CHA — Cambridge Health Alliance — Division on **Addiction**

HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Responsible product design to mitigate excessive gambling:
A scoping review and z-curve analysis of replicability

Popular gambling products might include elements, such as intense audio and visual stimuli, that increase risky gambling behavior.

Responsible product design includes implementing responsible gambling tools to counter potentially risky design elements.

Understanding the strength of evidence for various responsible gambling tools can help stakeholders decide which ones to implement and which need more study.

The Study

Reviewed **86 studies** that assessed responsible gambling tools.

Examined study characteristics and findings to **evaluate the current evidence** for responsible gambling tools and **identify which tools are promising** for minimizing risky gambling behavior.

Study Characteristics

Studies were **most likely to assess structural tools**, followed by user-directed tools, and then game-specific regulations.

Median sample size = 136
70.9% of studies sampled actual gamblers

Most studies **included self-reports or behavioral measures** captured by gambling records.

Structural tools: Product safety features that users cannot opt-out of or change (e.g., pop-up messages, breaks in play)

User-directed tools: Product safety features that a user is not required to interact with or can opt-out of (e.g., precommitment, information aids)

Game-specific regulations: Safety regulations that mandate the provision of accurate information and limit features that might facilitate excessive gambling (e.g., removing banknote acceptors)

Key Findings

There is limited scientific evidence supporting game-based responsible gambling tools.

Among this limited evidence, the "best" evidence is for:

Pop-up messages

Of the studies reviewed:
49% found favorable impact
17% found no impact
34% found a mixed impact

Precommitment to rule out riskier bets

Of the studies reviewed:
38% found favorable impact
25% found no or unfavorable impact
38% found a mixed impact

There was uncertain or low replicability and the potential for publication bias in the responsible product design literature.

Key Takeaways

Currently, the game-based responsible gambling literature does not provide strong evidence for a particular strategy.

More methodologically rigorous studies are needed before making confident evidence-based recommendations about game-based responsible gambling tools.

The potential for low replicability in responsible product design studies weakens empirical confidence in published findings.

Greater transparency (e.g., pre-registration of research protocols) and precision (e.g., larger samples) are needed to improve the evidence for implementing game-based responsible gambling tools.

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