

## A Meta-Analytic Investigation of Problem Gambling and Self-Harm: A Causal Inference Perspective

Studies have shown a positive association between problem gambling (PG) and self-harm.

Treating PG could be a useful method of preventing self-harm. This conclusion assumes that PG has a causal effect on self-harm.

Conducted meta-analyses to investigate the nature of the **relationship between PG and varying self-harm outcomes**. Researchers evaluated the **quality of the studies**, including **potential bias**.

### Meta-Analysis

A research process used to merge findings of at least two individual studies to calculate an overall effect.

### Registered Report

This study's methods and analytic plan were pre-registered and peer-reviewed before the research was conducted.

Searched for studies assessing the **relationship between PG and self-harm outcomes** (i.e., non-suicidal self injury and suicide ideation/planning/ attempt/death) **that tried to account for possible confounding variables**.

**21 studies** were included in the meta-analyses.

**Of all possible meta-analyses, 2 were adequately powered** (i.e., included enough studies to generate a reliable overall effect).

### PG [binary] on Suicide Ideation

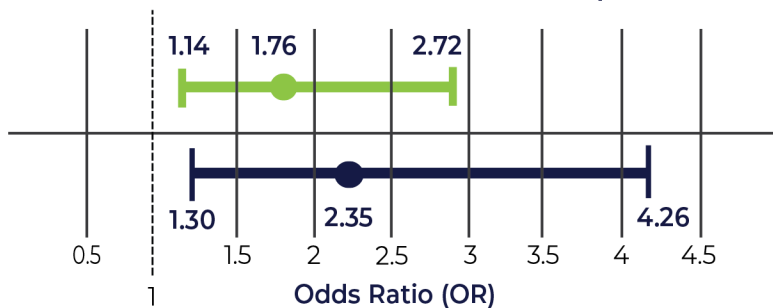
Based on 10 studies

### PG [binary] on Suicide Attempt

Based on 10 studies

*PG binary = studies that measured PG as being present or absent rather than measuring severity of PG.*

### Meta-Analytic Effect of PG on Suicide Ideation/Attempt



An OR greater than 1 indicates higher odds of the outcome (in this case, suicide ideation/attempt) in the presence of the exposure (in this case, PG).

- = PG [binary] on Suicide Ideation (*top bar*)
- = PG [binary] on Suicide Attempt (*bottom bar*)

### Can we conclude that PG causes self-harm?



**PG had an effect** on both of the self-harm outcomes – **suicide ideation and suicide attempt** – that did not occur by chance.\*



This effect did **not** appear to be **caused by other factors**.



All included studies were **cross-sectional**, which means we **cannot establish that PG exposure preceded the suicidal ideation and attempts**.

*\*The effects of PG on self-harm outcomes became weaker after accounting for **publication bias** (the tendency for journals to publish studies that support hypotheses rather than studies that fail to support hypotheses).*

This study found a positive effect of PG on suicide ideation and suicide attempt. There was some evidence that PG caused these outcomes, but (1) the cross-sectional nature and (2) potential for publication bias within existing research makes it difficult to say for sure.

**Providers should incorporate PG interventions into behavioral healthcare and should screen all clients with PG for suicidality.**

**Stakeholders should fund studies that investigate the relationship between PG and self-harm over a longer period of time and assess potential impacting factors (e.g., financial distress).**