Gambling in Greenlandic adolescents

Stine Emilie Junker Udesen, Trine Lenskjold and Birgit Niclasen

Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen N, Denmark; Department of Health, Allorfik, Nuuk, Greenland

ABSTRACT
Gambling has never been investigated in Greenlandic adolescents. High prevalence of gambling problems and a relation to other addictive behaviours has been found in adult Greenlanders. Greenlandic adolescents are daily exposed to gambling, for example, by selling lottery tickets, through advertises and electronic devices. The aim of this study is to investigate how Greenlandic adolescents perceive gambling, and to pilot test the Lie/Bet screening-instrument. Ten semi-structured focus group interviews were conducted for 31 adolescents, aged 12–16, from 3 schools in Nuuk, Greenland. The 31 adolescents have experiences with gambling. Whether they define a game as gambling depends on: 1) Whether the game is about playing with or about money, 2) whether the game is about earning items, 3) the gain/loss, 4) who they lose money to, and 5) the purpose. If the purpose is to have fun, it is not necessarily seen as gambling. None mentioned bingo as gambling, arguing that bingo is about having fun. Two recent trends were found to have reached Greenland: The close link between sports and gambling, and skin-betting. Additionally, the Lie/Bet screen was, with slight modifications, found to be useful as a screening-instrument among Greenlandic adolescents and it is proposed to be used in future studies.

ARTICLE HISTORY
Received 9 April 2018
Revised 20 November 2018
Accepted 15 January 2019

KEYWORDS
Gambling; Greenland; indigenous populations; qualitative research; screening

Introduction
The aims of the study are to investigate how Greenlandic adolescents perceive gambling and their gambling experiences, and to pilot a slight modification of the Lie/Bet screening test in Greenlandic adolescents. The Lie/bet screening test was selected, because it is the only screening test that has been used at a national level in adults [1] and because it is planned to be used in a national survey among Greenlandic school-aged children in 2018.

Gambling, in the sense of playing for money and goods, is not a cultural tradition among Greenlandic Inuit, but was introduced during the colonial times [2]. Although, in 2018, an income of 57.8 million DKK (7.748.301 €) or 0.83% of the national budget is expected from legal gambling, corresponding to a revenue of mean 1.371 DKK (185 €) from every Greenlandic adult [3]. One of the major aims of the Greenlandic law on gambling is to protect young people and other vulnerable groups against exploiting through gambling or to develop dependency of gambling [4]. Only companies licensed to offer public lottery etc. by the authorities in Denmark can be licensed in Greenland. Generally, it is not legal for suppliers to take bets from children under 18 years of age although land-based games are allowed for children above 16 years of age.

Investigations concerning gambling among Greenlandic adolescents have not been performed earlier. Still, research elsewhere has found that gambling is initiated in early adolescence and children are often introduced to gambling by family members or older peers [5].

Many Greenlandic children are exposed to gambling at home or in the community. A few examples are: selling lottery tickets to support school trips and sports activities, that lottery and scratch tickets can be bought in grocery shops in all parts of the country, that Internet-based gambling sites are promoted heavily on the Internet and on TV especially during breaks of international sport competitions, and finally, the introduction of gambling elements in many computer games.

Recently, gambling has raised political and public concern in Greenland. In 2004, politicians and health professionals observed child neglect, unrest and problems in homes due to gambling among the adult population in smaller towns and villages. Due to this...
Concern, the National Agency of Prevention (PAARISA) investigated gambling at a national level in 2006. They found that especially bingo concerning because it is often played in the evening and, therefore, may disrupt normal family life [2]. In 2006, gambling was also included in the National Public Health survey for the first time [1]. Both investigations found a past year prevalence of engaging in at least one type of gambling of about 80% in adults [2,6].

Some label adolescents in high risk for developing problematic gambling behaviour because they are still developing values and Internal control. During this process, adolescents may not be as well equipped to resist the allure and excitement of gambling as adults [7]. Concerns are that early involvement in gambling is predictive of later gambling problems and that it can be a gateway to other risk behaviours [7,8]. Across studies, reported risk factors for problem gambling are: being male, antisocial behaviour, alcohol use, drug use, parental/familial gambling, academic problems or lower academic achievement, impulsivity, and peer deviance [7,9,10]. In one study, the first 3 factors explained approximately one-third of the variance in gambling frequency [10]. Mental health problems, measured as lower quality of life and loneliness, are also associated with gambling [7,9]. Other studies are less concerned and suggest that gambling may be linked to a masculine universe. One study states that at-risk gambling behaviour patterns may be part of a normal adolescent life in which gambling serves recreational or leisure purposes [11]. The latter is supported by revealing that only 1 in 5 adolescents at-risk gamblers still were at-risk gambling after 9 years [9]. Also among indigenous adolescent populations, gambling problems have been found higher than among their non-native peers [12,13].

In adults, the most common types of games played are sports betting, lotto, bingo, slot machines and different types of card and dice games. Sports betting and lotto are available all over Greenland, while online games are provided in larger towns or are played through online access. Slot machines are only available in larger towns and are often placed in bars and restaurants. Bingo is primarily played through the radio and locally all over Greenland and daily available in most towns and villages. Bingo is often arranged by local radio stations, sport clubs and NGO’s. The revenue is serving as their primary source of income. According to local authorities working with prevention, unauthorised mini-bingo plays in private homes have been increasingly popular in many places. Gambling with cards or dices cannot legally take place in public and is hosted privately [1,6].

Problem gambling seems to increase. In 2006, the past year prevalence for problem gambling among adult Greenlanders was assessed to be 4% among men and 3% among women, while the lifetime prevalence of problem gambling was 16% among men and 10% among women [6]. In 2014, the lifetime prevalence in both men and women had increased to 22% among men and 18% among women. While no age difference in the prevalence was seen in women, young men had the highest prevalence of problem gambling: 30% among men aged 18–24 and 36% among men aged 25–34 [1].

In Greenland, gambling problems among adults are related to other important public health issues such as other addictive behaviours. Lifetime problem gamblers have higher odds for harmful alcohol use (measured by CAGE-C) and for frequent use of hash during the last year compared to non-problem gamblers. In 2006, one or more addictive behaviour was found to be 53% in men, 37% in women, and 44% in households with children. Additionally, alcohol problems in the childhood home increase the odds for lifetime problem gambling 3–4 times and sexual abuse as a child is associated with lifetime problem gambling among women [14].

Compared to Greenlandic figures, Canadian Inuit in Nunavik had a lower last year gambling prevalence (60%). Contrary to Greenland, more women than men were engaged in gambling [15]. Also among other indigenous populations and minorities, a higher prevalence of pathological gambling, than in the general population within the same region, has been found [16–19]. Problem gambling in these populations often occur along with social problems: like poverty, low educational level, and, in some native populations, marginalisation.

The westernisation during the last generations is reflected in the increase of social pathologies such as alcohol problems and child abuse [20]. It has been proposed that gambling should be considered as a social pathology and a public health challenge in line with other abuse problems [6,14]. The public health perspective opens for considerations regarding the influence and significance of structural conditions in a community, which transcends the individuals’ access to a healthy choice regarding gambling [21].

**Method**

**Setting and recruitment**

Totally, 10 semi-structured qualitative group interviews were performed in 3 schools in Nuuk (the capital of
Greenland) with adolescents aged 12–16 years. Here, 2 public schools and 1 private school in Nuuk were sent a folder about the investigation and asked to participate. The 3 schools were selected to ensure representativeness for all 6 schools in the capital of Greenland and they all accepted to participate. At each school, the selection of participants was controlled by a teacher. In 1 school, the teacher asked the children if they wanted to participate in the interviews. In the other schools, the teacher selected the participants. The children were informed about the purpose of the interview, that they could withdraw their participation at any stage of the interview, and that the interview would be processed confidentially in all parts of the research process. Furthermore, the schools ensured that the parents of the children had given informed consent to participation.

**Interviews**

A total of 10n interviews were conducted with 31 children (17 girls and 14 boys) aged 12–16. The size of the groups ranges from 2 to 4 children. The children were mixed Greenlandic and Danish speakers, though most spoke both languages (Table 1). The children could decide to be interviewed in Danish or Greenlandic, as an interpreter was present during the interviews. About half of the children decided to be interviewed in Greenlandic. All interviews were taped and transcribed. The interviews in Danish were transcribed by the first and second author and the Greenlandic interviews were transcribed and translated by the interpreter.

The interviews were based on the method “verbal probing” that allows the interviewer to ask explicit questions based on a semi-structured interview guide. The method increases the participants’ reflection and secures a more authentic situation compared to the method “think aloud”. “Verbal probing” was also selected for protective reasons, as it is rather undemanding for the informants compared to “think aloud”. Group interviews were selected to make the participants feel more comfortable and to secure interactions and discussions [22]. The interviews were semi-structured which allowed general conversations about the term “gambling” and about the children’s perceptions and experiences with gambling.

To pilot the modified Lie/Bet screen, the children were asked about difficulty, first thoughts (recall) and comfort of the questions from a slight modification of the Lie/Bet screen, which earlier have been used in the “Health in Transitions Greenland and Nunavut Surveys” [21].

### Strategy of analysis

In the analysis, a constructivist and hermeneutic approach was used. A key assumption in the constructivism is that realities are social constructions based on experiences and perceptions of the actors. Furthermore, the social constructions are created hermeneutic because the actors use their preunderstanding in the interaction with the children and each other [23]. This, in combination, means that the empirical knowledge is a product of the interaction process between the researchers and the informants, and that the researchers’ preunderstanding plays an active role in the research process.

To ensure the quality of the method, EPICURE items were used. The EPICURE items are often used in qualitative research and stands for engagement, processing, interpretation, critique, usefulness, relevance, and ethics [24]. The items increased awareness on preunderstanding and making a transparent analysis and interpretation of the interviews. The analysis followed an explicit procedure based on the following 4 steps: general impression, meaningful categories, operationalisation, and recontextualisation and hermeneutic interpretation [25].

### Results

The constructivist and hermeneutic analysis approach resulted in 3 main themes on the children’s perception of and experiences with gambling. The first theme is about the children’s perceptions and definition of gambling, the second is about their experiences with gambling and why they gamble, while the third theme is about their awareness of consequences related to gambling. Finally, the analysis also generated an understanding of how they understand and react to the Lie/Bet screening questions.

### Theme 1: the children’s perceptions and definition of gambling

All the children related gambling to games they already knew, and they were aware that gambling can be performed both physical and virtually. They defined the following games as gambling: lottery, odds, poker, slots

| Total | Number of informants (%) |
|-------|--------------------------|
| School 1 (%) | 17 (55) |
| School 2 (%) | 14 (45) |
| School 3 (%) | 5 (16) |
| Gender | 17 (55) |
| Age | 15 (55) |
| Unknown | 1 (3) |
| Unknown | 8 (26) |
| Interview language | 4 (13) |
| Greenlandic | 27 (87) |
| Danish | 8 (26) |
machines, roulette, and in general games in casinos. Several also mentioned self-invented games with the purpose of winning money and games such as FIFA, Counter Strike, and winning money in TV-competitions. None mentioned bingo as gambling.

Overall, the interviews show that despite a broad knowledge about gambling, the children had no shared definition of the term. They had some consensus of what important key elements were, when defining gambling, as well as somewhat different views about what to include in the term. Here, 5 elements seem to be important when the children define gambling, however not necessarily agreed by all.

First, gambling is about playing with money or games about money. Second, the definition of gambling depends on the potential gain of the games. The children expressed a distinction between winning money and winning things like a cinema ticket. Third, the size of the stake and especially the potential loss matters, although the children had different views of what size of the stake and the loss should be to count. For example, a boy aged 12 claimed that small amounts, for example, about 10 DKK (1.2 €), did not count as gambling. Another boy did not define gambling with small amounts of money as real gambling: "I don’t think that it is gambling, because you do not lose a lot" (Boy, age 13).

Another said:

"It is not big money. About 50 DKK (7 €) or something like that. It is not really betting. I don’t think that. It is more for fun with friends" (Boy, age 15).

Fourthly, it is important whom the children lose money to. A girl said:

"There is a big difference between if you lose money to a firm or to your parents" (Girl, age 15)

Fifthly, the purpose of the game seems crucial:

"It is also about the purpose. That is really what I feel define gambling. Is it just about the money or is it the comfort (hygge) around it… That we are doing it together" (Girl, age 15)

She expressed the view that a game cannot be regarded as gambling when the purpose is to have fun with friends and family. Similarly, several children found it more acceptable to gamble with friends and family if the purpose was having fun, and not to make money.

**Is bingo gambling?**

Bingo is very common in adults, but the children did not themselves mention bingo when listing games that you can gamble in. When asked, many of the children were in doubt, whether bingo could be defined as gambling or not, arguing that the purpose of bingo is to have fun with friends and family and not to win money or things.

**Theme 2: the children’s experiences with gambling and why they gamble**

All the children have experiences with gambling, for instance in organising bingo or because bingo events and sale of lottery tickets help financing e.g. school trip. None questioned or had comments to this behaviour.

Several children told that they have experiences with other types of gambling. They mostly mentioned virtual games, card games, sport games and self-invented games. A few girls stated that they have no experience with gambling and felt it inappropriate for their age. During the discussions, a few became aware, that they had gambled before. For example, a girl had difficulty assessing whether she had gambled or not:

"Now I’m in doubt again, because I really want to write that I never done gambling before, but I have betted money" (Girl, age 15).

**Reasons to gamble**

Most of the children stated that they gamble with the purpose of having fun with family and friends. They view bingo as a game for elderly and something you can do to have fun with your grandparents:

"I don’t think that a lot of children in our age plays bingo. Only if they are together with their grandparents" (Girl, age 13).

Several describe that they have experiences with betting in card games. Most of the children have experienced it when playing “Olsen”. They explained that “Olsen” is a typical Greenlandic card game that is played with and by families and friends. A girl described the following about “Olsen”:

"When we are bored or when we are together, we might play about money just for fun" (Girl, age 14).

Overall, the children seem to play for fun and excitement. Many of the boys bet on football matches in the schoolyard to make playing football more exciting, but several of the boys also express that money is a motivation to them. A boy told:

"I wanted to use more money, when we played Olsen, because I wanted the money back" (Boy, age 13)

Some described reasons to gamble as the excitement of not knowing if they win or lose.
About gambling in gaming
Several of the children told spontaneously about buying “in-game-money”. They define “in-game-money” as fictional money used in online games. Several of the boys mentioned that they have experiences with buying “in-game-money” in games like FIFA and Counter Strike. Most defined games with “in-game-money” as gambling because they spend money on e.g. buying “skins” during the play. Skins are extra equipment that gamers can buy to e.g. their weapons in Counter Strike. The skins are often bought as a “loot box” including unknown combinations of skins. Some had experiences in selling valuable skins to other gamers. A boy told the following about Counter Strike:

“I bought two loot boxes for 2,5 dollars each. But I got something very, very, very bad. So I don’t want to do it again. You can lose a lot of money on that game. But if you are lucky and get a good skin colour, you can sell it for 500 dollars” (Boy, age 15)

He also told that he used his own MasterCard to buy skins, even though he is under the legal age and knew that his parents would not approve it.

Gambling and sports
Several of the children told about their experiences with betting on different types of football games (both physically and virtually). One boy aged 14 told that he and his friends had experiences with betting on football matches in physical stores, even though he was under legal age. Most of the children had also experiences with playing self-invented football games that included money. A boy described a football game in the schoolyard where everyone can join if they put 10 DKK (1.2 €) into the play:

“When we play football, then we try to hit different things and the one that hits it first gets the money” (Boy, age 13)

Several of the boys and 1 girl also told stories about betting on their own football matches (both physically and virtually) with their families and friends. Also, 1 boy, aged 14, had experienced that young people bet on football matches in the Greenlandic Football Championship for youth under 19 years. A boy also told that he knew several children about his age who play cards about money during breaks in football competitions:

“When we went to football competitions, we are playing Olsen, where we bet money” (Boy, age 14).

Theme 3: the children’s awareness of the consequences of gambling
The children are aware that gambling potentially can have negative consequences. During the interviews, they talked about addiction to gambling, both implicit and explicit. A girl described gambling addiction:

“There are some that have gambling addiction and then need a little money or something (Girl, age 14)”

while a boy described it as:

“You can’t stop yourself” (Boy, age 13).

Some children compare pathological gambling to smoking addiction or addiction to sweets:

“It is like smoking” (Girl, age 13)

In general, the children expressed that it is easier to be addicted to some games compared to others, for instance games they have seen in movies, especially casino games. A boy expressed:

“I don’t think that you can be highly addicted to Bingo, and not as much as you can be addicted to casino, lotteries or other games” (Boy, age 13).

Other children also talked about that the frequency of gambling is important to describe people with pathological gambling. Negative consequences were also mentioned indirectly by children who have tried to gamble, who emphasised that they only played for fun, and for small amounts of money, and used phrases indicating an “us and them” way of thinking. Despite this, several children told that they sometimes felt that they want to gamble but did not do it because they knew it was stupid and a waste of money.

The Lie/Bet questions

Question 1 about lying
The children found the question is easy to understand and answer. However, one boy, aged 13, expressed that the question might be difficult to answer for children younger than him.

Most of the children claimed that they ask their parents for permission to gamble, although it somewhat depend on the amount they wanted to spend. If they wanted to use a small amount of money, they did not always ask. Some of the children admitted having lied about how much money they have gambled for. Some children expressed that it was easy to remember having lied because of the guilty conscience it gave them. One boy expressed that the question might feel uncomfortable for those who have lied:

“It depends on how or how much money you have gambled for” (Boy, age 13)

Lying seems to be a strategy used to avoid dilemmas and conflicts with parents. A boy, who had experiences with gambling, said:
“It’s uncomfortable to know that you have used your parent’s money on something stupid. Then you lie so that they will not know about it” (Boy, age 14)

Additionally, some claimed that they had lied about the amount of money they had spent on gambling:

“(...) Yes, or change the amount. If you did bet 200 DKK (about 30 €), you tell: It was only 20 DKK (about 3 €)” (Boy, age 14).

The strategy of lying about the amount of money used on gambling seems to have consequences. The children told that lying often ended up in a sense of guilty. They knew it was wrong but lied to avoid conflicts or to be scolded. To avoid the need of lying, some of the children argued that it is important to talk about gambling at home with their parents. They believed that talking about gambling could prevent inappropriate behaviour and avoid gambling to become a taboo:

“At our age we know what our parents expect from us. Well, it does not mean that you always go in that direction. Some might think: “My mother told me not to do it, but I did it anyway and therefore I won’t tell her (...)”. Again, the thing is, when you confide at home and there is something you do not talk about, then it becomes a taboo. That is wrong, I think” (Girl, age 14).

Originally, the question in the Lie/Bet screen used the phrase “people important to you”, which cannot easily be translated into Greenlandic or Inuktitut, and it was in Nunavik changed too “to family, friends, co-workers or teachers”. In the pilot, it was modified to “close family members”. This wording was found to be too narrow.

Close family members were by most of the children defined as: parents, grandparents and siblings:

“Close family members would be parents, grandparents, brother and people you meet often” (Boy, age 14)

Some of children argued that some might feel more related to other people than their parents and that some children do not have or do not live with their parents. Moreover, some asked why friends are not included in the term, arguing that many things happen with friends, and that they are influenced by their friends:

“What about friends and something like that (...). Is it not relevant to know, if you lie to friends or what?” (Girl, age 15).

Lie/Bet question 2 about betting more money

Some of the children found it difficult to understand the question and the aim of the question did not seem fully transparent. This applied to both the Danish and Greenlandic version. Moreover, the term “more money” seemed to confuse the children because they did not know what to compare with. A girl said:

“More money than what?” (Girl, age 14).

However, the Lie/Bet question gave some insight into the children’s knowledge about addictive gambling. When the bet question was asked, a boy promptly answered:

“But that’s addiction” (Boy, age 14).

The boy described addiction as when you are not able to stop gambling, which shows that he is aware of that gambling can evolve into an addiction. Other children were also aware of this risk. Some expressed that whether the question is perceived comfortable depends the person’s experiences with gambling; because the question induces reflections about how much money they have spent on gambling. A girl expressed:

“Now you think about how much money you use” (Girl, age 14)

Based on the children’s reflections, the Lie/Bet questions were revised close to the original ones (Table 2).

Discussion

Before the study was conducted, it was considered if the investigation would introduce gambling to a group where gambling was not well known. According to the results presented above, this is not the case. Overall, the study indicates that Greenlandic school-aged children are already introduced to gambling during adolescence, however, some are not aware that they have gambled. All the

Table 2. The pilot tested Lie/Bet questions and the final questions.

| The original Lie/bet questions | The Lie/bet questions used in the Health in Transition Greenland and Nunavut survey | Our questions | Our modified questions |
|-------------------------------|--------------------------------------|---------------|------------------------|
| Have you ever had to lie to people important to you about how much you gambled? | Have you ever lied (to family, friends, co-workers or teachers) about how much you gambled, lost or the size of dept due to gambling | Have you ever had to lie to close family-members about how much you gambled? | Have you ever had to lie to family-members or friends about how much you gambled? |
| Have you ever felt the need to bet more and more money? | Have you felt the need to bet more and more money (in order to gain the same level of excitement)? | Have you felt you need to bet more money on games? | Have you ever felt the need to bet more and more money on games? |
interviewed children had been engaged in organising bingo or selling lottery tickets as a way of collecting money to e.g. school trips, and none questioned this. The forms of gambling mentioned by the children as most commonly played were virtual games, card games, sports games and self-invented games, thereby somewhat different from gambling in adults [14]. The reason for this difference is likely in part due to the fast development of the gambling business. The new virtual gambling products and the massive marketing of Internet games means that children are exposed to gambling to a much higher extent than ever before. Especially 2 trends were found to have reached Greenland: first being the close link between sports and gambling and the second the combination of computer games and gambling. The interviews revealed that many of the children’s gambling experiences are connected to sports – especially football – both in their own matches, in computer games as well as betting on international football games. This concatenation of gambling and culturally valued events such as sports games, makes gambling both more visible and make it appear more commonly acceptable. The boom in e-sports is also a part of this development. Especially, the boys told about buying skins in different computer games. In many online games, money or in-game-money can be used to upgrade or buy skins. Several children found that having valuable skins gives prestige and some of them had experiences in selling skins online. Skins is a global trend, but the marked is unregulated. An US report estimated that the globally this marked was worth between $3.9 and $5.1 billion in 2016 [26]. In Britain, 11% of adolescents have tried betting with in-game-money [20]. This combination of gaming and gambling can be regarded as taking gambling into the nursery.

The children’s statements indicate that they are introduced to gambling by family, friends, in (sports) television, and on the Internet. Even though they had no clear definition of gambling, they were able to point out 5 elements that – to their perception – define gambling. First, the form of the bet is important, primarily that it include money in some way. Second, they expressed a clear distinction between winning money or an item e.g. a cinema ticket. Third, the loss should be larger than just a small amount of money. Fourth, a clear distinction was made between losing money to family/friends or to a company. Fifth, it seems that the most important distinction is about the purpose of the game. If the purpose of the game is to win money, it is perceived as gambling, while if it is to have fun with friends and family, it is not necessarily so. This view was reflected in the children’s perception of whether bingo is gambling. None of the children did spontaneously mention bingo as gambling and when asked, they were in doubt as they expressed that bingo is played for fun and together with friends or family. Bingo was also regarded as a game for the elderly, and that they might play it together with e.g. their grandparents. This finding, that some gambling activities are culturally valued and accepted, and therefore not regarded as gambling by children, seems to have a parallel in Australian when children in Melbourne talk about the Melbourne cup [27].

In this study, the reasons for gambling were that it is entertaining, funny and a social activity. The quotes indicate that money is an element of fun and “spice” when playing with friends or family and that some types of gambling are common in social gatherings. Also; the desire to try new things, a cure for boredom and the thrill of gambling are mentioned. These arguments and behaviours are the same as found among adolescents elsewhere [9,11,28].

There is no golden standard of screening instruments for adolescence and most are extensive [29]. Even if most instruments are based on DSM IV or related criteria, large differences in prevalence in gambling problems among adolescents have been found using different instruments [9,26,29]. This study tested a modified version of the 2 questions Lie/Bet screen, used in a modified version in the national health survey in adults [21,30]. The original Lie/Bet screen has earlier been shown to have a high sensitivity and specificity compared to DSM IV criteria, and it is suitable for comprehensive surveys [31]. The used version of the Lie/Bet question about lying was generally perceived as easy to understand and to answer by the children. It was also found relevant, as several of the children recalled having lied about the amount of money they had spent on gambling and felt guilty about it. The phrase “people important to you” does not have a counterpart in Greenlandic and was finally translated to “family members or friends” (Table 2). The second Lie/Bet question was found a little more difficult to answer and the children found it difficult to define the term “more money”. They did not know what to compare with, although aware that using more and more money on games was problematic. After due reflexion, the original Lie/Bet questions were changed in consideration to the above aspects (Table 2).

First, the strengths of the study are that it contributes to knowledge in an undeveloped research area. Second, the method and study approach were carefully selected based on the study population, and interviews were conducted until saturation of data was gained. Strict ethical guidelines were followed for this study [32]. The most important limitation was that the recruitment of participants was limited to the capital,
Nuuk, where a more westernised lifestyle is seen compared to other parts of Greenland. This means, that the results might not be representative for Greenland as a whole. Also, some selection bias might have been introduced because most of the children were selected by a gatekeeper at each school.

**Conclusion**

Due to the finding of a high prevalence of gambling problems in adult Greenlanders and that gambling problems are related to other addictive behaviours it is highly relevant to investigate gambling in Greenlandic adolescents. This study finds that Greenlandic adolescents are familiar with gambling and that several also have experiences with gambling. Totally, 5 elements seem to impact the adolescents’ perception of gambling and the most important of these elements is whether the purpose of the game is to earn money or to have fun with family and friends. Additionally, most adolescents gamble as a social activity and for fun and they gamble both in the virtual and physical world. Also, 2 recent trends have reached Greenland. One being the close link between sports and gambling and the second the combination of computer games and gambling with the purpose of buying and selling skins (skin-betting).

This study did also pilot test a modified version of the Lie/Bet screening test which is earlier used in the national public health survey. We found that the slight modified version of the original test was suitable as a screening instrument among Greenland adolescents and it is recommended to use in future comprehensive studies in adolescents. In a public health perspective, our study supports the concerns regarding the influence and significance of structural societal conditions related to gambling. It calls for attention according to early gambling prevention among adolescents.

**Disclosure statement**

No potential conflict of interest was reported by the authors.

**Funding**

This work was supported by the HBSC Greenland, Box 7011 3905 Nuussuaq.

**References**

[1] Dahl-Petersen IK, Larsen CVL, Nielsen NO, et al. Befolkningsundersøgelsen i Grønland - levevilkår, livsstil og helbred. København: Statens Institut for Folkesundhed; 2016.
[2] Paaria. Undersøgelse af spil og spillevaner. Nuuk: Paaria, Direktoratet for Sundhed; 2016.
[3] Naalakkersuisut. Forslag til finanslov for 2018. Nuuk: Naalakkersuisut; 2017.
[4] Skatteministeriet. Bekendtgørelse af lov for Grønland om visse spil [Internet]. [cited 2016 Apr 7]. Available from: https://spillemyndigheden.dk/sites/default/files/filer-til-download/lov_for_groenland.pdf
[5] Gupta R, Derevensky JL. Familial and social influences on juvenile gambling behavior. J Gambl Stud. 1997; 13(3):179–192.
[6] Larsen CVL, Curtis T, Bjerringaard P. Gambling behavior and problem gambling reflecting social transition and traumatic childhood events among Greenland Inuit: a cross-sectional study in a large indigenous population undergoing rapid change. J Gambl Stud. 2013;29:733–748.
[7] Winters KC, Arthur N, Leitten W, et al. Gambling and drug abuse in adolescence. In: Derevensky JL, Gupta R. (Eds). Gambling problems in youth: theoretical and applied perspectives. 2004, p. 57–80.
[8] Volberg RA. The prevalence and demographics of pathological gamblers: implications for public health. Am J Public Health. 1994;84:237–241.
[9] Fridberg T, Birkeland JF. Pengespil blandt unge i Danmark 2007–2016. En undersøgelse af 12–17-åriges spil om penge og risikable spilleadfærd. København: Det Nationale Forskningscenter for Velfærd (SFI); 2016.
[10] Stinchfield R. Gambling and correlates of gambling among Minnesota public school students. J Gambl Stud. 2000;16:153–173.
[11] Ginnerup S, Jensen SM. Prevalence and correlates of problematic gambling among Danish adolescents. Int J Social Welfare. 2014;23:89–99.
[12] Zitzow D. Comparative study of problematic gambling behaviors between American Indian and non-Indian adolescents within and near a Northern Plains reservation. Am Indian Alaska Native Mental Health Res. 1996;7(2):14–26.
[13] Stinchfield R, Cassuto N, Winters K, et al. Prevalence of gambling among Minnesota public school students in 2012 and 1995. J Gambl Stud. 1997;13(1):25–48.
[14] Larsen CVL, Curtis T, Bjerregaard P. Harmful alcohol use and frequent use of marijuana among lifetime problem gamblers and the prevalence of cross-addictive behaviour among Greenland Inuit: evidence from the cross-sectional Inuit health in transition Greenland survey 2006–2010. International Journal of Circumpolar Health. 2013;72(1): 1–9.
[15] Muckle G, Boucher O, Laflamme D, et al. How are we? Alcohol, drug use and gambling among the Inuit of Nunavik: epidemiological profile. Quebec: Nunavik Regional Board of Health and Social Services; 2007.
[16] Abbott MW, Volberg RA. Taking the pulse on gambling and problem gambling in New Zealand: A report on phase one of the 1999 national prevalence survey. Wellington: The Department of Internal Affairs; 2000.
[17] Wardle H, Moody A, Spence S, et al. The British gambling prevalence survey 2010. National Centre for Social
Research for The Gambling Commission. Government of the United Kingdom; 2011.

Papineau E. Gambling problems in first nations and Inuit communities of Québec. A brief status report. Institut National de Santé Publique, Gouvernement du Québec. Direction du développement des individus et des communautés; 2010.

Schaffer HJ, LaBrie RA, LaPlante DA, et al. The road less travelled: moving from distribution to determinants in the study of gambling epidemiology. Can J Psychiatry. 2004;49(8):504–516.

Bjerregaard P, Young TK. Health transitions in Arctic populations. University of Toronto Press; 2008.

Larsen CVL. Gambling and public health in Greenland - a large indigenous population in transition - A study of gambling behavior and problem gambling in relation to social transition, addictive behaviors and health among Greenland Inuit. Copenhagen: National Institute of Public Health, Centre for Health Research in Greenland; 2014.

Skovdal M, Cornish F. Qualitative research for development. Rugby: Practical Action Publishing; 2015.

Heldberg G. Grottegravning i metodisk perspektiv. København: Samfundslitteratur; 2012.

Stige B, Malterud K, Midtgarden T. Toward an agenda for evaluation of qualitative research. Qual Health Res. 2009;19:1504–1516.

Dahlager L, Fredslund H. Hermeneutisk analyse - forståelse og forforståelse. In: Vailgårda S, Koch L, Eds. Forskningsmetoder i Folkesundhedsvidenskab. København: Munksgaard; 2013. p. 157–181.

Kristiansen S, Jensen SM. Prevalence of gambling problems among adolescents in the Nordic countries: an overview of national gambling surveys 1997–2009. International Journal of Social Welfare. 2011;20:75–86.

Pitt H, Thomas SL, Bestman A, et al. Factors that influence children’s gambling attitudes and consumption intentions: lessons for gambling harm prevention research, policies and advocacy strategies. Harm Reduct J. 2017;14:11.

Gambling Commission UK. Young people and gambling 2017 - A research study among 11–16 year olds in Great Britain. Gambling Commission UK. Government of the United Kingdom; 2017.

Rossow I, Molde H. Chasing the criteria: comparing SOGS-RA and the Lie/Bet screen to assess prevalence of problem gambling and ‘at-risk’ gambling among adolescents. J Gambling Issues. 2006;57–71.

Johnson EE, Hamer R, Nora RM, et al. The Lie/Bet questionnaire for screening pathological gamblers. Psychol Rep. 1997;80(1):83–88.

Göttestam KG, Johansson A, Wenzel HG, et al. Validation of the Lie/Bet screen for pathological gambling on two normal population data sets. Psychol Rep. 2004;95:1009–1013.

Hastrup K, Rubow C, Tjørnhøj-Thomsen T. Kulturanalyse. Kort fortalt. København: Samfundslitteratur; 2013.