: Coming of age in Europe today. *Current History: A Journal of Contemporary World Affairs*, 106, 130-136.
- Arnett, J. J. (2006). *Emerging adulthood: the winding road from the late teens through the twenties*. New York: Oxford University Press.
- Arnett, J. (1992) The Soundtrack of Recklessness – Musical preferences and reckless behaviour among adolescents. *Journal of Adolescent Research*. Vol. 7, No. 3, pp. 313-331.
- Bauman, S. (1991). *Modernity and Ambivalence*. Cambridge: Polity Press.
- Beck, U. (1992). *Risk Society. Towards a new modernity*. New Delhi: Sage.
- Benton, S.L., Benton, S.A. & Downey, R.G. (2006). College student drinking, attitudes toward risks, and drinking consequences. *Journal of Studies of Alcohol*, July, p. 543-551.

- Biassoni, E.C., Serra M. R., Richter, U., Minoldo, G., Franco, G., Abraham, S., Carignani, J, A., Joekes, S., & Yacci, M. R. (2005). Recreational noise exposure and its effects on the hearing of adolescents. Part II: Development of hearing disorders. *International Journal of Audiology*. Vol. 44, Number 2, pp 74-85.
- Bilsker, D. (1992). An existential account of identity formation. *Journal of Adolescence*, 15; 177-192.
- Bogoch, I.I., House, R.A., & Kudla, I. (2005). Perceptions about hearing protection and Noise-induced hearing loss af attendees of rock concerts. *Canadian Journal of Public Health*, 96: 69-96.
- Boholm, Å. (1998). Comparative studies of risk perception: a review of twenty years of research. *Journal of Risk Research*, 1: 134-163.
- Bossius, T. (2001) . *Black metal, magdans och hemlöshet.*, In: Identitetens omvandlingar. Black metal, magdans och hemlöshet [Transformation of identity. Black Metal, belly dance and homelessness.] Sernhede, O., & Johansson, T. (reds) . p. 183-209. Göteborg: Bokförlaget Daidalos.
- Bostrom, A., Morgon, M.G., Fischhoff, B. & Read, D. (1994). What do people know about climate change? Mental models. *Risk analysis* 14:959-970.
- Brady, S.S., Song, A.V., & Halpern-Felsher, B.L. (2008). Adolescents Report both Positive and Negative Consequences of Experimentation with Cigarette Use. *Prev Med* 2008; 46: 585-590.
- Byrnes, J.P., Miller, D.C., & Schafer, W.D. (1999). Gender differences in Risk Taking: A Meta-Analysis. *Psychological Bulletin*, Vol. 125, No 3, pp. 367-383.
- Carrol, D., Davey Smith, G., & Bennet, O. (1996). Some observations on health and socioeconomic status. *Journal of Health Psychology*, 1, 23-29.

- Carlson, L. (2003). Existential theory: Helping school counselors attend to youth at risk for violence. *Professional school counseling*, vol. 6, issue 5, p.310, 6p.
- Chesky, K., Pair, M., Lanford, S., & Yoshimura, E. (2009). Attitudes of college music students towards noise in youth culture. *Noise & Health*. 11;42, 49-53.
- Chung, J.H., Des Roches, C.M., Meunier, J. & Eavey, R.D (2005). Evaluation of Noise-Induced Hearing Loss in Young People Using a Web-Based Survey Technique. *Pediatrics*, 115, 861-67.
- Cook, PA., Bellis MA. (2001). Knowing the risk: relationships between risk behaviour and health knowledge. *Public Health*. Jan; 115(1):5.4-61.
- Council on Communications and Media. (2009). Impact of Music, Music Lyrics, and Music Videos on Children and Youth. *Pediatrics*, 1; 124(5): 1488 - 1494.
- Csikszentmihalyi, M. (1992). *Flow: The psychology of happiness*. London: Rider press.
- Dahlberg, K., Drew, N., & Nyström, M. (2001). *Reflective lifeworld research*. Lund: Studentlitteratur.
- Damasio, A. R. (1999). *Descartes misstag. Känsla, förnuft och den mänskliga hjärnan*. Stockholm: Natur och Kultur.
- Deaux, K., & Kite, M.E. (1987). Thinking about gender. In B.B. Hess & M.M. Ferree (Eds), *Analyzing Gender: A handbook of Social Science Research*. (pp. 92-117) Newbury Park, CA: Sage.
- del Consuelo Martinez- Wbaldo, M., Soto-Vázquez, C., Ferre-Calacich., Zambrano-Sánchez, E., Noguez-Trejo, L., & Poblano, A. (2009). Sensorineural hearing loss in high school teenagers in Mexico City and its relationship with recreational noise. *Cad. Saude Pública*. 25;12, 2553-2561.

- Donovan J. E. (1996). Problem-behaviour theory and the explanation of adolescent marijuana use. *Journal of drug issues*, Vol 26, issue 2, 22p.
- Douglas, M. & Wildavsky, A. (1982). Cultural biases. *Report No 35*. London: Royal Anthropological Institute.
- Ekervald, H. (2003) Ungdomsforskning – skilda världar och värderingar. [Adolescent research – Separate worlds and values] In: Nygård, B. (ed). *Ungdomsforskning* pp. 14-17. Stockholm; FAS.
- Elsrud. T. (1998). Risk creation in travelling: Risk taking as narrative and practice in backpacker culture. *Time and society*. Vol 7, no 2-3, pp 309-334.
- Ellsworth. J. (1999). Today's adolescent; Addressing Existential dread. *Adolescence*, Vol. 34, No. 134. pp.403-408.
- Enander, A. (2005). *Människors förhållningssätt till risker, olyckor och kriser*. Karlstad: Räddningsverket.
- Erickson, J.D., Patterson, J.M., Wall, M. & Neumark-Sztainer, D. (2005) Risk behaviours and emotional well-being in youth with chronic health conditions. *Children's Health Care*, 34(3), 181-192.
- Erikson, H. E. (2000). *Den fullbordade livscykeln*. Stockholm: Natur och Kultur.
- Fitzgerald, B. (2005). An Existential view of adolescent development. *Adolescence*, Vo. 40, No. 160, pp.793-799.
- Fornäs, J. (1994). *Ungdom, kultur och modernitet*. In: Fornäs, J., Boethius, U., Genetz, H. & Reimer, B. (1994). *Ungdomskultur i Sverige*. FUS-rapport nr 6. Stockholm: Brutus Östlings Bokförlag Symposium.
- Freud, S. (1995). *Bortom lustprincipen*. [Beyond the Pleasure Principal] Stockholm: Natur och Kultur.

- Fritidsvaneundersökningen (2005). *Fritidsvaneundersökningen i Göteborg*.
<http://www.frivan.goteborg.se/>
- Gates, G.A., Schmid, P., Kujawa, S.G., Nam, B. & Agostino, R. 2000. Longitudinal threshold changes in older men with audiometric notches. *Hearing Research*, 141, 220-228.
- Giddens, A. (1991). *Modernity and Self-identity. Self and Society in the Late Modern Age*. Polity Press; Cambridge.
- Giddens, A. (1999). Risk and Responsibility. *Modern Law Review*. 62, 1-10.
- Giddens, A. (2009). *Sociology*. Cambridge: Polity Press.
- Gilligan, C. (1982). *In a different voice*. Harvard: Harvard University Press.
- Gullone, E., Moore, S., Moss, S., & Boyd, C. (2000). The Adolescent Risk-Taking Questionnaire. Development and Psychometric Evaluation. *Journal of Adolescent Research*, Vol. 15. No. 2, pp. 231-250.
- Gullone, E., & Moore, S. (2000). Adolescent risk-taking and the five-factor model of personality. *Journal of Adolescence*, Vol 23, pp. 393-407.
- Hair, J.F. (1998). *Multivariate Data Analysis*. NJ: Prentice Hall.
- Hacker, , D. J. (1994). An existential view on adolescence. *Journal of Early Adolescence*. 14 (3); 300-327.
- Hasselberg, M. (2004). *The social patterning of road traffic injuries during childhood and youth*. Doctorial dissertation. Stockholm: Karolinska institutet.
- Heath, S., Brooks, R., Cleaver, E. & Ireland, E. (2009). *Researching young people's lives*. London: Sage Publications.

- Hellqvist, C. (2002). Höga ljudnivåer; ungdomars beteenden, kunskaper och attityder. Rapport från AMMOT, på uppdrag av Socialstyrelsen. [High levels of noise, adolescent behaviour, knowledge and attitudes.]
- Helsing, M. (2010). *Music in everyday life: the effects on everyday music listening on emotions, stress and health*. Licentiate dissertation. Department of Psychology. University of Gothenburg, Sweden.
- Jessor, R. (1998). *New perspectives on adolescent risk behaviour*. Cambridge: Cambridge University Press.
- Johansson, T. (2006). Att skapa sin identitet: Ungdom i ett posttraditionellt samhälle. In: Frisé, A. & Hwang, P. (red.). *Ungdomar och identitet*. Stockholm: Natur och Kultur. S.197-217.
- Kite, M.E & Deaux, K. (1987). Gender Beliefs systems: Homosexuality and the implicit inversion theory. *Psychology of Women Quarterly*, vol.11, no.1, p. 83-96.
- Klosterberg, C. (2001). Populärkulturella drömmar och förlorade möjligheter: Unga tjejers läsning av Veckorevyn. In: Trondman, M. (red.) (2001). *Varken ung eller vuxen*. Stockholm: Atlas.
- Kujawa, S.G. & Liberman, M.C. 2006. Acceleration of age-related hearing loss by early noise exposure: Evidence of misspent youth. *Journal of Neuroscience*, 26, 2115-2123.
- Kähäri, K. R. (2002). *The Influence of Music on Hearing*. Göteborg: Göteborgs universitet.
- Lalander, P. (2009). *Hela världen är din. En bok om unga heroinister*. Lund: Studentlitteratur.
- Lalander, P. & Johansson, T. (2002). *Ungdomsgrupper i teori och praktik*. Stockholm: Studentlitteratur.

- Langford, I.H. (2002). An Existential Approach to Risk Perception. *Risk Analysis*, 22; 1:101-120.
- Loewenstein, G.F., Hsee, C.K., Weber, E.U., & Welch, N. (2001). Risk as Feelings. *Psychological Bulletin*, Vol 127, No 2, pp. 267-286.
- Maina Ahlberg, B., Jylkäs, E. & Kranz, I. (2001). Gendered construction of sexual risks: implications for safer sex among young people in Kenya and Sweden. *Reproductive Health Matters*. 9, 26-36.
- Marcia, J. (2006): *Jagidentitet och objektrelationer*. i: Frisé, Ann/Hwang, Philip (2006): *Ungdomar och identitet*. Stockholm: Natur och Kultur.
- Maria, A., Zocoli, F., Catalani Morata, T., Mendes Marques, J., & Jacob Corteletti, L. (2009). Brazilian young adults and noise: Attitudes, habits, and audiological characteristics. *International Journal of Audiology*. 48; 692-699.
- Marks, D F., Murray, M., Evans, B., & Willig, D. (2000). *Health psychology, theory, research and practise*. London; Sage Publications.
- Maslow, A. (1970). *Motivation and personality*. New York: Harper & Row.
- May, R. (1981). *Freedom and destiny*. New York: Norton.
- Measham, F., Aldridge J., & Parker, H. (2001). *Dancing on Drugs. Risk, Health and Hedonism in the British Club Scene*. London: Free Association Books.
- Niskar, A. S., Kieszak, S. M., Holmes, A. E., Esteban, E., Rubin, C. Brody, D. (2001). Estimated prevalens of Noise-Induced Hearing Threshold Shifts Among Children 6 to 19 Years of Age: The Third National Health and Nutrition Examination Survey, 1988-1994, United States. *Pediatrics*. Vol 108 No 1, p. 20-43.
- North, A.C. & Hargreaves, D.J. (1995). Eminence in pop music. *Popular music and society*. No 19, pp.41-66.

- North, A.C. & Hargreaves, D.J. (1999). Music and adolescent identity. *Music education Research*. Vol. 1, no, 1.
- Olsen Widén, S.E., & Erlandsson, S.I. (2004a). Self-Reported Tinnitus and Noise Sensitivity among Adolescents in Sweden. *Noise & Health*. Vol 7, no 25, pp. 29-40.
- Olsen Widén, S.E. & Erlandsson, S.I. (2004b). The influence of Socio-Economic Status on Adolescent Attitude to Social Noise and Hearing Protection. *Noise & Health*. 7; 25: 59-70.
- Olofsson, A. (2009). Individ och Risk. In: Olofsson, A., & Öhman, S. (2009). *Risker i det moderna samhället*. Lund: Studentlitteratur.
- Olofsson, A., & Rashid, S. (2009). Introduktion. In: Olofsson, A., & Öhman, S. (2009). *Risker i det moderna samhället*. Lund: Studentlitteratur.
- Pleck, J. H., & O'Donnell, L. N. (2001). Gender Attitudes and Health Risk Behaviors in Urban African American and Latino Early Adolescents. *Maternal and Child Health Journal*. 5; 4: 265-272.
- Rawool, V., & Colligon-Wayne, L. (2008). Auditory lifestyles and beliefs related to hearing loss among college students in the USA. *Noise & Health*. 10; 38, 1-10.
- Renn, O. (1998). Three decades of risk research: accomplishments and new challenges. *Journal of Risk Research*. 1: 49-71.
- Rosenstock, I. (1974). Historical Origins of the Health Belief Model. *Health Education Monographs*. 2 , 4.
- Sadhra, S., Jackson, C.A., Ryder, T. & Brown, M.J. (2002). Noise exposure and hearing loss among student employees working in university entertainment venues. *Annual Occupation Hygiene*, 46, 455-463.

- Serra M. R., Biassoni, E.C., Richter, U., Minoldo, G., Franco, G., Abraham, S., Carignani, J, A., Joeke, S., & Yacci, M. R. (2005). Recreational noise exposure and its effects on the hearing of adolescents. Part I: An interdisciplinary long-term study. *International Journal of Audiology*. Vol. 44, Number 2, pp 65-73.
- Sherif, C.W. (1982). Needed studies in the concept of gender identity. *Psychology of Women Quarterly*, 6, 375-398.
- Siegel, A.W., & Cousins, J.H. (1994). Adolescents` perceptions of the benefits and risks of their own risk taking. *Journal of Emotional & Behavioral Disorders*. Vol. 2, Issue 2, pp. 89-99.
- Sjöberg, L. (2000). Factors in risk perception. *Risk Analysis*, 20:1-12.
- Skeggs, B. (1997). *Formations of class and gender. Becoming respectable*. London: Sage publications.
- Slovic, P. (2001). *The perceptions of risk*. London: Earthscan Publications.
- Slovic, P. (2006). Affect, reason, risk and rationality. European Working Group “Multiple Criteria Decision Aiding”. 3: 1-5.
- Smith, J. (2003) (Ed). *Qualitative psychology. A practical guide to research methods*. London: Sage publications.
- Smith, J., Jarman, M. & Osborne, M. (1999). Doing interpretative phenomenological analysis. In M. Murray & K. Chamberlain (Eds.), *Qualitative Health Psychology*. London: Sage.
- Smith J. & Osborne. M. (2003). *Interpretative Phenomenological Analysis*. In: Smith, J. (2003) (Ed). *Qualitative psychology. A practical guide to research methods*. London: Sage publications.
- Socialstyrelsen (SOSFS). (2005:7). *Socialstyrelsen allmänna råd om höga ljudnivåer*. Stockholm: Socialstyrelsen.

- Tiller P-O. 1991, ”’Barneperspektivet’om å se og bli sett. Vårt perspektiv på barn eller omvendt?” *Nytt fra forskning om barn i Norge*, 1, Trondheim: Norsk Senter for barneforskning.
- Taylor-Gooby, P., & Zinn, J. (Eds) (2006). *Risks in social science*. Oxford: Oxford University Press.
- Tulloch, J., & Lupton, D. (2003). *Risk in everyday life*. London: Sage.
- Turner, J. C., Hogg, M. A., Oakes, P. j., Reicher, S. D., & Wetherall, M. S. (Eds). (1987). *Rediscovering the social group: A self-categorization theory*. Oxford: Basil Blackwell.
- Turner, J. C., & Oakes, P. J. (1989). Self-categorization theory and social influence. In: P. B. Paulus (Ed), *Psychology of group influence*. Hillsdale, NJ: Erlbaum.
- Tversky, A., & Kahneman, D. (1994). Judgement under uncertainty: Heuristics and Biases. *Science*. 185: 1124-1131.
- Van Exel, N.J.A, de Graaf, G. & Brouwer, W.B.F. (2006). Everyone dies, so you might as well have fun. *Social Science of Medicine*, Vol. 63, Issue 10, p 2628-2639. 12 p.
- Vetenskapsrådet (2011). Forskningsetiska regler. www.codex.vr.se/regler.shtml 2011-02-01
- Vogel, I., Brug, J., Van der Ploeg, C., & Raat, H. (2010). Discotheques and the risk of hearing loss among youth: risky listening behaviour and its psychosocial correlates. *Health Education Research*. 25: 5, 737-747.
- Vogel, I., Brug, J., Hosu, E., Van der Ploeg, C., & Raat, H. (2008). MP3 Players and Hearing Loss: Adolescents’ Perceptions of Loud Music and Hearing Conservation. *The Journal of Pediatrics*. 152; 400-4.
- Wang, M.Q. (2001). Selected lifestyle and risk behaviors associated with adolescents’ smoking. *Psychological Reports*, Vol 88, pp. 77 - 82.

- Weichbold, V., & Zorowka, P. (2003). Effects of a hearing protection campaign on the discotheque attendance of high-school students. *International Journal of Audiology* 42: 489-493.
- Widén, S. & Erlandsson, S. (2007). Risk perception in musical settings – a qualitative study. *Int J of Qualitative studies on Health and Well-being*, 2, 33-44.
- Widen S.E. (2006). Noise and Music – a matter of risk perception? *Unpublished doctoral dissertation*, Gothenburg University.
- Widén, S.E., Holmes, A.E., Johnson, T., Bohlin, M., & Erlandsson, S.I. (2009). Hearing, use of hearing protection, and attitudes towards noise among young American adults. *International Journal of Audiology*, 48, 537-545.
- Widén, S.E., Holmes, A.E., & Erlandsson, S.I. (2006). Reported hearing protection use in young adults from Sweden and the USA: Effects of attitude and gender. *Int J Audiol*, 45, 273-280.
- Wilkinson, I. (2001). Social theories of risk Perception: At once indispensable and insufficient. *Current Sociology*, 49: 1-22.
- Wilkinson, R. (1992). Income distribution and life expectancy. *British medical Journal*, 304, 165-168.
- Whitley & Aegisdottir (2000). The gender belief system. Authoritarianism, social dominance orientation, and heterosexuals' attitudes. *Sex roles*. 11-12, 947-967.
- Wolfe, D.A., Jaffe, P.G. & Crooks C. V. (2006). *Adolescent risk behaviours. Why teens experiment and strategies to keep them safe*. Michigan: Grand rapids.
- Ziehe, T (1986). Inför avmystifieringen av världen. Ungdom och kulturell modernisering. In: Löfgren, M. & Molander, A. (reds). *Postmoderna tider*. [Postmodern times]. Stockholm: Nordstedts förlag.

Ziehe, T. (1993) *Kulturanalyser- Ungdom, utbildning och modernitet*. Stockholm: Stehag symposium.

Zuckerman, M. (2000). Are you a risk taker? *Psychology Today*, Vol 33.

Åsberg, R. (2001). Det finns inga kvalitativa metoder– och inte kvantitativa heller för den delen. Det kvalitativa - kvantitativa argumentets missvisande retorik. *Pedagogisk forskning i Sverige*. 4, 270-292.

Öhman, A. (2009). Teorier om risksamhället. In: Olofsson, A., & Öhman, S. (2009). *Risker i det moderna samhället*. Lund: Studentlitteratur.

Appendix 1a

ARQ (Extended version)

Original version ARQ :

Gullone, E., Moore, S., Moss, S., Boyd, C. (2000). The Adolescent Risk Taking Questionnaire: Development and psychometric evaluation. *Journal of Adolescent research*.15, 231-250

Extended version ARQ:

Bohlin, M., Erlandsson, S. (2007). Adolescent Risk Taking Questionnaire (ARQ). Trollhättan, Sweden; University West

Bohlin, M. C., & Erlandsson, S, I. (2007). Risk behaviour and noise among adolescents. *Noise and Health*, 9, 55-63.

Below is written a list of behaviours which some people engage in. Read each one carefully and tick the box in front of the word that best describes your opinion about how risky you think each situation or behaviour is. There are no right or wrong answers. Remember, tick the box that best describes how risky **you** think each situation or behaviour is.

1. Smoking	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
2. Roller blading	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
3. Drinking and driving	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
4. Parachuting	Extremely risky <input type="checkbox"/>	Very <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at risky <input type="checkbox"/>
5. Speeding	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
6. Stealing cars and going for joyrides	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
7. Tao Kwando fighting	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>

8. Underage drinking	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
9. Staying out late	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
10. Driving without licence	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
11. Talking to strangers	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
12. Flying in a plane	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
13. Cheating	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
14. Getting drunk	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
15. Sniffing gas or glue	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
16. Unprotected sex	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
17. Leaving school	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
18. Teasing and picking on people	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
19. Skiing	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
20. Taking drugs	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
21. Overeating	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
22. Undereating	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>

23. Entering a competition	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
24. Hurting one self on purpose (cutting)	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>

Below is written a list of behaviours which some people engage in. Read each one carefully and tick the box in front of the word that best describes your behaviour. There are no right or wrong answers. Remember, tick the box that best describes **your** behaviour.

1. Smoking	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
2. Roller blading	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
3. Drinking and driving	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
4. Parachuting	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
5. Speeding	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
6. Stealing cars and going for joyrides	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
7. Tao Kwando fighting	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
8. Underage drinking	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
9. Staying out late	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
10. Driving without licence	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>

11. Talking to strangers	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
12. Flying in a plane	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
13. Cheating	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
14. Getting drunk	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
15. Sniffing gas or glue	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
16. Unprotected sex	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
17. Leaving school	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
18. Teasing and picking on people	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
19. Skiing	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
20. Taking drugs	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
21. Overeating	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
22. Undereating	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
23. Entering a competition	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
24. Hurting one self on purpose (cutting)	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>

Appendix 1b

HRQ

Bohlin, M., & Erlandsson, S. (2007). Hearing Risk Taking Questionnaire (HRQ). Trollhättan, Sweden; University West

Bohlin, M. C., & Erlandsson, S, I. (2007). Risk behaviour and noise among adolescents. *Noise and Health*, 9, 55-63.

Below is written a list of behaviours which some people engage in. Read each one carefully and tick the box in front of the word that best describes your opinion about how risky you think each situation or behaviour is for **your hearing**. There are no right or wrong answers. Remember, tick the box that best describes how risky **you** think each situation or behaviour is.

1. Listen to loud music	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
2. Visit rock concerts	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
3. Visit discotheques	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>
4. Visit motor sport activities	Extremely risky <input type="checkbox"/>	Very risky <input type="checkbox"/>	Risky <input type="checkbox"/>	Not very risky <input type="checkbox"/>	Not at all risky <input type="checkbox"/>

Below is written a list of behaviours which some people engage in. Read each one carefully and tick the box in front of the word that best describes your behaviour. There are no right or wrong answers. Remember, tick the box that best describes **your** behaviour.

1. Listen to loud music	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>
2. Visit rock concerts	Never done <input type="checkbox"/>	Hardly ever done <input type="checkbox"/>	Done sometimes <input type="checkbox"/>	Done often <input type="checkbox"/>	Done very often <input type="checkbox"/>

**3. Visit
discotheques**

Never done

Hardly ever
done

Done
sometimes

Done often

Done very
often

**4. Visit
motor sport
activities**

Never done

Hardly ever
done

Done
sometimes

Done often

Done very
often

Appendix 2

Vignettes

Metallica is coming to town. Helena believes that they are the best band there is. She has been to many rock concerts, but not yet to see the band she loves most. Helena and her friends meet outside the arena and the queues are long. When they are inside people offer them ear protection. Helena doesn't want to use them; she believes that the music will be muffled. If you are going to a concert you have to hear properly. Two of her friends accepted the ear protection since they have experienced buzzing and ringing in their ears before. Helena has also experienced buzzing and ringing, but she believes that it is worth it.

Robert has just received his driving licence. He passed his driving test the second time. He is now saving up to be able to buy a car. Until then, he is borrowing his brother's car. It is a second hand BMW, but still very nice and fast. Robert likes to drive fast. Robert has several friends who also have driving licences and many of them own their own cars. They decide to arrange a street race in the village in which they live. They want to test the cars and see who the best driver is. Robert doesn't tell his brother about the street race. If he did, he wouldn't be allowed to borrow the car. They race late at night, when there not many people outside. They start two-by-two, alongside each other and the one who comes first at the end of the straight road wins.

Annelie is going out with her friends. However, it is hard to find places where you're are allowed to go into when you're only sixteen. There is a high age limit everywhere. Annelie has a big sister who has her own apartment and she's away for this weekend. Annelie and her friends use the apartment to have a party before they go out. One of the friends has bought cider and beer for everybody. They drink what they have and become rather drunk. When they are trying to get into a disco they are refused entry. Outside, they meet some other young people who also didn't manage to get inside the disco. One of them offers them some hash. One of the friends of Annelie's thinks it is dangerous and goes home. Annelie is curious and has no beer left, so she decides to try some for the first time.

Martin's telephone is ringing. His friends want him to come along to a discotheque. It's not often he wants to go to places like that. Although he enjoys meeting people, he wants to meet them where it's calm and quiet. Martin has a difficult time when it's noisy. It jars upon his ears when the music is too loud and he has difficulty to hear what other people say when there is constant noise around him. Martin has always experienced that it's hard to be in places where the volume is loud and he thinks it's stressful. Only a few people know about his problem with noise. He comes up with other reasons for not joining his friends at discos. Those that he has already told don't understand him and they don't seem to take his problem seriously.