# The prevalence of loot boxes means that content descriptors are just as important as limit setting when it comes to minimising potential harm: A reply to Drummond et al.

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Loot boxes are items in video games that may be bought for real-world money, but which ultimately provide players with randomised rewards. There are concerns that some loot boxes are psychologically so similar to gambling that they may create a gateway to problem gambling (1).

In (2), we found that the more gamers spent on loot boxes, the more severe their problem gambling was. In a letter published in *Addiction* in February, Drummond et al. (3) reanalysed our data (4). They noted that a disproportionate number of high-spending gamers were problem gamblers, or at risk of becoming problem gamblers. They recommended limit setting as an effective strategy for protecting this vulnerable group.

We believe that our initial dataset supports Drummond et al.’s inferences. Furthermore, investigation of related datasets reveals similar relationships. In (5) we replicate the relationship between problem gambling and loot boxes spending. Reanalysis of the data associated with this study (6) shows that the group spending the most money on loot boxes is again disproportionately composed of problem gamblers. In fact, within the top 5% of spenders, 45% are problem gamblers.

However, we also note that increased availability of gambling is thought to play an important role in the development of problem gambling (7,8). If loot boxes function in a psychologically similar fashion to gambling, their prevalence should be strongly considered when discussing harm minimisation. We therefore analysed a snapshot of the current most popular games on two of the largest game distribution platforms, Google Play and Steam. The data associated with this analysis, and a detailed description of the method employed, are available as supplements to this letter at (9).

For this dataset, 63 of the 100 top-grossing Google Play games contain loot boxes, corresponding to at least 1.6 billion downloads. Of games containing loot boxes, 49% are PEGI rated as suitable for children aged 7+; 93% are rated suitable for children aged 12+. The Steam store games revealed lower, but still substantial, levels of prevalence and higher age-ratings for games with loot boxes: 32% of the 50 most-played Steam games contain loot boxes (approximately 274 million installations). Of these, only 18% are PEGI rated as suitable for those aged 7+; 37.5% for those 12+.

Given the prevalence of loot boxes across popular titles and the massive audiences for these titles, the opportunity to buy loot boxes may be a non-negligible risk factor for problem gambling. Further, with many parents approving in-game spending agreements (10), it seems likely that large numbers of children have the opportunity to buy loot boxes. However, in the absence of suitable content descriptors, it is extremely difficult for parents and guardians to be aware of this. We therefore argue that, in addition to Drummond et al.’s suggestion of limit-setting, regulators and ratings boards like PEGI and the ESRB urgently consider adding content descriptors for loot boxes to games.

## References

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