The representation of gender in video games

By Heather Krencicki

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# Introduction

The data set I chose for this report is “Gender Representation in Video Games” the I found on Kaggle . I chose this data set because I love playing video games and I wanted to see how different genders are represented in about 60 different games. The data set is large but not too much so that I would not be able to manage it and it is relatively easy to find ways of doing statistical analysis with it.

# Chapter 1:

## Mean:

What is the mean of character genders?

The mean of characters being sexualized in video games is .

## Variance:

What is the variance of characters being sexualized in video games?

A screenshot of a computer

Description automatically generated

The variance of characters being sexualized in video games is .

## Standard Deviation:

What is the standard deviation of characters being sexualized in video games?

The standard deviation of characters being sexualized in video games is .

# Chapter 2:

## 2.6 Probability:(28)

There are 4 play able characters that are playable in two different games but only one doesn’t have a gender. The two characters are picked at random.

All possible events

Let f = female, m = male , c = no gender, and nb = nonbinary

S = {(f,m),(f,c)(f,nb),(m,c),(m,nb),( c,nb)}

Assigned reasonable probabilities

P = 1/6=0.1

Find the probability that the one with no gender is picked.

P = 3/6 = .5

## 2.7 Permutation:

Say you are playing bloodborn, and there are nine different origins to pick. how many different ways can you make them?

9nPr9=362880

## 2.9 Conditional Probability:

Consider two sets of events, A and B. Event A represents 6 games made by “Nintendo” and Event B represents 3 games made by “Activision”. P(A)=0.3, P(B) =0.1 and P(A∩B)=0.1. are the events independent?

P(A|B) = = 0.1/0.1 = 1

P(A|B) = P(A) is false because 1 does not equal 0.3

P(B|A) = = 0.1/0.3 = .

P(B|A) = P(B) is false because .1 does not equal 0.

𝑃(𝐴 ∩ 𝐵) = 𝑃(𝐴)𝑃(𝐵) = 0. 3 × 0. 1 = 0. 04

𝑃(𝐴 ∩ 𝐵) = 𝑃(𝐴)𝑃(𝐵) is false 0.1 does not equal 0.03

Not any one of the above hold true, therefore, events A and B are dependent.

## Additive law:

As in the question right before this one Consider two sets events, A and B. Event A represents 6 games made by “Nintendo” and Event B represents 3 games made by “Activision”. P(A)=0.3, P(B) =0.1 and P(A∩B)=0.1.

Find the probability that one of the games talked about everyone is made by either “Nintendo” or “Activision”

0.3+0.1-0.1=0.3

Find the proabaility that one is not made at either of those companies.

1-.3=.7

## 2.10 (124)

A set of fans of the games in my set rate the games from 1-10. In the data it gives the average rating given. For breath of the wild with 59%, for Cuphead at 41%. when asked the fans of both are at rate about 56% of people that like breath of the wild and 44% of Cuphead fans rate hades highly

A random fan is picked from them. Find the conditional probability that this fan is a fan of breath of the wild.

P(w) = .59 P(c)=.41, H = likes hades

P(H|w) = .56 P(H|c) = .44

Given: likes Hades find w

=

# Chapter 3:

## 3.2(5)

A gamer and a normie have children together. When each child is old enough they ask the child to match 5 game characters to their respective game. If the child is able to correctly assign all 5, find the probability distribution for Y, the number of correct assigned.

5 characters to match to a game = 5! = 120

P(0)= P(5) = 1/120 =.0083

P(1) = P(4) = 5/120 =.0417

P(2) = P(3) = 20/120 =.167

## 3.4(44)

“Nintendo”’s game team is successful with a probability of p. assume that game team programs 12 times and the results are independent of one another. What is the probability that exactly four are successful if p =.9?

p(success) = .9 q(fail)=1-.9=.1

n(times programing) = 12, y =12(successful)

p(y) = 12nCr12\*(

# Discussion

While working with this data was intriguing it was cool to see how using diverse types of statistical analysis can be applied to something that normally does not get an application on it in the general population most of the time game companies keep that stuff secret. As I was working through this I was trying to work through problems but as I cam later and later in the chapters the data became hard to pars through to be able to create questions for that type especially the later distributions and the chapter 4 and 5 contents so I was able to weave something together with the questions I did mange to get down.

# References

**Palomar, B. (2022, November 10). Gender representation in video games. Kaggle. https://www.kaggle.com/datasets/br33sa/gender-representation-in-video-games nt.**