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ORIGINAL ARTICLE

Risk perception in musical settings—a qualitative study

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Abstract

This qualitative study was undertaken in order to investigate young people's perspectives on risk-taking and music experiences in musical settings. The study sample included nine women and seven men of whom eight were musicians and eight were not. Open-ended interviews were performed and analysed by the guidance of Grounded Theory. "Music as a mean in creating identity" was seen as the core category, essential for the understanding of risk-taking behaviour in musical settings. Three higher-order categories, meaningfully related to the core category, emerged in the interviews and they were labelled "self-image", "risk consideration" and "norms and ideals". The individual's self-identification as being vulnerable to negative consequences of a particular type of risk behaviour seems to be a central aspect in transforming health-risk behaviour into a health-preventive behaviour. The higher-order category "risk consideration" was built up by concepts as "risk awareness" and "meaning of risk-taking". Finally, "norms and ideals" consisted of two categories: "acting in accordance with social norms", and "acting in accordance with normative ideals". If people believe that exposure to loud music without wearing hearing protection is an acceptable norm, regardless of the accuracy of this perception, they are more likely to become involved in risk-taking behaviour regarding their hearing. We believe that risk consideration, social norms and ideals are meaningful concepts for the understanding of risk-taking behaviour in young people.

Key words: *Grounded theory, young adults and adolescents, risk taking behaviour, musical settings, self-image, hearing, social norms and ideals*

Introduction

Noise-induced hearing loss (NIHL) is a significant social and public health problem (Chung, Des Roches, Meunier & Eavey, 2005). In Sweden, statistics indicate that 13.8% of the total population have hearing impairments, and among individuals between 16 and 24 years of age, approximately 4% have hearing impairments. The prevalence of noise induced hearing impairments is increasing in all age categories (HRF, 2006). Several studies have reported an increasing trend of noise induced hearing loss (NIHL) among children and adolescents (Niskar, Kieszak, Holmes, Esteban, Rubin & Brody, 2001; Blair, Hardegree & Benson, 1996). NIHL in children and young adults has been linked to recreational noise and leisure time activities (Jokitalppu, Björk & Akaan-Penttilä, 1992). Exposure to loud music, especially among young people, is an important source of concern. Discotheques and

pubs have had a tradition of playing pre-recorded and amplified music for entertainment. The risk of hearing loss from amplified music is dependent on the duration of exposure, sound intensity and individual genetic vulnerability (Sahdra, Jackson, Ryder & Brown, 2002). An epidemiological study on the evaluation of hearing damage from amplified music showed a gradation of audiometric damage from discotheques to personal cassette players and finally rock concerts (Bisch, 1996). A number of studies have been published on the auditory effects of music exposure at discotheques and rock concerts (Serra, Biassoni, Richter, Minoldo, Franco, Abraham, Carignani, Joekes & Yacci, 2005; Biassoni, Serra, Richter, Joekes, Yacci, Carignani, Abraham, Minoldo & Franco, 2005; Sahdra, Jackson, Ryder & Brown, 2002). The results from previous studies indicate that concert- and discotheque-goers are routinely exposed to sound levels above 100 dBA (Clark, 1991), which may cause temporary or

permanent damage to the human ear and symptoms such as tinnitus (Kroener-Herwig, Biesinger, Gerhards, Goebel, Greimel, Hiller, 2000). In a Swedish study among rock and jazz musicians, Kähäri, Zachau, Eklöf, Sandsjö and Möller (2003) found that the prevalence of hearing disorders (hearing loss, tinnitus, hyperacusis, distortion and diplacusis) was 74% out of a sample based on 139 musicians. The study also indicated that women had significant better bilateral hearing thresholds at 3–6 kHz compared to men.

Infrequent exposure to loud music may also cause temporary threshold shifts (TTS) in which an increase in the hearing threshold occurs. The rate of TTS recovery varies between individuals, from several minutes to several days (Clark, 1991). Repeated TTS over the course of a few weeks to a couple of years may lead to accumulated cellular damage, which may imply permanent threshold shift. Although TTS cannot predict the extent of permanent threshold shift, it is a good early indicator of permanent damage (Luz, Fletcher, Fravel & Mosko, 1973). In a recent study among 1285 Swedish adolescents, we found that temporary tinnitus, defined as tinnitus continuing for more than 24 h after noise exposure, was reported by 21.6% of the sample. The participants were also asked to mark situations listed in the questionnaire, where temporary tinnitus occurred. Concerts and discotheques were reported as those situations in which most hearing problems occurred (Olsen-Widén & Erlandsson, 2004a).

A way of preventing noise-induced hearing damage is to use hearing protection. Adolescents' use of hearing protection is associated with factors such as attitudes towards noisy environments and socio-economic status (SES), results reported by Olsen-Widén and Erlandsson (2004b). Olsen-Widén and Erlandsson (2004b) found that adolescents holding a positive attitude towards noisy environments, for example, for whom loud music is seen as unproblematic, were less inclined to use hearing protection at concerts and discotheques, compared to those holding negative attitudes towards noise. Furthermore, adolescents, from homes with high SES (measured by the parents' educational level and occupation) reported more negative attitudes towards noise and used hearing protection at concerts and discotheques to a greater degree, compared to those from homes with low SES. The experience of hearing disturbances (e.g. tinnitus) and concern about developing hearing loss has also been found to correlate with concert-goers' use of hearing protection (Bogoch, House & Kudler, 2005; Olsen-Widén & Erlandsson, 2004b).

A study concerning noise exposure and hearing loss among employees working in entertainment venues such as discos, revealed that the majority of the staff did not perceive exposure to loud noise as a risk to their hearing, and only a few had received information on risks of hearing damage from listening to amplified music (Sahadra et al., 2002). According to Irwin and Millstein (1986) and Irwin (1990), adolescent risk-taking behaviour is determined by the interaction between maturation, individual values, peer group characteristics, and individual risk perception. Initiation of risky behaviours at younger ages is often associated with exposure to more frequent risks, adoption of several kinds of risky activities, and more severe social or health outcomes. Music plays an important role in adolescent's social development and a central role in the development of peer-group identity (Strasburger, 1989). At the same time, it can constitute a risk for individuals' hearing. It is, therefore, important to investigate the role of music in relation to adolescents' risk perception regarding musical settings.

Aim

The aim of this study was to gain an insight into risk taking as regards exposure to loud music at concerts and discotheques, and additionally to investigate whether exposure to loud music is perceived as a risk.

Method

Analysis of data

In order to gain a rich and diverse description of the phenomena "risk-taking in musical settings" we selected the reformulated mode of Grounded Theory according to Strauss and Corbin (1998). The objective of Grounded Theory is to investigate a phenomenon in-depth, for example by open interviews, analyse and build up a theoretical understanding based upon the data. In the study, data generation and analysis proceeded simultaneously. In the initial phase of the analysis, the open coding revealed themes of theoretical interest, which were followed up in the following interviews. After 16 interviews, the researchers considered the theoretical saturation as satisfying.

The interviews were tape recorded and transcribed verbatim. They were read line by line, and the text was broken down into discrete parts and substantive codes (open coding), using concrete words describing the individuals' experiences regarding exposure to music. The open codes were sorted, interrelated and grouped to build up

categories and subcategories a step referred to as axial coding (Strauss & Corbin, 1998). Selective coding followed this step, where the categories were analysed with the purpose of identifying the core category. The core category includes all parts of the analysis, and provides an explanation for the purpose of the study (Glaser & Strauss, 1967; Strauss & Corbin, 1998).

Subjects

Sixteen adolescents and young adults (nine women and seven men) aged between 17 and 28 years of age, who had attended pop concerts and/or discotheques more or less frequently, participated in the study. Eight participants were musicians or students at the School of Music and Musicology at the University of Göteborg Sweden, and eight were non-musicians. The interviewees had different socio-economic backgrounds and they were classified by Hollinghead four factor index of social status (Hollinghead, A. B. 1975). The Hollinghead four factor index is based upon the parents' education level and working position. In order to increase the chance to get informants with different socio-economic background, adolescents and young adults from both theoretical and vocational upper-secondary programs were selected. Four individuals came from families with low SES, seven from families with medium SES, and three from homes with high SES. Two informants could not be classified regarding SES. Hearing related problems such as tinnitus, noise sensitivity and high frequency slope on one or two ears were reported by a few of the participating subjects.

Procedure

Two trial interviews were conducted prior to the study to test the interview questions. The interview focused on three themes, "music experience", "hearing and hearing protection", and "music and health risks". A short letter with information about the purpose of the study was sent out to the students at the School of Music and Musicology at the University of Göteborg. The students were asked to contact the investigator by mail if they were interested in being interviewed. Other informants, who were non-musicians, were informed about the purpose of the study during a class session. The investigator told them to write their e-mail address on a list if they were interested in being interviewed. Later on they were contacted by the investigator and time for the interview was arranged. The interviews were conducted at the School of Music and Musicology, or at the Department of Psychology in

Göteborg, or at the University West in Vänersborg, depending on the informant's own requirements. The in depth interviews varied from between 40 and 75 min in length.

Ethical considerations

Before the interview begun, the interviewees were informed about the purpose of the investigation. They were told that participation was voluntary and that they could end the interview at any time, if there was a need to do so. The participants were asked about giving their permission for tape-recording the interview and told that the tapes were to be stored safely and that only the researcher should have access to the recordings. They were informed that the results should be presented in a way that assured the participant's confidentiality.

Reliability and validity

Our interest in the field of social psychology with a social constructivist perspective may have influenced our theoretical understanding for the studied phenomenon of risk-taking, which presumably affects the interpretation of the results. Rigour in research is commonly evaluated through reliability and validity assessments strategies. Relevance is determined by the accuracy of research findings as perceived by those who are knowledgeable about the phenomena being studied. As suggested in the qualitative research approach reliability was achieved in the present study, when similar relationships between phenomena frequently emerged in the interviews. In general, qualitative researchers, emphasises and evaluate the trustworthiness or credibility of the findings (Glaser & Strauss, 1967). Credibility is used to describe the validity of the qualitative study. High correspondence between a theoretical concept and its indicators, as reflected in quotations from the interviews is regarded as evidence of good validity. Comparative analyses between theoretical concepts, categories and interview quotations, therefore, were continuously conducted in order to increase the validity of the study. The coding and classification of the interviews was checked by a second judge, a reliability and validity assessment in qualitative research known as co-judging. A selection of substantive codes was compared with the co-judgers substantive codes and were found to be approximately the same. When the substantive codes were sorted to build up categories grounded in the data, these categories were discussed in coincide with a fellow researcher.

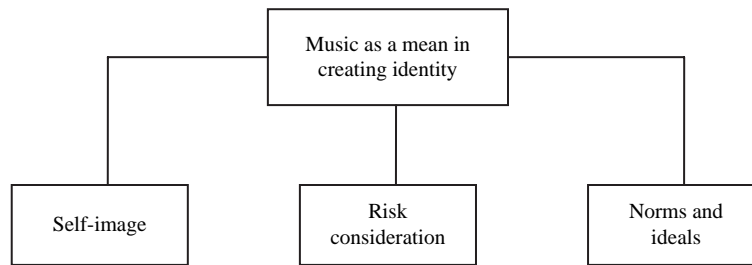


Figure 1. Illustration of the core category and related higher order categories.

Results

The core category “music as a mean in creating identity” is identified in the interviews and is relevant for the understanding of risk-taking behaviour in musical settings. Three higher-order categories conceptually related to the core category were identified and labelled “self-image”, “risk consideration”, and “norms and ideals”. The core category and the higher order categories are presented in Figure 1.

The individual self-image in our model deals with the perceived vulnerability to negative consequences of a risk-behaviour. The self-image, or the identification as being vulnerable or invulnerable to negative consequences of a risk-behaviour, may be created through an interaction between the individual, social norms and existing normative ideals held by the peer-group or the society, for example. However, the identity creation by means of music may involve some risks to the health e.g. listening to music on loud volume in musical settings. The individual risk consideration can be seen as a consequence of the interaction between self-image, social norms and norms and ideals. If the self-image is characterised as being vulnerable to loud music, but the normative ideals is that music on clubs or concerts *should* be loud, the discrepancy between self-image and normative ideals may lead to a risk consideration where this kind of activities is regarded as something risky. However, if the self-image is that you are invulnerable to loud volume there will be no discrepancy between self-image and the normative ideal of how music should be played on clubs, concerts, etc. As a

result, the individual will not perceive this environment or activity as risky.

“Self-image” was built up by two underlying categories (a) identifying one-self as vulnerable, and (b) identifying one-self as invulnerable. “Risk consideration” consisted of two underlying categories (a) risk awareness and (b) the meaning of risk-taking. Finally, “norms and ideals” included two categories, (a) “acting in accordance with social norms”, and (b) “acting in accordance with normative ideals”. Each category has one or more subcategories and themes, which is to be described more in detail in this article. An overview of the three higher-order categories with categories and subcategories are presented in Table I.

Self-image—identifying oneself as vulnerable or invulnerable

Risk-taking can be understood from the concept of vulnerability, which means that risk-taking is a self-image where it is not “permissible” to perceive oneself as being vulnerable. To identify oneself as vulnerable includes, for example, the ability to perceive consequences of a hearing impairment or symptoms such as tinnitus. A central theme of the subcategory “Perceived consequences of an impairment” (Table II) is that a hearing impairment or a symptom such as tinnitus would imply limitations socially, e.g. not able to hear properly what people say to you. Limitations may also include individuals’ choice of educational programme, or future occupation.

To be affected by a hearing impairment is seen as an experience of an existential crisis since impairment

Table I. Illustration of the three higher-order categories, categories, and subcategories.

Self image	Risk consideration	Norms and ideals
(a) Identifying oneself as vulnerable <ul style="list-style-type: none"> – Perceived consequences of impairment – Motives to use protection 	(a) Risk awareness <ul style="list-style-type: none"> – Judgement of risk-taking – Locus of control 	(a) Acting in accordance with social norms <ul style="list-style-type: none"> – Things that are not socially acceptable
(b) Identifying oneself as invulnerable <ul style="list-style-type: none"> – Ignoring signs of warning – Defence mechanisms 	(b) The meaning of risk-taking <ul style="list-style-type: none"> – Risk-taking and music experience – Risk-taking and identity 	(b) Acting in accordance with normative ideals <ul style="list-style-type: none"> – The ideal of how an individual should be – The ideal of how music should be

Table II. The category of self-image. Examples of themes, sub-categories and substantive codes included in the categories (a) identifying oneself as vulnerable and (b) identifying oneself as invulnerable.

(a) Identifying oneself as vulnerable	(b) Identifying oneself as invulnerable
Perceived consequences of an impairment	Ignoring signs of warning
<i>Limitations</i> Hearing impairment would make one less social.	<i>Not being worried by temporary hearing symptoms</i> Not worried, knew it was tinnitus immediately.
<i>Existential crisis</i> Becoming deaf would imply losing a sense of meaning in life.	<i>Hearing symptoms is a part of going to concerts</i> Something is missing when you have not got peeps in your ears afterwards.
Motives to use protection	Defence mechanisms
<i>Being concerned about getting hearing problems</i> Awareness and worry about tinnitus encourage the use of hearing protection.	<i>Defence against getting hearing problems</i> I have good ears, so I will not get any hearing problems (denial).
<i>Being dependent of good ears</i> Hearing is important when you are a musician.	<i>Defence against using protection</i> Do not go so often, so hearing protection is not needed (rationalizing).
<i>Thinking about the future</i> Having to think about the long-term health effects of current behaviour.	

would imply limitations resulting in an altering of the self-image, which may give rise to worry and concern for the future. The following quotation illustrates this type of concern:

Yes, because it can lead to fairly serious consequences – there are for example people who have got depressions from tinnitus and things, that they, well, I am not sure if it is about self-image here, but they realise ‘Oh, now I have a chronic illness, so what’s going to happen now?’, and so you get concerned about the future—thoughts start spinning off in all directions and . . . (I 9, p. 14.)

The view of taking own responsibility for their health was also expressed. To be injured or harmed by loud music might be perceived as a self-induced consequence of acting in a “wrong” way, for example not wearing earplugs when exposed to loud music. The result of a noise induced hearing impairment may be an altered self-image where blaming one-self and feelings of guilt seems to be

the consequence. The following response to the question on how a hearing impairment might affect someone is illustrated here:

I think that, in the beginning, it would affect me very negatively. I think that I would be very scared and almost, well maybe even give up music completely, and I would be very sad about this, thinking like ‘What have I done wrong?’ and ‘Why?’ (I 4, p. 15.)

The subcategory “motives to use protection” (Table II) includes three themes, “being concerned about getting hearing symptoms”, “being dependent on good ears”, and “thinking about the future”. Being concerned about getting tinnitus (or a hearing impairment) seems to promote the use of hearing protection. It also concerns those who are worried about long lasting temporary symptoms after exposure to loud music (such as temporary threshold shifts or temporary tinnitus), and for example, those who have got tinnitus after attending concerts or know significant others who have become affected. The theme “being dependent on good ears” includes, primarily, the group of musicians for whom a good hearing is an essential occupational prerequisite. The final theme “thinking about the future”, concerns the ability to recognize long-term consequences of risk-taking. Central aspects here are the individual’s own perception of their own responsibility for maintaining good health and consequently, protecting the ears provides a way of avoiding feelings of guilt.

To identify oneself as invulnerable is to deny a self-image in which one is sensitive or vulnerable and prevents the possibility to conceive of being affected by the negative consequences of risk-taking (Table II). These aspects are described in the subcategory “Ignoring signs of warning”, illustrated by the following quotation:

I notice if I have been somewhere with loud noise because it peeps afterwards, but only if it has been really loud music, so I am probably not that sensitive after all. (I 12, p. 4.)

The theme “not being worried by temporary hearing symptoms”, deals with individuals’ neglect of early warning signs of noise induced hearing problems. Another example of how signs of warning can be ignored is found in the theme, “hearing symptoms are a part of going to concerts”. The opinion that something is missing when you do not have hearing symptoms after a concert or a night out is expressed in the following quotation:

// But if I come home from the pub and don't have a buzzing in the ears, I can feel that something is missing—so I get a feeling of security like 'yup, a good night out'. (I 8, p. 14.)

The subcategory "defence mechanisms" includes the themes "defence against getting hearing problems" and defence against using protection". Defence mechanisms may serve as a strategy of preserving a positive self-image. An example of a defence mechanism is denial of the importance of protecting oneself and rationalizing about the risk behaviour itself. Denial against the possibility to get hurt by the exposure of loud music is indicated by the following phrases: "It will not happen to me" (I 4, p. 14); or "Of course I won't get tinnitus" (I 4, p. 14).

Defence mechanisms such as rationalising about and minimising the consequences of the behaviour also appear in the interview quotations. Rationalizing and distancing of negative consequences is exemplified by the following quotations:

//because it is very loud [at discotheques] and if you go very often, then you might harm your hearing, a little bit. (I 10, p. 16.)

Yes, it would be if you go too often, maybe, then there is a very great risk that you will get poorer hearing over time. (I 10, p. 16.)

To be injured or disabled might alter a positive self-image from being "healthy" into a negative self-image as being "deviant" or "unhealthy", hence defence mechanisms can be understood in terms of maintaining a distance from the potential threat of sustaining injury by behaving in a risk-taking manner.

Risk consideration

The higher-order category *Risk-consideration*, deals with the individual's evaluation of a risk-behaviour. *Risk consideration* includes the categories a) "Risk awareness" and b) "The meaning of risk-taking" (see Table III). Risk awareness deals with people's awareness about loud music being harmful to their hearing. It seems, however, that attending concerts and discotheques seldom is perceived as a risky behaviour. "Risk awareness" includes the subcategories "judgement of risk taking", and "locus of control". Judgement of risk-taking is built up by three main strategies of reasoning. One of them "preparedness to take risks" implies that you are willing to take a risk in order to experience things. Therefore, you can avoid protecting your hearing in environments where loud music is played. This manner of reasoning is

Table III. The category of risk consideration. Examples of themes, subcategories and substantive codes included in the categories, (a) risk awareness and (b) the meaning of risk-taking.

(a) Risk awareness	(b) The meaning of risk-taking.
Judgement of risk-taking	Risk-taking and music experience.
<i>Preparedness to take risks</i> Sometimes you have to sacrifice yourself and take risks.	<i>The attraction of being on the edge.</i> A good sound level is a level on the limit of becoming too loud.
<i>Exposure to loud music is not a risk behaviour</i> Risk-taking as regards hearing is not the same as other kind of risk-taking.	<i>Taking risks to feel released.</i> It is easier to become free of mental barriers when it is loud.
<i>No symptoms—no risk</i> If your ears are not peeping afterwards, you do not consider it dangerous.	<i>Risk taking as a distraction or escape from reality.</i> If you want to shut everything out, even your own thoughts, the music has to be loud.
Locus of control	Risk-taking and identity
<i>Internal locus of control</i> It is your own decision to protect yourself, when the music is loud.	<i>Music helping to create an identity</i> It feels awkward using earplugs on occasions where your looks are important.
<i>External locus of control</i> Not up to me to ask them to lower the volume.	

characterised by the attitude that "everything is risky", illustrated by the following quotation:

Well, it's just a risk you have to take. I mean, there are risks wherever you go, and sometimes you just have to take a chance. It's the same thing with discos and all that, you just have to take the risk if you want to experience... something. It's like some people think that you must experience things when you are alive—you only live once and so it's a risk that you have to take. (I 11, p. 10.)

Another main strategy related to (a) "risk awareness" is "exposure to loud music is not a risk-behaviour". Attending activities where loud music is played is not seen as exposing yourself to a health-risk, as you do when someone is using drugs. Loud music can be harmful, but at the same time, it is not perceived as a risk-behaviour. Identifying oneself as a risk-taker may not be consistent with a positive self-image. You can try to solve this inconsistency by avoidance and try to neglect that this behaviour is risky. Another interpretation is that information and awareness of a problem is not on its own sufficient enough to change health-risk behaviours. The key to

changing health-risk behaviours is to identify oneself as vulnerable or susceptible to negative consequences.

The final main strategy related to the subcategory “judgement of risk taking” is: “no symptoms—no risk”. People tend to perceive themselves as invulnerable unless they are actually affected by the negative consequences of certain behaviours. However, it may also be interpreted as a strategy for maintaining a positive self-image, i.e. to regard hearing protection as unnecessary before you actually have experienced any problems. Consequently, there is no point in using hearing protection while you still have healthy ears. Some informants say that they would start using hearing protection if they developed hearing problems, because they would then realise the importance of self-protection.

Another subcategory linked to (a) “risk awareness” is “locus of control”. Either you take responsibility for your own actions (internal locus of control) or you locate the responsibility to other people (external locus of control). Strategies for taking control over a loud sound environment are to lower the volume or to use hearing protection. These two strategies may serve as examples of internal locus of control. Those in the study who use an external locus of control tend to perceive themselves as “victims” of external circumstances, and their reasoning is characterised by the attitude that, “it is no use trying to affect the sound environment”. It is possible, that identifying oneself as invulnerable and having an external locus of control increase risk-taking behaviour.

The category (b) “the meaning of risk-taking”, deals with the enjoyment of loud music in spite of the fact that you know that loud music can be potentially harmful to your hearing. Two subcategories were identified “risk-taking and music experiences” and “risk-taking and identity”. Risk-taking and music experience can be understood from the perspective that loud music is experienced as something positive, and that ear plugs ruin this experience, exemplified by this perspective:

//I sometimes terrorise my ears a little too much, because that’s how it is, they maybe have to suffer a bit for the sake of a good experience” (I 3, p. 8).

“It [the sound level] is really quite important; it contributes to getting more feeling, it becomes more alive to you. When you use earplugs it’s like . . . I have already got tinnitus. But a concert is worth almost everything—that’s just how it is. // And that’s exactly when you almost want to forget about wearing earplugs but . . . of course you get much closer, you do, wearing earplugs would be

like taking away a whole dimension. It is not the same thing at all. (I 15, p. 2.)

The subcategory “risk-taking and music experience” includes the themes: “the attraction of being on the edge”, “taking risks to feel released”, and “risk-taking as distraction or escape from reality”. “The attraction of being on the edge” deals with people’s opinion that listening to music at concerts is at its best when the volume is on the limit of becoming too loud. An expression close to this is the utterance that a concert experience is almost worth getting tinnitus. The theme “taking risks to feel released” means that it is easier to let go of mental barriers when the music is loud and the atmosphere is uncontrolled. The subcategory “risk taking as a distraction or escape from reality” deals with how to use music as a strategy to forget about, or shut out personal problems.

The subcategory “risk-taking and identity” deals with music as a way of living, meaning that music becomes an important tool for the creation or expression of identity as exemplified in this quotation:

“//but for those who really feel that they are, so to say, a ‘die-hard rocker’, they live hard rock and nothing else” (I 9, p. 23).

The identity as “hard-rocker” may sometimes include several risk-taking behaviours, not only risks regarding the hearing, but other health-risks such as, heavy drinking, drug use, etc. A quotation is illustrative of this association:

Partying is definitely very strongly associated with hard rock and, to a certain extent, hard rock is associated with risk behaviour to the extent that you drink heavily and that many people take drugs and that you are expected to create trouble by doing loads of stupid things like cycling down a hill pissed up and stuff like that, and if you get hurt like, ‘oh well, that’s hard rock, cool (laughs) metal’ and there has been loads of sick stuff like that. (I 9, p. 22.)

Participating in activities typical to youth culture might also be associated with health risk behaviours. As an example, use of hearing protection at discotheques does not fit a cool style, and it feels awkward to use hearing protection among friends where the looks is important. The identity as a “cool” person, who is capable to handle loud music, is perceived as more important, than taking care of your ears.

Table IV. The category of norms and ideals. Examples of themes, subcategories and substantive codes included in the categories, (a) acting in accordance with social norms and (b) acting in accordance with normative ideals.

(a) Acting in accordance with social norms.	(b) Acting in accordance with normative ideals
Things that are not socially acceptable.	The ideal of how you should be.
<i>Not melting in</i> It is important how others perceive you, in deciding whether you are going to use earplugs or not.	<i>The ideal of not being sensitive or vulnerable</i> It is better to just grit your teeth, and put up with it [the sound level], rather than to use earplugs.
<i>Group pressure</i> Others think you are not cool if you cannot cope with the sound level.	<i>The ideal of being a risk-taker</i> People who take lots of risks are the people you admire most.
	The ideal of how music should be.
	<i>Music should be loud</i> If the sound level is sufficiently low that ear-plus are not necessary, then it is too low.
	<i>Music as a body sensation</i> You have not been to a concert if you have not felt the sound in your body.

Social norms and ideals

The final high-order category, “social norms and normative ideals” include the categories (a) “acting in accordance with social norms” and (b) “acting in accordance with normative ideals” (see Table IV). To act in accordance with social norms concerns how someone perceive that other members of a group behave or what types of behaviour are or are not socially acceptable. The subcategory “not melting in” deals with beliefs about other people’s thoughts about you using hearing protection. To use earplugs is perceived as a deviating and not “normal” behaviour that draws the attentions to the wearer, making her or him feel like an outsider. This perception is often accompanied by a negative attitude towards hearing protection, where drawbacks of using earplugs are emphasised in statements such as “it ruins the music experience”, or “it makes it impossible for you to hear what other people say”. A frequent comment is that earplugs are ugly, and that, if they were less visible, people would use them more.

The category (b) “acting in accordance with normative ideals” consists of the subcategories, “the ideal of how you should be” and “the ideal of how music should be”. Two themes related to the ideal self were, “the ideal of not being sensitive or

vulnerable” and “The ideal of being a risk-taker”. It is acceptable to use hearing protection at concerts for those who are “sensitive” or “delicate”. If you are “strong” and “healthy”, however, you are not supposed to protect your ears. Others can think that something is “wrong” with your hearing, which can be embarrassing and shameful. The following quotation provides a good illustration of this perspective:

If you aren’t a musician yourself, then you can think that it’s a bit embarrassing or wimpy and suchlike, and I think that hearing and the ear are fairly . . . well they are fairly personal things, which I think that many people who have hearing problems or poor hearing think, that it is a bit annoying, that it is a bit embarrassing, I mean you don’t talk about it to just anyone, it is a kind of invisible handicap . . . like I have seen a few times that, when you put in earplugs, people say ‘But you don’t have problems hearing do you?’ ‘No’ I say, ‘I don’t have problems hearing, but I don’t want to start having hearing problems either, but would rather keep my hearing like it is now—good’, I want to like take care of it, umm, I think so. (I 4, p.11.)

Being concerned about your hearing can be interpreted by others as a sign of “weakness” or “vulnerability”, since the normative ideal means that by being strong and healthy you should be able to cope with the sound environment. More desirable is to be a risk-taker, and “grit your teeth” when the music is loud.

The theme “the ideal of being a risk-taker” deals with the opinion that risk-taking is an ideal behaviour since it can make a young person more prestigious in his peer-group. A self-image as a risk-taker, i.e. someone who prefers loud music, is a sign of a more assertive self-image, than being “weak and vulnerable”, unable to cope with loud music. The self-image is strengthened by the perception that being a risk-taker enhances one’s status in the group. Related to the subcategory “the ideal of how music should be played” are two themes, “music should be played loud” and “music as body sensation”. It seems that music played loud is “cool” and that loudness makes the experience more prosperous. A rewarding effect of exposing oneself to loud music is that it may give an experience of freedom and independence and place a dull present behind. Such positive experiences may be even stronger if the music is loud enough to be sensed in the body. The theme “music as body sensation” deals with the ability to feel the rhythm and the bass in your body. This seems to be a way of letting go of feelings that cannot otherwise be expressed. Even

though all of the informants knew that loud music could be harmful for their hearing, very few of them perceived attending musical settings where loud music was played as a form of risk-taking behaviour. Our study points to the importance of self-beneficial variables in the understanding of risk-taking behaviour such as identity creation, self-image, and distraction from every day life as well as experience of gaining freedom.

Discussion

Music can be used as one strategy for creating or maintaining an identity in contemporary youth culture (Sernhede, 1995). The present study result supports Sernhede's assumption. We identified the core category "music as a mean in creating identity" as well as three higher order categories labelled "self-image", "risk consideration", and "norms and ideals". The core category as related to the three higher order categories can be understood from Meads (1934) social constructivist perspective. According to Mead, the social self is created through an interaction between the individual and significant others such as family, peers and the society in general.

Self-image—identifying oneself as vulnerable or invulnerable

A positive self-image may be altered from being "healthy" into a negative self-image as being "deviant" or "unhealthy". Defence mechanisms can fill the purpose of maintaining a distance from the potential threat from being harmed by exposure to loud music. Similar results on individuals' reluctance to acknowledge hearing difficulties have been reported by Hallberg (1993) and Hetú, Riverin, Getty, Lalande & St-Cyr (1990). They argued that individuals' denial seemed to act as a protection of a positive self-image in order to pass as a normal person.

Perceived consequences of an impairment, i.e. getting tinnitus or a hearing loss seems to promote the use of hearing protection as found by Olsen-Widén and Erlandsson (2004b). The association between the use of hearing protection and concern about hearing and hearing problems can be understood from the perspective that individuals with such an experience more easily view themselves as vulnerable to noise exposure, and therefore, use hearing protection. This idea supports research reporting a correlation between concern about hearing and the use of hearing protection at concerts, as well as experiences of tinnitus and use of ear plugs (Bogoch, House & Kudla 2005; Olsen-Widén & Erlandsson,

2004b). The reasoning about hearing protection and concern is consistent with the theory of Health Belief Model (HBM, Rosenstock, 1974), where "cues to action" is the key-concept for the understanding of how health-risk behaviour can be changed to a more health orientated behaviour. An example of such an action is when you are affected by negative health consequences of a risky behaviour, or knows someone who is. This cue to action may increase the probability for changing the risk-behaviour into a more health-orientated behaviour.

To be affected by negative consequences by risk-taking behaviour may affect peoples' perception of themselves as being invulnerable. This way of reasoning is in line with the theoretical suggestions on "cues to action" in the HBM (Rosenstock, 1974), as pointed out earlier. It can also be seen as a strategy for maintaining a positive self-image, i.e. to regard hearing protection as unnecessary before you actually have noticed any problems with your hearing. Consequently, people may perceive that there is no point in using hearing protection if they already do not have problems with their hearing. Some informants say that they would start using hearing protection if they developed hearing problems, because they would then realise the importance of self-protection.

Risk consideration

Participants expressed the opinion that taking risks are necessary in order to make new experiences or as a distraction/escape from reality. However, taking risks also include taking responsibility for one's own actions, which may give rise to anxiety. Taking responsibility for your own actions (internal locus of control) or locating the responsibility to other people (external locus of control) may serve as strategies in people's risk-consideration to control anxiety in risk-taking behaviour. Examples of internal locus of control are to lower the volume or to use hearing protection, which can be seen as strategies of taking control over the sound environment. External locus of control is characterized by the reasoning of being a "victim" to external circumstances for example that "it is no use trying to affect the sound environment". Locus of control has been identified as an important variable for the understanding of risk-taking behaviour. Kohler (1996) found a correlation between sensation-seeking and external locus of control. In another similar study, Crisp and Barber (1995) analysed the relationship between risk perception, sexual risk-taking, and locus of control among young drug users between 14 and 21 years of age. Their results revealed that individuals with an internal locus of control knew they

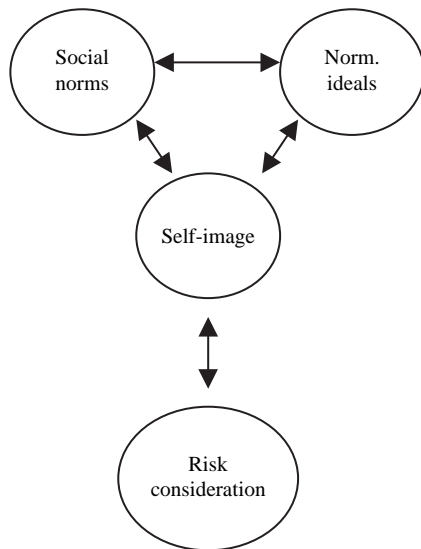


Figure 2. A preliminary conceptual model of the relations between the categories of risk perception.

were taking risks in the decisions they made, whilst those individuals with an external locus of control showed a greater tendency to believe that they were invulnerable to such risks. Another strategy for dealing with anxiety, related to risk-taking behaviour, is to deny that exposure to loud music is a risk.

Young people's participation in youth culture and their listening to music might be seen as a way to managing strong emotions. Popular music is conceived as particularly beneficial to the regulation of aggression, anxiety, and negative moods. Empirical research suggests that youth culture in general and music in particular, moderate anxiety and provide opportunities to express suppressed problems (Kurdek, 1987; Lyle & Hoffman, 1972; Mark, 1988). Sernhede (1995) stresses the positive effects of youth culture in seeking one's own lifestyle and identity as a part of the process of going from childhood to adulthood. Participating in typical youth culture activities may also be associated with health risk behaviours. In order to pass as a "cool", good-looking person, use of hearing protection might be seen as not attractive. This might explain the fact that the onset of tinnitus and hearing loss in adolescents often occurs after concerts and discotheques, where they have been exposed to extreme levels of sound (Axelsson & Prasher, 1999).

Social norms and ideals

Social norm theory states that behaviour is often influenced by how individuals perceive that other members of a social group behave, although beliefs regarding these practices are often incorrect (Perkins & Wechsler, 1996). If the misperceptions, which exaggerate peer norms, are exposed and subse-

quently replaced with more accurate information about actual peer expectations and practices, then a decrease in risk-taking behaviours often is the result. If people believe that exposure to loud music without wearing hearing protection is an acceptable norm, regardless of the accuracy of this perception, they are more likely to become involved in risk-taking behaviour. Another important theme is "group pressure", where individuals' perception about what others think is important. For example, choice of music or use of hearing protection at concerts may be influenced by peers' choices or behaviour.

The ideal of not being sensitive or vulnerable is an interesting aspect seen from a gender perspective. We found a difference between boys' and girls' reported experiences of noise sensitivity in a study including 1285 school children, 13–19 years of age (Olsen-Widén & Erlandsson, 2004a). Significantly, more girls reported noise sensitivity compared to boys (21.2 versus 12.7%). To admit that you are sensitive to noise might be more acceptable for a woman than for a man.

Even though all participants had knowledge about the harmful effects of loud noise, very few of them perceived that attending musical settings was a form of risk-taking behaviour. This is interesting since information and knowledge are often regarded as health preventing variables. In fact, information campaigns seem to have little impact on changing health risk behaviours. Weichbold and Zorowka (2003) investigated whether a hearing education campaign would promote hearing-protective behaviour among adolescents when attending discotheques. Their results indicated that the percentage of subjects using earplugs at discotheques rose from 0 to 3.7% after the campaign. We suggest that variables other than information, e.g. identity creation and self-image, must be considered in order to prevent risk-taking behaviour. These aspects must be integrated in health preventive work in order to change young peoples' risk-behaviour into more health-oriented behaviour. We believe that the individual's self-identification as being vulnerable to negative consequences of a particular type of risk behaviour is central in transforming health-risk behaviour into a health-oriented behaviour. Probably defence mechanisms against negative consequences of a risky action and additionally defence mechanisms against altering the behaviour play important roles in keeping a self-image as invulnerable. If the individual perceives him- or herself as invulnerable to negative consequences, no amount of information or knowledge will have an impact in changing the behaviour.

Music is an important aspect of today's youth culture. It is important to emphasise that music is

experienced as something positive and may serve as a strategy, e.g. for relaxation or distraction from personal problems in everyday life. Young peoples' involvement in musical activities can be interpreted as a coping strategy (Arnett, 1991). According to Kurdek (1987) music can moderate anxiety and provide opportunities to express suppressed problems. Sernhede (1995) stresses the positive aspects of youth culture in terms of seeking one's own lifestyle and identity as a part of the process of becoming adult.

Conclusion

The purpose of this study was to explore and understand risk taking regarding exposure to loud music at e.g. concerts and discotheques, and additionally to investigate whether exposure to loud music is perceived as a risk. Adolescents' risk-taking in musical settings can be understood in terms of music being used as a mean of creating an identity, which was identified as a core category in this study. The three higher-order categories, "self-image", "risk consideration" and "social norms and ideals," may play an important role for the perception of behaviour as risky or not.

Risk-consideration should be related to the self-image, that is to say, it is easier to identify yourself as invulnerable if you do not see any negative consequences of the behaviour you engage in, for example getting tinnitus. Social norms and ideals may also have an impact on the individual's view of him- or herself, and may therefore be important variables for the decision whether to take risks, as suggested by social norm theory. However, we want to emphasise that social norms and normative ideals are not the same thing. Social norms deal with the individual's perception about how other individuals perceive how you should act or behave, whereas normative ideals deal with the individual's own perception about how one should be as a person, for example "strong", "healthy", "capable", etc. Therefore, these two categories are separated in the descriptive model of the relations between the higher-order categories (see Figure 2).

The core-category "music as a mean in creating identity" identified in the present study deals with music being an important part in contemporary youth culture and it may serve as a mean in "creating" an identity. To be able to understand risk-taking regarding loud music, the positive aspects of music in terms of identity creation, distraction from everyday life and experience of gaining freedom, must be considered. Although the result is grounded in empirical data, obtained from in-depth interviews with 16 young individuals, the model

must be regarded as an initial step in the development of a model of risk-perception. It is, therefore, our intention to further test and modify the model in future research on risk-taking behaviour in general, and in musical settings in particular.

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