



Gaming Authority

Study into loot boxes

A treasure or a burden?

Summary

The Netherlands Gaming Authority has completed its study of loot boxes, also known as 'crates', 'cases' or 'packs'. Loot boxes are a type of treasure chest that are built into a growing number of games. Loot boxes in games create a mixing of games of chance and games of skill. Although the outcome of games is determined by skill, the outcome of loot boxes is determined by chance. Players usually has to pay for a loot box. The prize that they can win with loot boxes may also have a monetary value. This fact gave rise to the question of whether loot boxes are permitted on the grounds of the Betting and Gaming Act (*Wet op de kansspelen*). The Netherlands Gaming Authority was also interested in whether addiction risks are associated with opening loot boxes.

Reason for the study

The Netherlands Gaming Authority studied loot boxes after concerns were raised by gamers, parents and addiction care.

Findings of the study

The study revealed that four of the ten loot boxes that were studied contravene the law. The reason is that the content of these loot boxes is determined by chance and that the prizes to be won can be traded outside of the game: the prizes have a market value. Offering these types of games of chance to Dutch consumers without a licence is prohibited.

The analyses that are currently available indicate that all of the loot boxes that were studied could be addictive. Loot boxes are similar to gambling games such as slot machines and roulette in terms of design and mechanisms. There are, however, no indications of loot boxes being opened on a large scale by problem players and/or addicted players. Socially vulnerable groups, such as young people, are being encouraged to play games of chance.

Study design

This study of loot boxes comprised various components. The legal permissibility of loot boxes has been studied by consulting the Guide on Assessing Games of Chance (Leidraad beoordeling kansspelen). To do so, the functioning of the loot boxes was analysed, including by opening loot boxes ourselves. While addiction risk was researched by studying the literature, information was obtained from addiction care and other experts. The loot boxes in the games were also evaluated using the evaluation instrument that was previously used to analyse the Dutch gambling market, but a degree of caution is needed with these results.

1. Introduction

The Netherlands Gaming Authority has completed its study into loot boxes, also known as 'crates', 'cases' or 'packs'. The reason for this study was the lack of clarity on the question of whether loot boxes should be prohibited in the Netherlands and any risk of addiction that could be associated with those loot boxes. Answering this question has become more urgent now that more and more games of skill also include loot boxes. The scope of this study is limited to clarifying these ambiguities.

The Netherlands Gaming Authority studied ten games. These ten games were selected based on popularity on a leading platform that streams videos of games and players.

To obtain information, the Netherlands Gaming Authority asked addiction care to gather information on whether anyone had ever been treated for addiction to opening loot boxes.

The Netherlands Gaming Authority's Guide on Assessing Games Of Chance¹ was followed to gain an understanding of possible problems and to find answers to the ambiguities. This framework serves to answer the question of whether certain new games on offer fall under the supervision of the Netherlands Gaming Authority. To this end, existing insights from law, economics and mathematics were brought together in a practical way. The Betting and Gaming Act (*Wet op de kansspelen*) is the starting point for this.

To reach a conclusion (*Chapter 2*), we have outlined whether there is sufficient reason to make an assessment. This assessment is made by examining any potential damage the game causes to the public goals of the Netherlands Gaming Authority (*Chapter 3*). Finally, we assessed whether it involved a game of chance within the meaning of the Betting and Gaming Act (*Chapter 4*).

2. Conclusion

Loot boxes could possibly have a negative effect on the objective of preventing addiction as much as possible. The integration of loot boxes into games of skill, without the corresponding suitable measures and provisions, may be inconsistent

¹ Netherlands Gaming Authority. (2018, 30 March). Leidraad beoordeling kansspel vastgesteld [Guide on Assessing Games of Chance Adopted]. Consulted at <https://www.kansspelautoriteit.nl/nieuws/alle-nieuwsberichten/2018/maart/toetsingskader-kanss/>

with Dutch gaming policy to limit the negative effects of games of chance as much as possible.

The study revealed that four of the ten loot boxes that were studied contravene the law. These are the loot boxes in games where the in-game goods from the loot boxes are transferable. When opening loot boxes, the consumer cannot influence the outcome. Those games that feature a combination of in-game goods that can be traded and the obtaining of these goods through loot boxes fall under Article 1 of the Betting and Gaming Act. As a licence cannot be issued for this offering under the applicable legislation, these loot boxes are prohibited in the Netherlands. Six of the ten games with loot boxes that were studied do not contravene the law, as there is no question of in-game goods with a market value in these games. These games do not satisfy the definition of a prize in Article 1 of the Betting and Gaming Act.

An evaluation tool, which has been used in the past to analyse the Dutch gaming market, was used to perform a structured and quantifiable risk assessment of loot boxes. According to this tool, on average, loot boxes have a moderate to high addiction risk potential (hereinafter referred to as risk potential). The risk potential very much depends on how the loot box is offered. The loot boxes with a higher score have integral elements that are similar to slot machines. With these loot boxes, there is very often a (higher) jackpot where the virtual goods are transferable, players can keep opening unlimited loot boxes, multiple visual and sound effects are added and a 'near miss' effect is used. According to this tool, the loot boxes with a higher score are comparable with blackjack or roulette in terms of addiction potential. According to this tool, the loot boxes with a lower score are comparable with small-scale bingo in terms of addiction potential. This tool is intended for games of chance that involve scriptural or cash money. Some care is therefore required in interpreting the results from this tool.

There are no indications of loot boxes being opened on a large scale by problem players and/or addicted players. As a result of opening loot boxes, socially vulnerable groups such as young people could eventually be encouraged to play other games of chance. The risk of gambling addiction in this group is many times higher than in adults

To date, the Netherlands Gaming Authority has not observed any suitable control measures taken by the providers of games with loot boxes to exclude vulnerable groups and prevent gambling addiction.

3. Threshold criterion

- **At this time, the Netherlands Gaming Authority has not yet received any signals that demonstrate that problem players and/or addicted players are opening loot boxes on a large scale, but this does not mean that there is no possibility of (major) problems existing.**
- **Socially vulnerable groups could be encouraged to play games of chance.**
- **The risk potential from opening loot boxes is between moderate and high. Some care is needed in interpreting these results.**
- **The integration of loot boxes into games of skill ensures the mixing of games of chance and games of skill.**

3.1 First of all, we assessed the extent to which there is sufficient reason for assessing loot boxes. This assessment was made by examining any potential harm the game causes to the public goals of the Netherlands Gaming Authority.

3.2 In the case of loot boxes, there are possible risks in the field of gambling addiction. This document does not delve any further into the risks relating to other consumer detriment and illegality and crime.

3.3 Within this framework, loot boxes can be viewed from the perspective of (1) the players, (2) the game and (3) the playing environment within which the game is played. These three perspectives mutually influence each other and strengthen or weaken the occurrence of addiction.²

Players

3.4 Players who take part in games of chance can be divided into three separate groups:³

1. recreational players;
2. problem players;⁴
3. addicted players.⁵

² de Vos, T. (1998). Gokverslaving. In Hb. Kind. &Adoles.-Boekblok [Gambling Addiction. In Handbook for Children & Adolescents – Book Block] (pp. 946-953). Bohn Stafleu van Loghum, Houten.

³ de Vos, T. (1998). Gokverslaving. In Hb. Kind. &Adoles.-Boekblok [Gambling Addiction. In Handbook for Children & Adolescents – Book Block] (pp. 946-953). Bohn Stafleu van Loghum, Houten.

⁴ The Netherlands Gaming Authority also uses the term at-risk player in other documents.

⁵ The Netherlands Gaming Authority also uses the term problem player in other documents.

3.5 To allocate players to one of these groups, the amount of time and money that is spent on the game of chance is examined in comparison with the time and money available to the player.⁶ Some players can, for instance, lose 1000 euros without experiencing problems, while this would cause problems for other players. Basically, this is about whether playing a game of chance does or does not affect the player's social activities. The social functioning of problem players and addicted players is affected. The game of chance will increasingly rule their lives to the point that, for instance, money is borrowed to be able to play the game of chance.⁷ Certain categories of players and potential players are more vulnerable. These groups are known as socially vulnerable groups.

3.6 Socially vulnerable groups of people include minors, people below the age of 24 years, people who are particularly susceptible as a result of their mental and/or physical limitations and/or credulity^{8,9} people with financial problems and people who display the characteristics of risky playing behaviour. Playing a game of chance does not have to have an immediate effect; the effects might only become noticeable later. One example is minors. Once minors are exposed to game of chance mechanisms, there is a significantly higher risk that they will have problems with it at a later stage in their lives. The literature indicates that exposure at an early age increases the risk of addiction and the severity of the addiction.¹⁰ There is broad consensus on the undesirability of minors playing games of chance. In the Netherlands, minors are prohibited from playing games of chance.

⁶ DE BRUIN, D. I. C. K. (2015). Prevalentie van problematisch speelgedrag onder deelnemers aan online kansspelen [Prevalence of problematic playing behaviour among participants in online games of chance]. CVO Research & Consultancy, Utrecht.

⁷ de Vos, T. (1998). Gokverslaving. In Hb. Kind. &Adoles.-Boekblok [Gambling Addiction. In Handbook for Children & Adolescents – Book Block] (pp. 946-953). Bohn Stafleu van Loghum, Houten.

⁸ This is in line with the definition that is used in Article 6:193a(2) of the Dutch Civil Code and Article 2 of the Decree on Recruitment, Advertising, and the Prevention of Addiction to Games of Chance (*Besluit werving, reclame en verslavingspreventie kansspelen*).

⁹ Bieleman, B., Biesma, S., Kruize, A., Zimmerman, C., Boendermaker, M., Nijkamp, R., & Bak, T. (2011). Gokken in kaart [Gambling Mapped Out]. IntraVal.

¹⁰ King, D. L., & Delfabbro, P. H. (2016). Early exposure to digital simulated gambling: A review and conceptual model. *Computers in Human Behavior*, 55, 198-206.

- 3.7** Over nine million people in the Netherlands played a computer game at some time in 2009. This is equal to approximately 70% of the population.¹¹ This information is important for establishing the exposure to loot boxes. No data is available to show the exact uptake of the various loot boxes.
- 3.8** Previous studies¹² reveal that a very large group of minors (75% – 95%) plays video games. This group can currently be exposed to loot boxes. The risk of gambling addiction in this group is many times higher than in adults.¹³
- 3.9** The Netherlands Gaming Authority surveyed addiction care and other experts. In this survey, they asked how aware they were of people who had become addicted to opening loot boxes. This survey revealed that there are people who occasionally spend too much money on loot boxes unintentionally. Some young people even (secretly) use their parents' credit card to satisfy their need to keep opening the boxes.
- 3.10** There are, however, no indications of loot boxes being opened on a large scale by problem players and/or addicted players. Enquiries with addiction care and other experts show that there are general signals that reveal that major problems could arise. For a number of games, there are indications that those specific loot boxes cause social damage.
- 3.11** At this current time, the Netherlands Gaming Authority is still not seeing a large number of players who use the so-called market places to buy and sell the in-game goods, where this is possible.
- 3.12** Players generally intend to play a game of skill, not to gamble.

¹¹ Van den Broek, M. A. T. T. H. I. J. S. (2009, 17 September). TNS en Newzoo: Nederland telt 9,3 miljoen gamers [TPS and Newzoo: There are 9.3 million gamers in the Netherlands]. Consulted at https://www.marketingfacts.nl/berichten/20090917_tns_en_newzoo_nederland_telt_93_miljoen_gamers

¹² ESPORTS in Nederland, de hype voorbij [eSPORTS in the Netherlands, beyond the hype]. (2017, 18 May). Consulted on 2 February 2018, at <http://www.nielsen.com/nl/nl/insights/reports/2017/eSports-in-the-netherlands.print.html>

¹³ Leo, L. Recente ontwikkelingen in de interne markt van kansspelen [Recent Developments in the Internal Market for Games of Chance].

The game

- 3.13** The literature sets out various characteristics and properties of games of chance that are associated with risky playing behaviour.¹⁴ A frequently-used characteristic is the time between the stake and the outcome of the game of chance, the short or long odds nature of games of chance. The shorter the time, the more risky the game of chance is considered. Although the short or long odds nature of games of chance plays a role in creating gambling problems, this is not the only characteristic that is associated with such problems.
- 3.14** The size of the stake, the prizes that can be won, the existence of a jackpot and the experienced/perceived subjective influence on the chance of winning also play a role in the development of gambling problems.¹⁵ Games of chance are considered to be risky if they are able to create the illusion of control. An example of this is slot machines where specific reels can be held or stopped by pressing the button. The creation of 'nearly won' (or near misses) also influences playing behaviour.
- 3.15** An evaluation tool, which has been used in the past to analyse the Dutch gaming market, was used to perform a structured and quantifiable risk assessment of loot boxes.¹⁶ This tool determines a score between 0 (no effect) and 10 (very significant effect) on ten separate dimensions. Together, the ten dimensions produce a total score that can be used to categorise a game of chance as a game with a (very) low, moderate or (very) high risk potential. This tool is intended for games of chance that involve scriptural or cash money. It is currently not possible to establish the effect that paying out in-game goods as a prize has on the reliability of this tool. Some care is therefore required in interpreting the results from this tool.

¹⁴ de Bruin, D.E. (2015). *Kansspelsverslaving, risico's en preventie. Literatuuronderzoek naar de risico's van kansspelen en de aard en effectiviteit van preventieve maatregelen* [Gambling Addiction, Risks and Prevention. Literature research into the nature and effectiveness of preventative measures]. Utrecht: CVO – Research & Consultancy.

¹⁵ de Bruin, D.E. (2015). *Kansspelsverslaving, risico's en preventie. Literatuuronderzoek naar de risico's van kansspelen en de aard en effectiviteit van preventieve maatregelen* [Gambling Addiction, Risks and Prevention. Literature research into the nature and effectiveness of preventative measures]. Utrecht: CVO – Research & Consultancy.

¹⁶ de Bruin, D.E. (2017). *Assessment verslavingsgevoeligheid Nederlandse kanspelaanbod* [Assessment of the Addiction Sensitivity of the Dutch Gaming Market]. Den Haag/Utrecht: Netherlands Gaming Authority/CVO – Research & Consultancy.

Table 1 Risk categories

Result	Score	Risk category	Risk potential
1 – 124	> 0 – ≤ 2	A	Very low
125 – 248	> 2 – ≤ 4	B	Low
249 – 372	> 4 – ≤ 6	C	Moderate
373 – 496	> 6 – ≤ 8	D	High
497 – 620	> 8 – ≤ 10	E	Very high

3.16 According to the tool used, loot boxes have, on average, a risk potential between moderate and high (risk category C – D). The risk potential very much depends on how the loot box is offered. The loot boxes with a higher score have integral elements that are similar to slot machines. With these loot boxes, there is very often a (higher) jackpot where the virtual goods are transferable, players can keep opening unlimited loot boxes, multiple visual and sound effects are added and a 'near miss' effect is used. According to this tool, the loot boxes with a higher score are comparable with blackjack or roulette in terms of addiction potential. According to this tool, the loot boxes with a lower score are comparable with small-scale bingo in terms of addiction potential.

3.17 There are publications that indicate that loot boxes can be problematical and/or addictive.¹⁷ According to these publications, loot boxes are similar to slot machines in terms of mechanism and design. These studies are not of an empirical nature.

The playing environment

3.18 The term playing environment is a broad and versatile term. It can refer to the online environment, the ambiance and the attractiveness of what the gaming market has to offer. It can, however, also refer to the socio-cultural environment within which play takes place or the role that parents or friends play in starting or continuing to gamble.¹⁸

¹⁷ Griffiths, M. D. (2018). Is the buying of loot boxes in video games a form of gambling or gaming? *Gaming Law Review*; Koeder, M. J., & Tanaka, E. (2017) and the associated sources.

¹⁸ de Bruin, D.E. (2015). *Kansspelsverslaving, risico's en preventie. Literatuuronderzoek naar de risico's van kansspelen en de aard en effectiviteit van preventieve maatregelen [Gambling Addiction, Risks and Prevention. Literature research into the nature and effectiveness of preventative measures]*. Utrecht: CVO – Research & Consultancy.

- 3.19** The threshold for being able to play a game of chance is also seen as an important part of the playing environment. In this regard, a playing environment can serve to either lower or increase the threshold for playing a game of chance.¹⁹
- 3.20** The integration of loot boxes into games of skill provides a low threshold for playing a game of chance. This integration creates a mixture of games of chance and games of skill in an environment that is comparable, in physical terms, with the low threshold of the hotel and catering industry. Such mixing at these locations was prohibited in the Netherlands in the 1990s to reduce exposure to games of chance and to protect minors.
- 3.21** The influence of the playing environment on playing behaviour appears to be evident.²⁰ Players are attracted by a nice playing environment. Moreover, research has revealed that the virtual atmosphere and the functional qualities of online games of chance can stimulate playing behaviour.²¹
- 3.22** The loot boxes are offered in an environment where games of skill play a central role. Many of the games of skill are online. A significant characteristic of many of these online games of skill is that a certain status is gained from playing the game and/or the external in-game characteristics of the player. Obtaining in-game goods from a loot box could have an effect on how other players in the game value the player.²²²³²⁴ This effect can play a significant role in opening more boxes.

¹⁹ de Vos, T. (1998). Gokverslaving. In Hb. Kind. &Adoles.-Boekblok [Gambling Addiction. In Handbook for Children & Adolescents – Book Block] (pp. 946-953). Bohn Stafleu van Loghum, Houten.

²⁰ de Bruin, D.E. (2015). Kansspelverslaving, risico's en preventie. Literatuuronderzoek naar de risico's van kansspelen en de aard en effectiviteit van preventieve maatregelen [Gambling Addiction, Risks and Prevention. Literature research into the nature and effectiveness of preventative measures]. Utrecht: CVO – Research & Consultancy.

²¹ de Bruin, D.E. (2015). Kansspelverslaving, risico's en preventie. Literatuuronderzoek naar de risico's van kansspelen en de aard en effectiviteit van preventieve maatregelen [Gambling Addiction, Risks and Prevention. Literature research into the nature and effectiveness of preventative measures]. Utrecht: CVO – Research & Consultancy.

²² Hamari, J., Alha, K., Järvelä, S., Kivikangas, J. M., Koivisto, J., & Paavilainen, J. (2017). Why do players buy in-game content? An empirical study on concrete purchase motivations. *Computers in Human Behavior*, 68, 538-546.

²³ Hsiao, C. C., & Chiou, J. S. (2012). The effects of a player's network centrality on resource accessibility, game enjoyment, and continuance intention: A study on online gaming communities. *Electronic Commerce Research and Applications*, 11(1), 75-84.

²⁴ Hamari, J., Alha, K., Järvelä, S., Kivikangas, J. M., Koivisto, J., & Paavilainen, J. (2017). Why do players buy in-game content? An empirical study on concrete purchase motivations. *Computers in Human Behavior*, 68, 538-546.

- 3.23** To date, the providers of the games with loot boxes that were studied have not provided suitable control measures to exclude vulnerable groups from loot boxes and/or to prevent addiction.^{25, 26} This means that, in any event, the minors vulnerable group can open loot boxes without any threshold and/or be tempted into opening loot boxes.
- 3.24** As the games are often played individually at a physical level, the opening of loot boxes does not usually take place in a controlled environment under the supervision of others, such as parents, friends or outsiders.
- 3.25** The Netherlands Gaming Authority has noted that only two games have been awarded a PEGI rating of PEGI 18. The other games have a PEGI 3, PEGI 7, PEGI 12, or no PEGI rating.

²⁵ During the research, the researchers did not observe any suitable age verifications or other forms of verification when studying loot boxes.

²⁶ During the research, the researchers did not observe any suitable measures to prevent gambling addiction.

Table 2 Player and playing environment results

Loot box ID	Player	Playing environment	PEGI Rating	Measures taken by the provider to mitigate risks
#1	Does have open source alerts about problem players.	Game of skill without any form of supervision; external third-party websites are available where the in-game goods can be sold. In addition, there is also the possibility of using in-game goods as stakes with game of chance providers for which the Netherlands Gaming Authority has not issued a licence (Roulette, eSports bets, etc.).	PEGI 18	None
#2	No alerts available about problem players or addicted players.	<i>Idem</i>	None	None
#3	Does have open source alerts about problem players.	<i>Idem</i>	PEGI 3	None
#4	No alerts available about problem players or addicted players.	Game of skill without any form of supervision; external third-party websites where in-game goods may be used are not available.	None	None
#5	<i>Idem</i>	<i>Idem</i>	PEGI 12	None
#6	<i>Idem</i>	<i>Idem</i>	PEGI 7	None
#7	<i>Idem</i>	<i>Idem</i>	PEGI 12	None
#8	<i>Idem</i>	<i>Idem</i>	PEGI 12	None
#9	<i>Idem</i>	<i>Idem</i>	PEGI 18	None
#10	<i>Idem</i>	<i>Idem</i>	PEGI 12	None

Table 3 Risk potential results for game component

Loot box ID	Event frequency	Payback interval	Jackpot	Continuity of playing	Chance of winning	Availability	Multiple playing/stake	Variable stake	Sensory product	Near wins	In-game goods transferable	Deposit/money inserted
#1	7.5	10	4	10	1.25	10	0	0	10	10	Yes	Yes
#2	8.75	10	4	10	6	10	0	5	10	10	Yes	Yes
#3	7.5	7.5	2.5	10	1.25	10	0	5	10	5	Yes	Yes
#4	8.75	10	1.25	10	1.25	10	0	0	0	0	Yes	Yes
#5	7.5	10	0	10	0	10	0	0	0	0	No	Yes
#6	8.75	8.75	0	10	0	10	0	0	0	0	No	Yes
#7	8.75	10	0	10	0	10	0	0	10	0	No	Yes
#8	8.75	10	0	10	0	10	0	0	10	0	No	Yes
#9	10	10	0	10	0	10	0	0	5	0	No	Yes
#10	7.5	10	0	10	0	10	0	5	10	0	No	Yes

4. Games of chance (dominant influence and prize)

- **Loot boxes contravene the law if the in-game goods from the loot boxes are transferable.**
- **Loot boxes do not contravene the law if the in-game goods from the loot boxes are not transferable.**

4.1 Preventing addiction to organised games is an important component of the intention of the Betting and Gaming Act.²⁷ The intention of the Betting and Gaming Act is:

- to prevent vulnerable groups (such as young people) getting into difficulties as a result of playing games of chance;
- timely alerting of risky playing behaviour;
- mitigation of the playing behaviour if a player no longer has his or her playing behaviour under control and referral to suitable care if necessary.

4.2 The legal powers of the Netherlands Gaming Authority are limited to games of chance, as set out in Article 1 of the Betting and Gaming Act: *'Subject to the provisions of Title Va of this Act, it is prohibited to provide an opportunity to compete for prizes or premiums if the winners are designated by means of any random process over which the participants are generally unable to exercise a dominant influence, unless a licence for this has been granted pursuant to this Act.'*

4.3 In *four* of the ten games studied, prizes that represented a market value were identified. In-game goods have a market value as soon as they are transferable. In these cases, a transaction can be made with these specific in-game goods, including sale of these goods.

4.4 In-game goods are always obtained when these loot boxes are opened. Some parties use this fact to support their argument that the game is not a game of chance. This argument is not valid.²⁸ The in-game goods differ and have different market values if they can be traded. It is beyond doubt that the real winner is the person who wins the major, valuable prize with a high market value.

²⁷ See the explanatory note to the Betting and Gaming Act and Article 4a of the Betting and Gaming Act, among others.

²⁸ Amsterdam District Court, 17 April 2002, KG02/617 OdC, ECLI:NL:RBAMS:2002:AE2131

- 4.5** Loot boxes contain random in-game goods. These random in-game goods can vary from cosmetic changes to the game to goods that have an effect on the player's progress and/or progress of the game. The loot boxes are part of a game, but can also be played as a game in their own right.
- 4.6** Research has revealed that a player never has influence over what in-game goods they obtain. In some loot boxes, for instance, you can choose which card is turned first, but the player has no influence whatsoever on the outcome of these cards, which lead (in part) to the in-game goods. The Netherlands Gaming Authority therefore categorises these loot boxes as games in which skill plays no role whatsoever.
- 4.7** The Netherlands Gaming Authority concludes that four of the loot boxes that were studied contravene the law. These loot boxes contain a prize and the player cannot exert any dominant influence over what in-game goods they obtain. By doing this, the providers are contravening Article 1 of the Betting and Gaming Act. In the Netherlands, providers can only provide a game of chance if they have a licence from the Netherlands Gaming Authority. To date, providers of these loot boxes cannot obtain a licence because the Betting and Gaming Act does not permit these loot boxes.
- 4.8** Six of the ten loot boxes that were studied do not contravene the law. In these games, there is no question of in-game goods with a market value and they therefore do not satisfy the definition of a prize under Article 1 of the Betting and Gaming Act. As these loot boxes could nevertheless foster the development of addiction, these games are at odds with the objective of preventing addiction to organised games as much as possible.
- 4.10** There have been numerous discussions with other European supervisory bodies. The Netherlands Gaming Authority has concluded that the elements that are used to determine if a game is a game of chance, namely chance and prize (market value), are used in other European countries too.

References

- Bieleman, B., Biesma, S., Kruize, A., Zimmerman, C., Boendermaker, M., Nijkamp, R., & Bak, T. (2011). Gokken in kaart [Gambling Mapped Out]. IntraVal.
- DE BRUIN, D. I. C. K. (2015). Prevalentie van problematisch speelgedrag onder deelnemers aan online kansspelen [Prevalence of problematic playing behaviour among participants in online games of chance]. CVO Research & Consultancy, Utrecht.
- de Bruin, D.E. (2015). Kansspeleroverslaving, risico's en preventie. Literatuuronderzoek naar de risico's van kansspelen en de aard en effectiviteit van preventieve maatregelen [Gambling Addiction, Risks and Prevention. Literature research into the nature and effectiveness of preventative measures]. Utrecht: CVO – Research & Consultancy.
- de Bruin, D.E. (2017). Assessment verslavingsgevoeligheid Nederlandse kansspelaanbod [Assessment of the Addiction Sensitivity of the Dutch Gaming Market]. Den Haag/Utrecht: Netherlands Gaming Authority/CVO – Research & Consultancy.
- de Vos, T. (1998). Gokverslaving. In Hb. Kind. &Adoles.-Boekblok [Gambling Addiction. In Handbook for Children & Adolescents – Book Block] (pp. 946-953). Bohn Stafleu van Loghum, Houten.
- ESPORTS in Nederland, de hype voorbij [eSPORTS in the Netherlands, Beyond the Hype]. (2017, 18 May). Consulted on 2 February 2018, at <http://www.nielsen.com/nl/nl/insights/reports/2017/eSports-in-the-netherlands.print.html>
- Griffiths, M. D. (2018). Is the buying of loot boxes in video games a form of gambling or gaming? Gaming Law Review; Koeder, M. J., & Tanaka, E. (2017) and the associated sources.
- Hamari, J., Alha, K., Järvelä, S., Kivikangas, J. M., Koivisto, J., & Paavilainen, J. (2017). Why do players buy in-game content? An empirical study on concrete purchase motivations. Computers in Human Behavior, 68, 538-546.
- Hsiao, C. C., & Chiou, J. S. (2012). The effects of a player's network centrality on resource accessibility, game enjoyment, and continuance intention: A study on online gaming communities. Electronic Commerce Research and Applications, 11(1), 75-84.
- Netherlands Gaming Authority. (2018, 30 March). Leidraad beoordeling kansspel vastgesteld [Guide on Assessing Games of Chance Adopted]. Consulted at <https://www.kansspelautoriteit.nl/nieuws/alle-nieuwsberichten/2018/maart/toetsingskader-kanss/>

- King, D. L., & Delfabbro, P. H. (2016). Early exposure to digital simulated gambling: A review and conceptual model. *Computers in Human Behavior*, 55, 198-206.
- Leo, L. Recente ontwikkelingen in de interne markt van kansspelen [Recent Developments in the Internal Market for Games of Chance].
- Amsterdam District Court, 17 April 2002, KG02/617 OdC, ECLI:NL:RBAMS:2002:AE2131