

# The reciprocal effects of Pay-to-Win gaming and gambling

## - Results from a population survey

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### Research question and motivation

#### What is Pay-to-Win gaming?

Pay-to-Win gaming (P2W) describes a common type of video game design in which players can pay to advance in the game.

#### How could Pay-to-Win relate to gambling?

The frequency and value of payments in Pay-to-Win games is unlimited, and payments are linked to players' competitiveness or progress in the game, which can potentially facilitate problematic behavioral patterns, similar to those known from gambling.

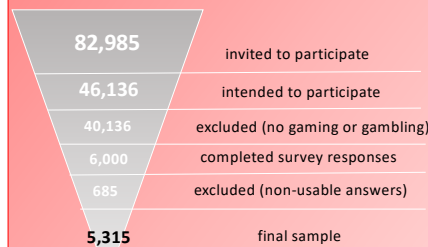
#### Research questions

- Motives:** What are gamers' motives for purchasing Pay-to-Win products, and which relevance has the desire to advance in the game?
- Demographics and socio-economics:** Who spends on Pay-to-Win games, how do these players differ from gamblers, and who engages in both Pay-to-Win and gambling?
- Pay-to-Win's relationship to gambling:** How does Pay-to-Win gaming affect gambling and vice versa in terms of participation, frequency, and problematic behavior?

### Sample

The present dataset was gathered as part of the **E-games study** (Electronic Gam(b)ling: Multinational Empirical Surveys)

The sample is representative of gender and age of the German adult internet population; sourced Jul-Oct 2018.



1,508 Pay-to-Win players  
124 Daily Pay-to-Win buyers  
1,384 Occasional Pay-to-Win buyers

700 Online Gamblers who also game Pay-to-Win  
4,492 Online Gamblers who do not play Pay-to-Win

### Methods

#### Descriptive statistics:

- defining Pay-to-Win player profiles
- differences to gamblers
- profiles of players of both forms

#### Multivariate statistics:

Crosswise analysis of the predictive power of Pay-to-Win gaming on gambling and vice versa (regression analyses)

- Predicting participation in Pay-to-Win and gambling
- Predicting the frequency of Pay-to-Win and gambling spending
- Predicting problematic Pay-to-Win gaming and gambling behavior

### Descriptive results

#### Motives for making payments in Pay-to-Win games:

"In the last twelve months, why have you made a payment [in Pay-to-Win games]?"	Multiple selection		Multiple selection				Single selection	
	Multiple selection	Single selection	P2W reasons only [1-3]	Mixed reasons [1-7]	Non-P2W reasons only [4-7]	P2W reasons only [1-3]	Mixed reasons [1-7]	
Respondents	1,798	1,508	775	733	290	775	733	
Answers	3,396	1,508	995	2,049	352	775	733	
Motivations								
[1] Increase chances	22.6%	32.0%	38.3%	18.9%	0.0%	40.0%	23.6%	
[2] Extend game time	21.8%	27.9%	35.3%	19.0%	0.0%	34.5%	20.9%	
[3] Reduce pauses	17.2%	21.6%	26.4%	15.7%	0.0%	25.5%	17.3%	
[4] Enhance enjoyment	23.3%	13.4%	0.0%	27.1%	67.0%	0.0%	27.6%	
[5] Aesthetics	9.0%	3.6%	0.0%	11.7%	18.8%	0.0%	7.5%	
[6] Community support	3.6%	0.9%	0.0%	5.1%	4.8%	0.0%	1.8%	
[7] Other	2.5%	0.7%	0.0%	2.5%	9.4%	0.0%	1.4%	

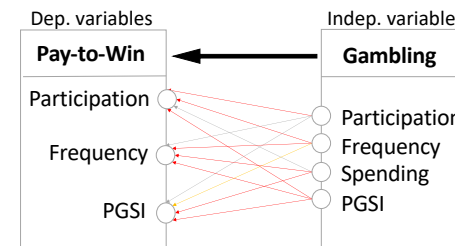
Among those respondents who made at least one payment in Pay-to-Win games during the last 12 months of the survey, "increasing the chances of advancing in the game" is the most important important motive.

#### Socio-demographic profile of Pay-to-Win players in Germany:

- aged 43 years
- female (51%)
- married (40%)
- employed (73.5%)
- educational level: apprenticeship (26.5%)
- nhh-income: 2k-3k EUR/month (22%)

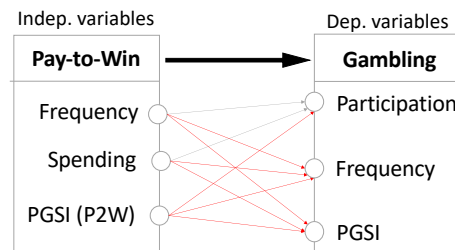
### Regression results

#### (1) Regressing gambling variables on Pay-to-Win



Participation in different forms of gambling does affect the probability of purchasing Pay-to-Win products. Similarly, the frequency of gambling specific types, e.g., lotteries, slots, poker and casino games, as well as a high PGSI-score [8+] predict participation, a high frequency of spending and high cumulative spending for Pay-to-Win products. A high PGSI for gambling as well as high frequencies of gambling are identified to be most influential for increased Pay-to-Win usage.

#### (2) Regressing Pay-to-Win variables on gambling



Contrary to a problematic Pay-to-Win-adjusted PGSI-score [8+], Pay-to-Win usage (frequency and cumulative spending) seems to have a limited effect on gambling participation. But when it comes to predicting the frequency of gambling and a problematic PGSI-score for gambling, the frequency, cumulative spending and PGSI (for Pay-to-Win) all reveal strong positive effects.

- Strong and significant effect
- moderate effect
- no effect

#### Differentiating by purchasing frequency:

Apart from the general Pay-to-Win player's profile, we divided Pay-to-Win players according to their purchase frequency: daily purchasers of Pay-to-Win products are significantly younger than occasional buyers, significantly more often male, significantly more often without any educational achievements and in lower income classes.

### Discussion

The analyses reveal that Pay-to-Win gaming yields considerable relations to specific forms of gambling and the role of over-involvement. Through our approach of differentiating Pay-to-Win as a form of gaming and specific forms of gambling, our results refine the literature on the similarities of gaming and gambling and lay foundational work for analyses focusing on Pay-to-Win specifically:

- The descriptive analyses reveal that Pay-to-Win players are a distinct socio-economic and demographic user group.
- Although almost half of the Pay-to-Win players also gamble, the mere participation in Pay-to-Win does not predict participation in gambling.
- Conversely, participation in specific forms of gambling, i.e. slots, poker and casino games, significantly increases the probability of Pay-to-Win gaming.

Our results show that the mere involvement in one game form is not a predictor for (over)involvement in the other. But when it comes to over-involvement, our findings show that for Pay-to-Win gaming and gambling, (over)involvement in one form certainly predicts (over)involvement in the other. For Pay-to-Win players and gamblers alike, developing problematic behaviors significantly increases the chances of developing these for the other game form.

Most importantly, we identify the frequency of payments in both Pay-to-Win games and gambling (lotteries, slots, poker and casino games) to be a strong predictor of high frequencies in the other game form. As such, the unlimited frequency of payments in Pay-to-Win games is identified to be an important link to gambling and thus bears risk for gamers.

### Conclusion

The relation of Pay-to-Win and gambling (and the harmfulness of Pay-to-Win gaming itself) is grounded on similar game-designs which facilitate the development of problematic spending behaviors.

The findings suggest that expanding the public and regulatory discussion from specific products, e.g. loot boxes, to the broader domain of Pay-to-Win gaming is needed. As the most vulnerable group, i.e. players participating in Pay-to-Win gaming and gambling, is considerably young, youth protection measures, i.e. age verification for payments, must also be considered.