

This is an analysis of Dead by Daylight's downloadable content to see if there is any one factor that makes specific content packs more popular than others. In doing this, I wish to to understand how the game has evolved over its 7-year lifespan, but also determine if there is a direction that the game should go in the future. I am doing this out of love for this game, considering the only people who have supposedly done this before are the game's developers, and their results are unknown.

```
In [1]: import pandas as pd
from matplotlib import pyplot as plt
import numpy as np
from scipy import stats
```

What is Dead by Daylight?

Dead by Daylight is an asymmetrical multiplayer game. In it, 4 Survivors are sent in to escape a randomly chosen map. In order to prevent this, one other player plays as a Killer that is tasked with tracking down and sacrificing the Survivors. Each character can equip up to 4 abilities called Perks to improve their chances at completing their objective.

Note: There are 4 DLC packs that will not be considered for this study. The Last Breath, Left Behind, and A Lullaby for the Dark are free content and Chucky, as of the collection of data, is not currently available. All data is from Steam, as it is the only reliable source for player feedback.

```
In [2]: ces = pd.read_csv(r'C:\Users\sonik\Downloads\Data_Collection_results.csv')
```

Notable Qualities:

License: Are these characters from outside sources (Non-licensed characters cannot be purchased with in-game currency)

Characters: Number of characters that come with each pack

Reception: Public opinion based on reviews. (Notable Comments are based on reviews)

HOW DID I COLLECT THE DATA?

When searching for specific games or DLC packs on Steam, the item in question will have a rating next to its name, indicating the amount to positive reviews out of total reviews, which is represented by the Reception column. I also read the reviews in order to get in-depth knowledge of why some players liked or did not like the DLC. Every other data point was acquired through previous knowledge.

Final note: Many DLCs listed technically involve new maps, but maps will not be considered for this analysis

```
In [3]: ces
```

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Out[3]:
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Release Order	Pack name	Licensed?	Characters	Killer	Survivor(s)	Reception (%)	Notable Comments (Positive)	Notable Comments (Negative)
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0	1	Halloween	Yes	2	Michael Myers (The Shape)	Laurie Strode	90	Unique music pays homage to source material we...	Killer is difficult and awkward use and r
1	2	Of Flesh and Mud	No	2	The Hag	Ace Visconti	79	Unique Killer playstyle. Cool looking Survivor...	Luck-based Survivor perk. Killer power ea
2	3	Spark of Madness	No	2	The Doctor	Feng Min	92	Fun Killer that is great for beginners. Great ...	Killer is interesting practice
3	4	Leatherface	Yes	1	Leatherface (The Cannibal)	NaN	84	Amazing perks, especially Barbeque and Chili. ...	No versatile Campy and unoriginal playstyl
4	5	A Nightmare on Elm Street	Yes	2	Freddy Krueger (The Nightmare)	Quentin Smith	64	Great Killer for beginners. Great for fans of ...	Survivor perk range from situational to b
5	6	Saw	Yes	2	The Pig	Detective David Tapp	78	Interesting Killer gameplay. Great for fans of...	Lack of unique music. Buggy and ruined by cor
6	7	Curtain Call	No	2	The Clown	Kate Denson	86	Great Killer perks. Good beginner Killer. Good...	Killer is poorly executed. E music. Worse v
7	8	Shattered Bloodline	No	2	The Spirit	Adam Francis	84	Decent to good Killer perks. Great Killer, esp...	Survivor perks better in concept than exe
8	9	Darkness Among Us	No	2	The Legion	Jeff Johansen	68	Great perks for Survivor. Music	Boring Ki mechan Mislead advertis
9	10	Demise of the Faithful	No	2	The Plague	Jane Romero	80	Fun Killer playstyle. Killer perks are great f...	Useless Survivor perks. Bor
10	11	Ash vs Evil Dead	Yes	1	NaN	Ash Williams	79	Voice acting by Bruce Campbell.	Loud, making t the only Survivor with a d

								Perks have pot...	
11	12	Ghost Face	Yes	1	Ghost Face	NaN	86	Fun mechanics and great equipment	Annoying to fa Bad perks with t exceptio
12	13	Stranger Things	Yes	3	Demogorgon	Steve Harrington & Nancy Wheeler	93	Killer is tricky, but rewarding. Loved by fans...	Survivor perks situational to w
13	14	Cursed Legacy	No	2	The Oni	Yui Kimura	80	Visually impressive characters. Killer is fun ...	Clunky a confusing Ki gamep
14	15	Chains of Hate	No	2	The Deathslinger	Zarina Kassir	74	Fun ranged Killer playstyle that discourages t...	Killer perks situational at b
15	16	Silent Hill	Yes	2	Pyramid Head (The Executioner)	Cheryl Mason	88	Interesting Killer. Konami Code easter egg. Gr...	Boring Ki gamep
16	17	Descend Beyond	No	2	The Blight	Felix Richter	78	Fun Killer gameplay. Perks are decent at worst...	Buggy collis
17	18	A Binding of Kin	No	2	The Twins	Elodie Rakoto	48	Unique Killer playstyle. Fun Survivor perks	Buggy. Perks situational at b
18	19	All-Kill	No	2	The Trickster	Yun-Jin Lee	61	Killer visually stands out in the best way. In...	Killer is outclass by free conte boring
19	20	Resident Evil	Yes	3	Nemesis	Jill Valentine & Leon S. Kennedy	82	Fun Killer gameplay. Great perks. Highly recom...	Zomb
20	21	Hellraiser	Yes	1	Pinhead (The Cenobite)	NaN	40	Interesting mechanics. Voice acting does not d...	Inconveni perks. Bor gameplay. Vo li
21	22	Hour of the	No	1	NaN	Mikaela	69	Good lore.	Horri

		Witch				Reid		Good perks, particularly Circle of ...	unbalanced. Overpriced. Pe encour
22	23	Portrait of a Murder	No	2	The Artist	Jonah Vasquez	80	Killer design and perks are amazing. Great lore.	Perks for Survivor are mediocre best. Kill
23	24	Sadako Rising	Yes	2	Sadako (The Onryo)	Yoichi Asakawa	75	Great Killer perks. Interesting lore. Amazing ...	Bad Survivor perks and sl Underwhelming k
24	25	Roots of Dread	No	2	The Dredge	Haddie Kaur	86	Fun Killer playstyle. Killer has an interestin...	Forgettable perks. Killer is unreliable
25	26	Resident Evil: PROJECT W	Yes	3	Albert Wesker (The Mastermind)	Ada Wong & Rebecca Chambers	84	Voice acting. Good Killer gameplay. Great perks	Bug
26	27	Forged in Fog	No	2	The Knight	Vittorio Toscano	42	Good perks. Fun and versatile Killer. Great co...	Killer overpowered & cam Unbalanced c
27	28	Tools of Torment	No	3	The Skull Merchant	Thalita Lyra & Renato Lyra	35	Fun Killer gameplay. Good Survivor perks	Killer unbalanced & boring. No gc pe
28	29	End Transmission	No	2	The Singularity	Gabriel Soma	58	Interesting lore. Consistently good Killer per...	Campy Killer gameplay. Boring and unbalanced
29	30	Nicholas Cage	Yes	1	NaN	Nicholas Cage	92	Voice acting. Fun perks	Overpriced 9.99 compared to 4.99 for othe
30	31	Alien	Yes	2	Xenomorph	Ellen Ripley	63	Interesting Killer playstyle. Great perks for ...	Too expensive 11.99 compared to 6.99 for p

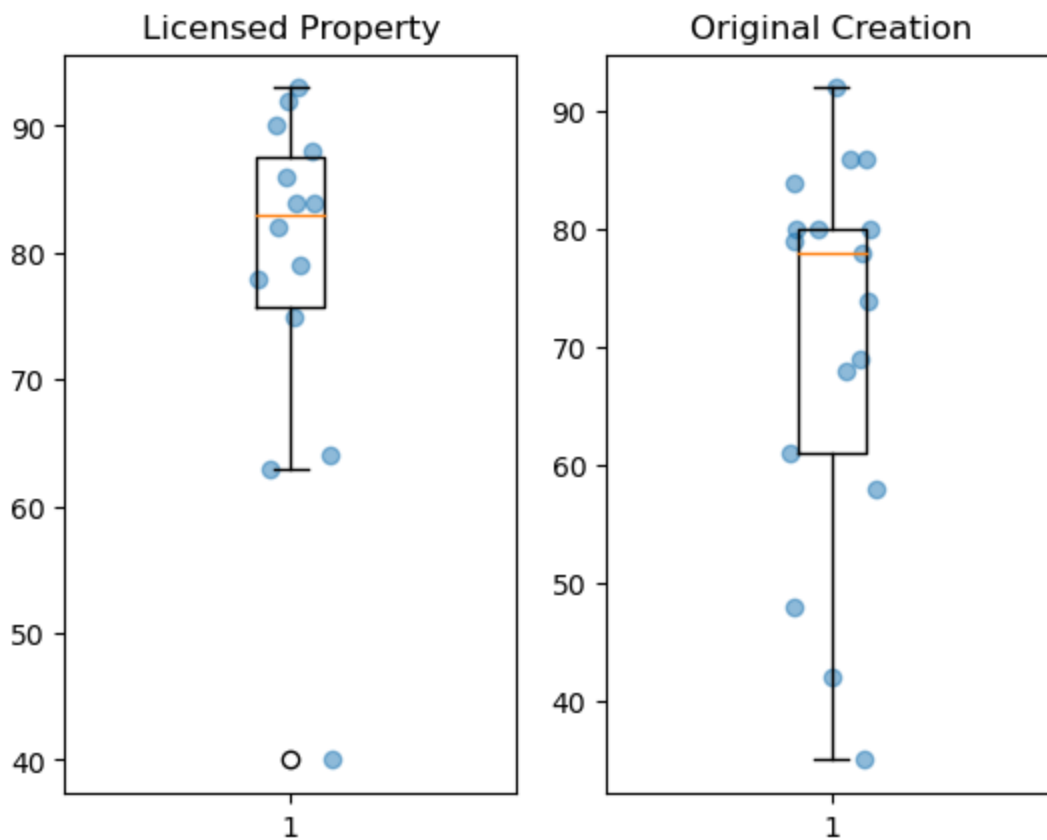
In order to analyze the data, I will be using a combination of boxplots and scatterplots based on the licensed and character criteria and a histogram for the reception. Once done, I will compare the averages in order to determine the effect each category has on the reception to the DLC.

ANALYSIS

Based on the reviews for each DLC chapter on Steam, there is no one aspect about any given chapter that makes a DLC pack more popular than others based on game design. However, there are some aspects that are consistently tied to positive feedback, such as the presence of music and voice acting, interesting lore

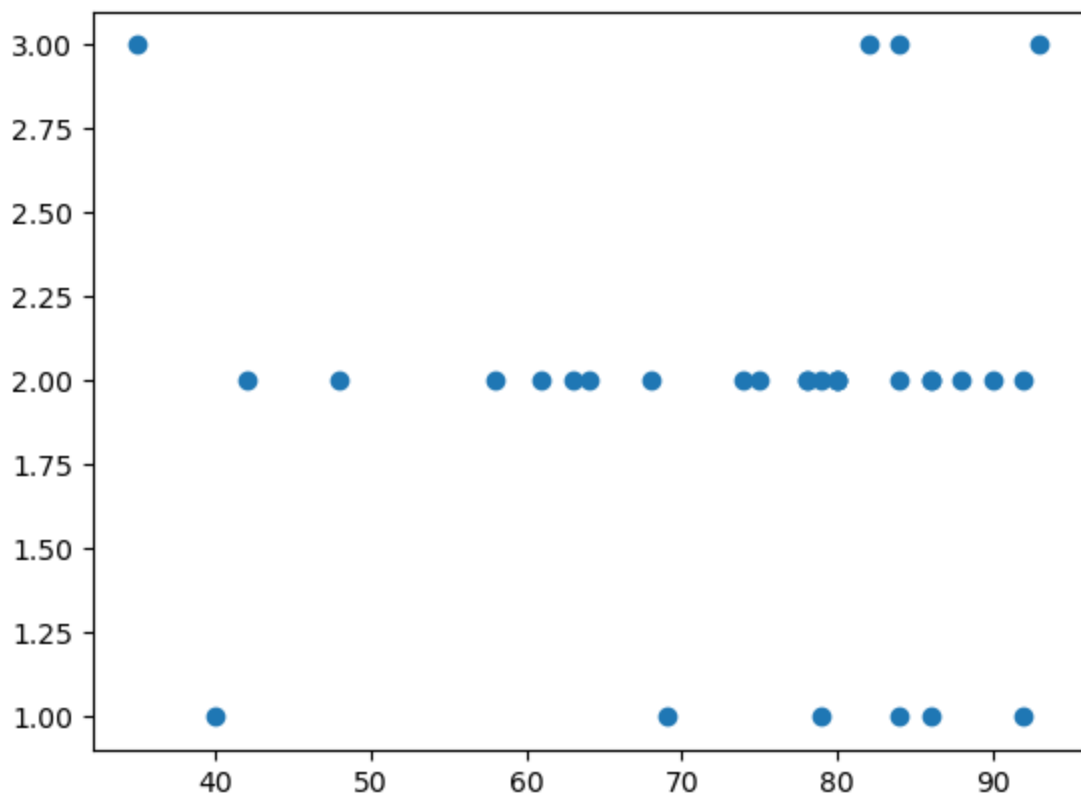
regarding the characters made for the game, and, in the case of licensed material, faithfulness to the source material

```
In [4]: fig1, ax1 = plt.subplots(1, 2)
yes = ces[ces['Licensed?'] == 'Yes']['Reception (%)']
no = ces[ces['Licensed?'] == 'No']['Reception (%)']
license = [1] * len(yes)
origin = [1] * len(no)
y_x_jitter = np.random.uniform(-.1, .1, len(license))
n_x_jitter = np.random.uniform(-.1, .1, len(origin))
ax1[0].boxplot(yes)
ax1[1].boxplot(no)
ax1[0].scatter(license + y_x_jitter, yes, alpha = .5)
ax1[1].scatter(origin + n_x_jitter, no, alpha = .5)
ax1[0].set_title('Licensed Property')
ax1[1].set_title('Original Creation')
plt.show()
```



According to the above plots, licensed DLC are generally considered better on average than non-licensed DLC, but non-licensed has a higher average of quality. Both datasets are notably dragged down by Hellraiser and Tools of Torment being extremely poor in reception.

```
In [5]: fig2, ax2 = plt.subplots()
ax2.scatter(x = ces['Reception (%)'], y = ces['Characters'])
plt.show()
```



The scatterplot above shows that the amount of characters has no effect on how well a DLC pack is recieved.

```
In [6]: dlc = pd.read_csv(r'C:\Users\sonik\Downloads\popularity.csv')
```

```
In [7]: dlc
```

```
Out[7]:
```

	Ranking	Pack name	Reception (%)
0	1	Stranger Things*	93
1	2	Spark of Madness	92
2	3	Nicolas Cage*	92
3	4	Halloween*	90
4	5	Silent Hill*	88
5	6	Curtain Call	86
6	7	Ghost Face*	86
7	8	Roots of Dread	86
8	9	Leatherface*	84
9	10	Shattered Bloodline	84
10	11	Resident Evil: PROJECT W*	84
11	12	Resident Evil*	82
12	13	Demise of the Faithful	80
13	14	Cursed Legacy	80
14	15	Portrait of a Murder	80
15	16	Of Flesh and Mud	79
16	17	Ash vs Evil Dead*	79

17	18	Saw*	78
18	19	Descend Beyond	78
19	20	Sadako Rising*	75
20	21	Chains of Hate	74
21	22	Hour of the Witch	69
22	23	Darkness Among Us	68
23	24	A Nightmare on Elm Street*	64
24	25	Alien*	63
25	26	All-Kill	61
26	27	End Transmission	58
27	28	A Binding of Kin	48
28	29	Forged in Fog	42
29	30	Hellraiser*	40
30	31	Tools of Torment	35

Asterisks indicate licensed properties

Based on this chart, 7 of the top 10 DLC packs were licensed packs, meaning that licensed properties generally sell DLC packs better than original concepts.

OBSERVATIONS

- Licensed packs are usually recommended for fans of the source material, with the exceptions of Hellraiser and Ghost Face.
- Art direction can usually sway opinions, as shown by Portrait of a Murder and Cursed Legacy's rankings
- Killers generally impact opinions more than Survivors, with the exceptions of Darkness Among Us and, to a lesser extent, the original Resident Evil pack
- Lore can boost opinion slightly, but it needs other factors to sell the pack

CONCLUSION

The limitation on this study is that online stores do not provide ample consumer feedback to analyze. Steps that could be taken to improve the research done is to reference data sets outside of online stores, as there are outlets such as YouTube videos analyzing the game that I did not consider using in the analysis. For the game's future, the developers should focus on licensed horror characters such as Candyman or IT in order to bring in fans of their respective properties. The developers should also focus on ironing out any bugs since buggy Killers are a common complaint with other DLC packs that have not been addressed by the developers in most cases. Adding audio elements to more characters will also work wonders for any pack that gets unique music or voice acting. Finally, as shown by the Oni and the Artist, great art direction and interesting character concepts can also push a DLC pack in good directions. For future releases, I believe that the development team could go multiple ways depending on if the upcoming chapters are licensed or not.

If the chapters are licensed, I feel like Candyman or the Predator would be excellent additions. If they choose to make more original Killers, then a pirate or a witch doctor could be interesting.