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### LOOT BOX LIMIT-SETTING: A POTENTIAL POLICY TO PROTECT VIDEO GAME USERS WITH GAMBLING PROBLEMS?

*Sir:* Loot boxes are digital containers in video games containing random virtual items. Some loot boxes are bought for real currency. This is a common monetization mechanism for free games, but also occurs in some premium titles. Concern exists that loot boxes bear psychological, structural and legal similarities to conventional forms of gambling [1–6]. International responses to loot boxes have varied. Belgium and the Netherlands have banned some loot boxes, Japan and China have required the odds of winning be disclosed, while the United States have not regulated loot boxes [7].

The similarities between loot boxes and traditional forms of gambling are concerning for several reasons. First, loot boxes are available in a variety of games accessible to minors, exposing them to gambling-like activities [1]. Secondly, although loot boxes bear striking structural and psychological similarities to traditional modes of gambling (especially lotteries), this is not always clear to players and parents, and consumer advice about these features is often non-compulsory.

A recent Australian Senate Inquiry into loot boxes and gambling noted the paucity of research on this topic [8]. However, the first empirical study investigating the link between loot boxes and problem gambling confirms that

concerns are warranted—problem gamblers spend significantly more on loot boxes (~\$US 25 per month) than those with no such symptoms (~\$US 2.50 per month) [3]. Whether problematic gambling causes or is caused by loot box purchasing is unknown, yet both possibilities are equally concerning. Games containing loot boxes appear to receive a disproportionate amount of revenue via this mechanism from vulnerable problem gamblers, supporting ethical concerns about this monetization method. A deeper analysis of these data [3] casts further disquiet about loot boxes, indicating that almost one-third of the highest spenders on loot boxes (\$300+ per month) are moderate-risk or problem gamblers (see Fig. 1).

These data suggest an important, but largely overlooked regulatory control: pre-commitment limit-setting. In electronic gambling, pre-commitment limit-setting involves users specifying (voluntarily or compulsorily), before engaging in gambling, the maximum they would like to spend. Once reached, this limit triggers a reminder message and a cooling-off period in which the player is unable to gamble further. Limit-setting is broadly effective at reducing over-expenditure [9], and generally viewed positively by gamblers [10]. Our re-analysis suggests a clear need for limit-setting mechanisms on loot boxes, because a substantial proportion (30%) of the highest spenders are moderate–high-risk gamblers. Further increasing the probable utility of limit-setting in this context, unlike traditional gambling platforms gamers cannot bypass the limit-based restriction simply by switching to a different game—rewards are game-specific. Alternatively, researchers have recently proposed absolute (cf. self-set) limits on loot box spending [6]. Our re-analysis suggests a potentially useful price point for such limits: at more than \$US 50 per month, the proportion of risky gamblers rises substantially (cf. lower spending categories), implying that this may be a functional spending cap to minimize over-spending by at-risk populations. Policymakers would be wise to consider pre-commitment limit-setting and other harm minimization controls used in traditional gambling to regulate loot box spending.

#### Declaration of interests

None.

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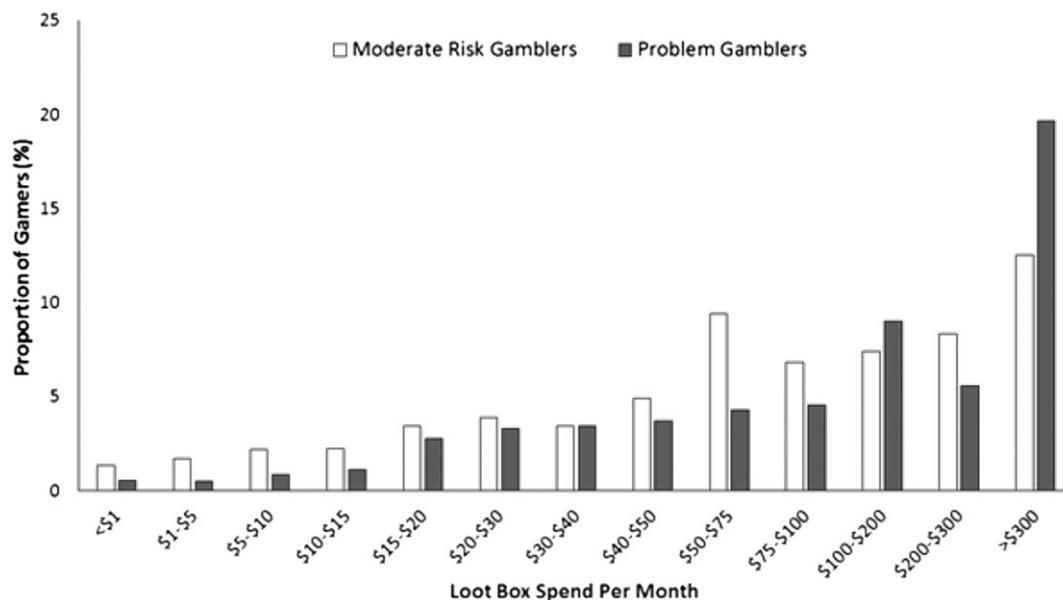


Figure 1 Proportion of gamers in each spending category who are moderate-risk or problem gamblers

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