

EXPLORATORY DATA ANALYSIS:

# Identify Oscar Best Picture Winners based on its nominations in other craft categories

Target Audience:

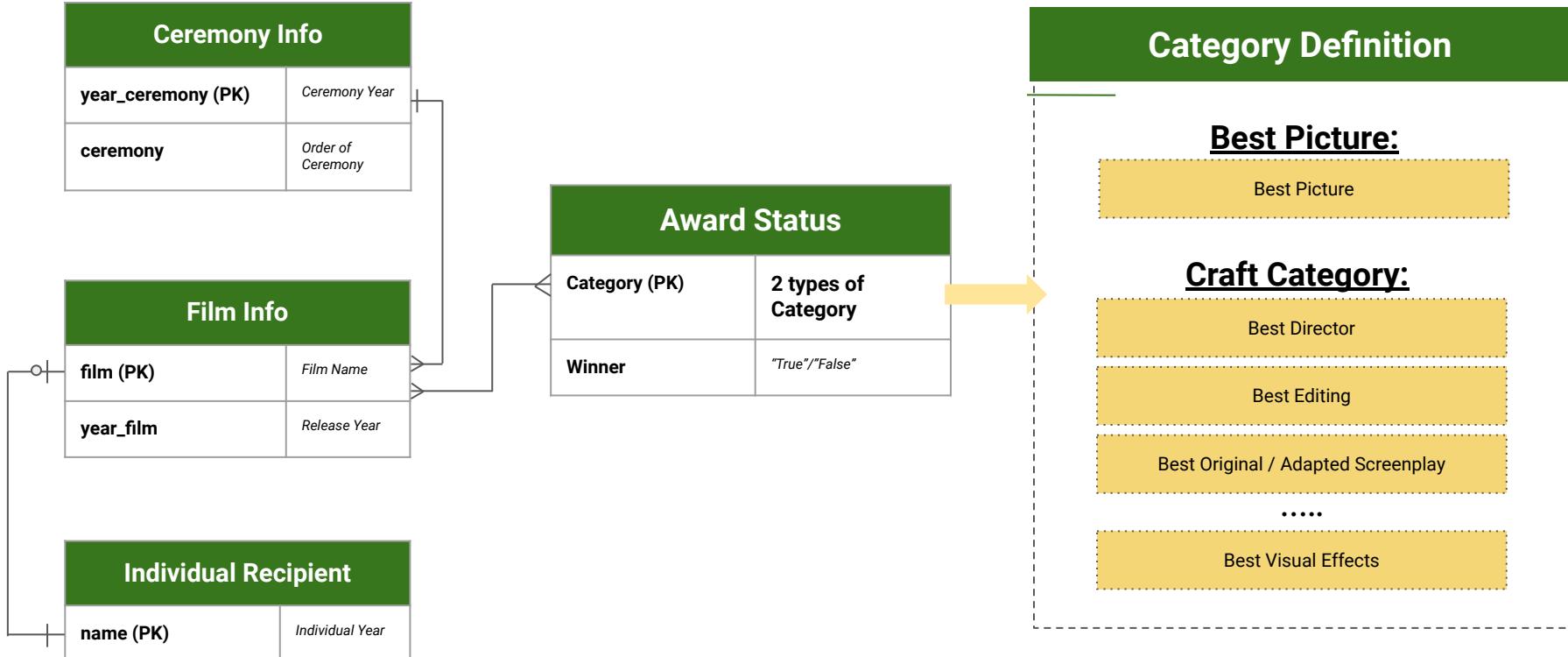
Oscar & Movie Lovers, who wants to learn more about the importance of various film-making crafts & take part in Oscar gambling.

#0:

# **Dataset Introduction & Project Outline**

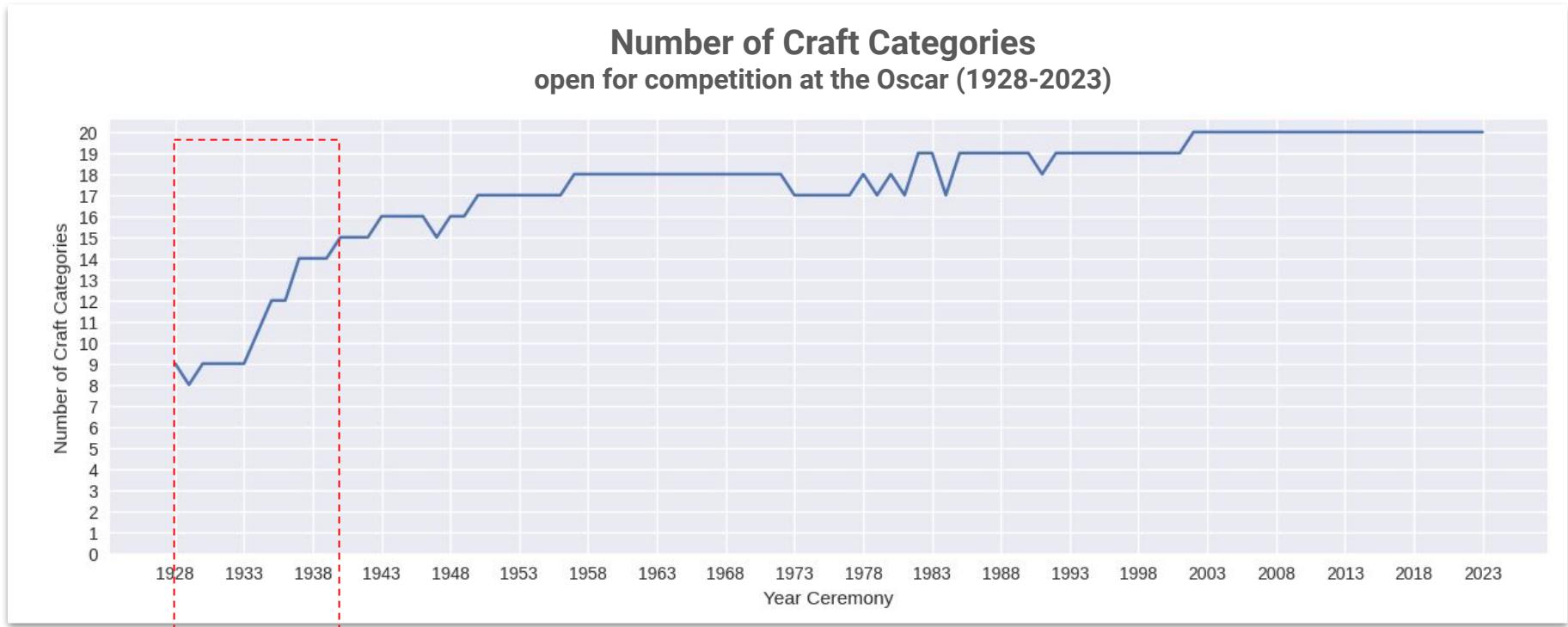
## Starting Dataset

Oscar Award Dataset of Every Films/ Individuals - recognized by Oscar



## Time-frame Consideration

Remove data pre-1940, due to insufficient competition environment.

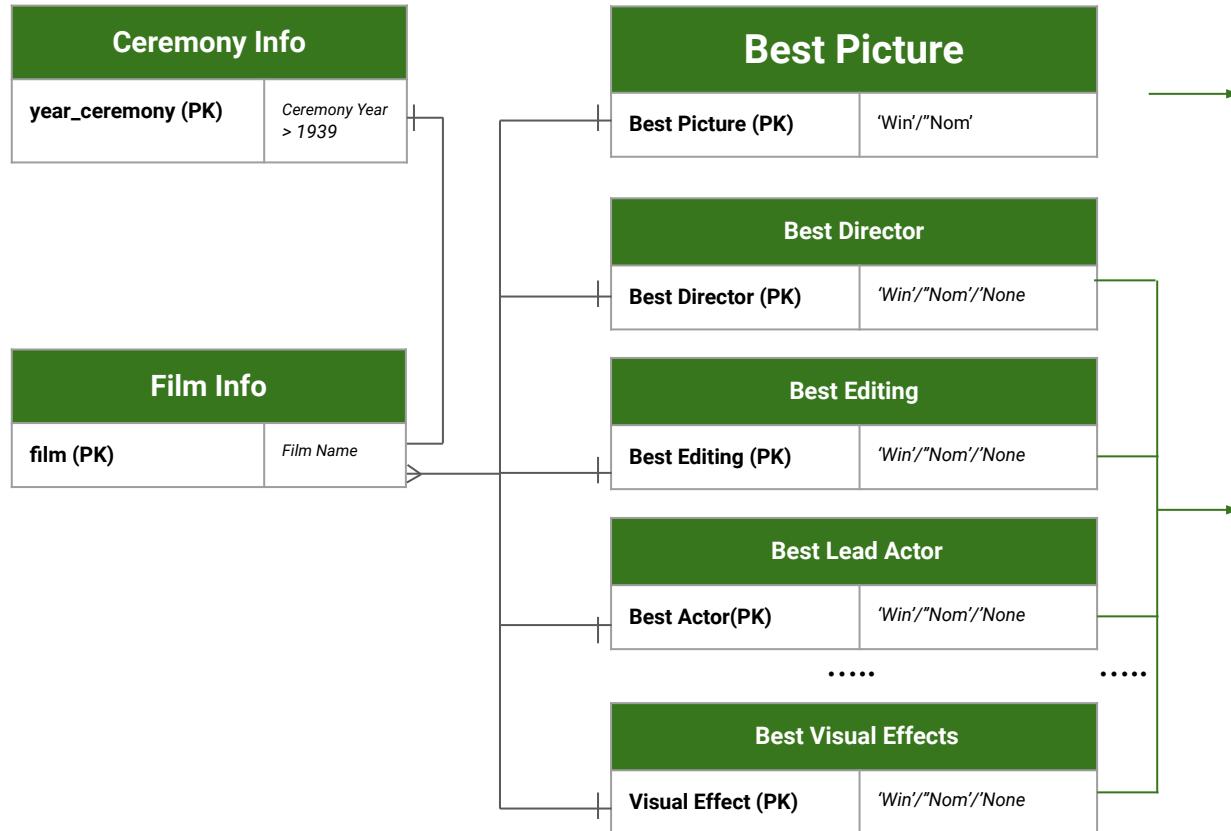


### **Outlier Period (1928-1940)**

when Oscar is still in early setup stage with too few Categories for Competition (<15) compare to later years (15~20)

## Starting Dataset

All Best Picture Contenders from 1940 - 2023



**Best Picture assume 2 values:**

- 'Win' = win
- 'Nom' = nominated only

With that, there've been:  
**501 Best Picture Contenders**

- 84 are Winners
- 417 are Nominees only

**Each Craft Category  
assume 3 values:**

- 'Win' = win
- 'Nom' = nominated only
- None = does not get nominated

# **Project Outline:**



## **3 Big Questions:**

1. How many Craft Categories  
an eventual Best Picture Winner should have nominations in?
2. Which Top Craft Categories  
an eventual Best Picture Winner should have nominations in?
3. How each Top Craft Category Nomination  
increase probability to winning the top prize for current Best Picture Nominees?

## **Targeted Conclusion:**

1. Top Craft Category Nomination Package  
of a Best Picture Winner
2. Identify & Rank Best Picture Contenders of Oscar 2024  
based on their current nomination in the craft categories.

#1

## ***How many Craft Categories***

*an eventual Best Picture Winner should have nominations in?*

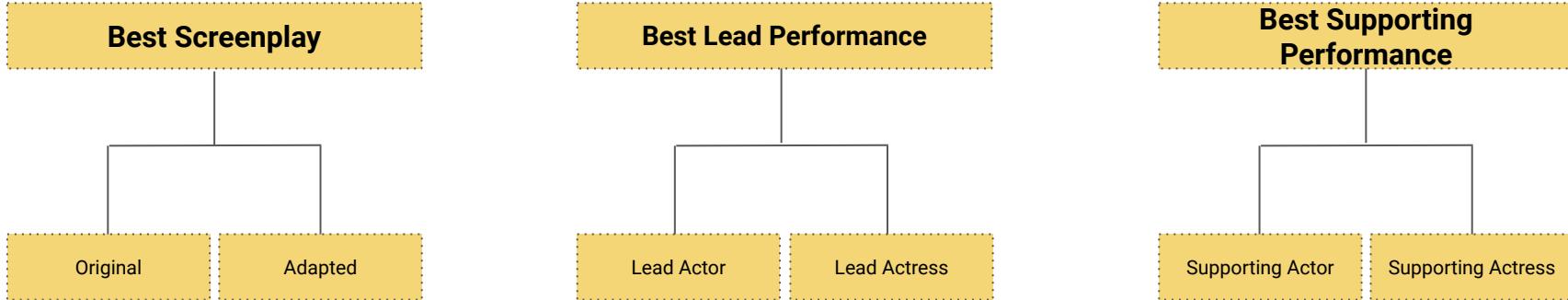
## ***Which Craft Categories***

*an eventual Best Picture Winner usually get nomination at?*

## ! Data Standardization:

Merging Categories (or “subcategories” as referenced onwards)  
with relatively similar importance to the craft of film-making

### Subcategories Merging



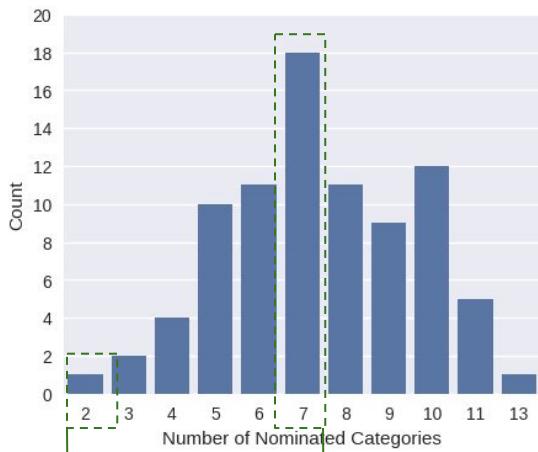
Eg:

A Best Picture Winner that gets nominated or win for BOTH sub-categories in “Supporting Performance”: Supporting Actor & Supporting Actress, would be merged & considered as having 01 NOMINATION or 01 WIN WIN in Supporting Category.

**Best Picture Winner usually gets nominated in ~7 Craft Categories**  
with fluctuation around the year.

### How many Nominated Craft Categories a Best Picture Winner usually get

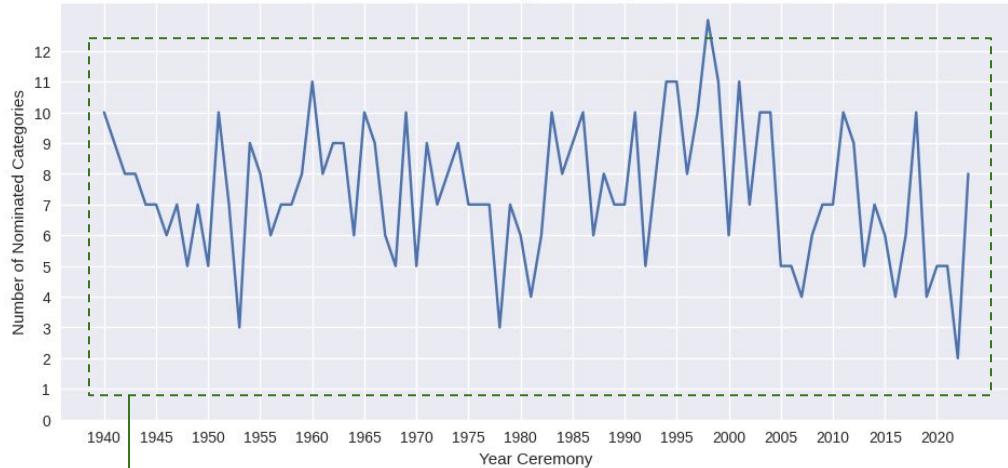
By All-time



**Minimally 2  
Nominated Categories**

**7 Nominated Categories**  
is the most popular range

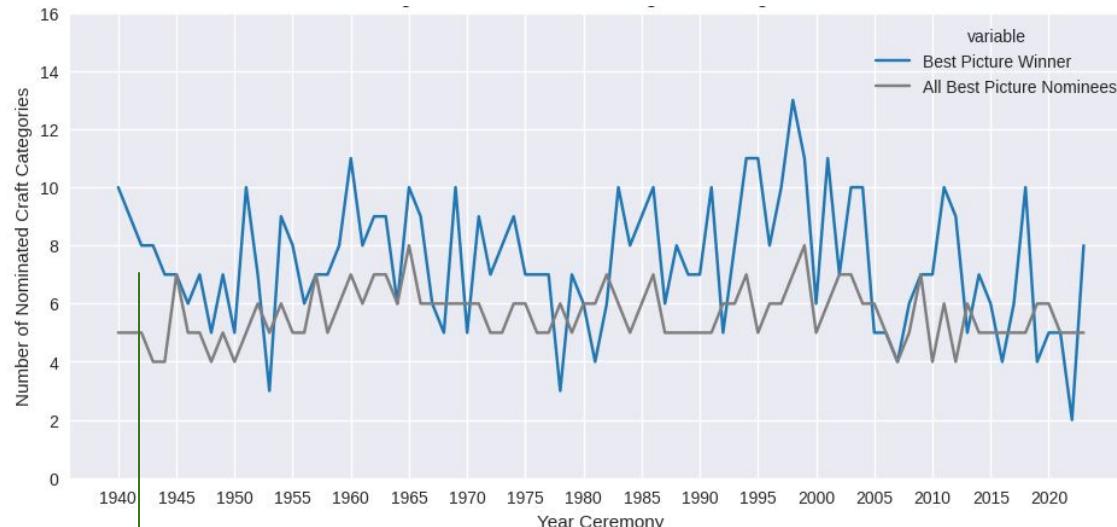
By Year Ceremony



**Number of Nominated Categories fluctuate throughout the year  
across all Best Picture Winners**

**It also tends to be among the crop of Best Picture Contenders with high number of nominations in its year of competing**

### Comparing to all Best Picture Nominees in same year of competition.



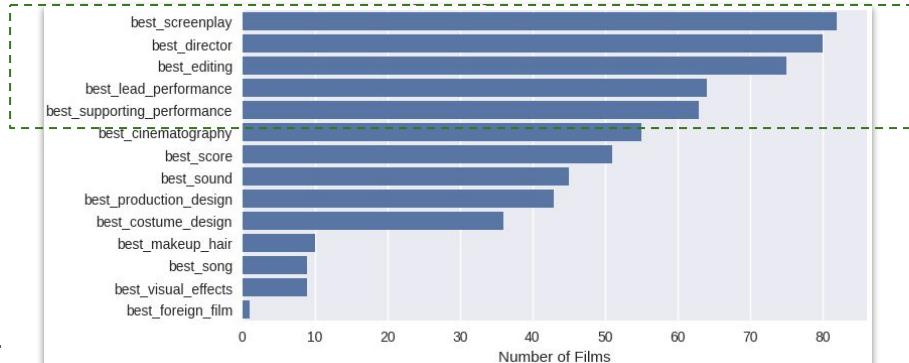
**Consistently higher number of Nominated Categories**  
than the average of all Best Picture Nominees

# There's a consistent Top 5 Most-frequently nominated Craft Categories among all Best Picture Winners

## What Craft Categories

have the most number of Best Picture Winners get nominated in?

By  
All-time



By  
Decade

category	1940s	1950s	1960s	1970s	1980s	1990s	2000s	2010s	2020s
best_screenplay	10.000000	9.000000	9.000000	10.000000	10.000000	10.000000	10.000000	10.000000	4.000000
best_director	10.000000	10.000000	10.000000	10.000000	10.000000	9.000000	10.000000	8.000000	3.000000
best_editing	9.000000	9.000000	8.000000	8.000000	9.000000	10.000000	10.000000	9.000000	3.000000
best_lead_performance	9.000000	6.000000	9.000000	10.000000	7.000000	9.000000	5.000000	7.000000	2.000000
best_supporting_performance	9.000000	6.000000	9.000000	7.000000	6.000000	8.000000	7.000000	9.000000	2.000000
best_cinematography	7.000000	8.000000	8.000000	5.000000	7.000000	8.000000	5.000000	6.000000	1.000000
best_score	7.000000	7.000000	7.000000	5.000000	6.000000	7.000000	5.000000	6.000000	1.000000
best_sound	4.000000	2.000000	8.000000	6.000000	6.000000	9.000000	5.000000	5.000000	nan
best_production_design	4.000000	6.000000	8.000000	3.000000	6.000000	8.000000	3.000000	4.000000	1.000000
best_costume_design	1.000000	6.000000	6.000000	3.000000	5.000000	7.000000	3.000000	4.000000	1.000000
best_makeup_hair	nan	nan	nan	nan	2.000000	6.000000	2.000000	nan	nan
best_visual_effects	3.000000	nan	1.000000	1.000000	nan	2.000000	2.000000	nan	nan
best_song	1.000000	1.000000	nan	1.000000	nan	1.000000	4.000000	nan	1.000000
best_foreign_film	nan	1.000000							

The 5 Craft Categories recognized in nomination among Best Picture Winners

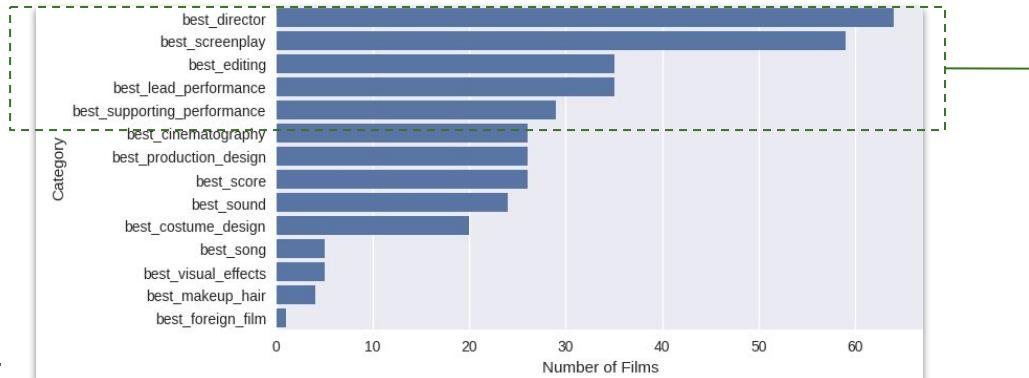
- Screenplay
- Director
- Editing
- Leading Performance
- Supporting Performance

This is also the Top 5 Craft Categories that Best Picture Winners frequently considered “best of the year” in.

## What Craft Categories

have the most number of Best Picture Winners win in?

By  
All-time



The 5 Craft Categories  
recognized in wins among Best  
Picture Winners

By  
Decade

category	1940s	1950s	1960s	1970s	1980s	1990s	2000s	2010s	2020s
best_director	8.000000	6.000000	9.000000	9.000000	9.000000	8.000000	7.000000	5.000000	3.000000
best_screenplay	6.000000	8.000000	4.000000	8.000000	9.000000	6.000000	7.000000	8.000000	3.000000
best_lead_performance	6.000000	4.000000	4.000000	5.000000	5.000000	4.000000	3.000000	2.000000	2.000000
best_editing	2.000000	5.000000	6.000000	5.000000	3.000000	6.000000	5.000000	2.000000	1.000000
best_supporting_performance	6.000000	4.000000	2.000000	2.000000	3.000000	3.000000	4.000000	3.000000	2.000000
best_cinematography	4.000000	6.000000	5.000000	nan	3.000000	5.000000	2.000000	1.000000	nan
best_production_design	3.000000	3.000000	6.000000	3.000000	4.000000	4.000000	2.000000	1.000000	nan
best_score	1.000000	4.000000	7.000000	2.000000	3.000000	5.000000	2.000000	2.000000	nan
best_sound	nan	2.000000	7.000000	2.000000	4.000000	4.000000	4.000000	1.000000	nan
best_costume_design	1.000000	3.000000	4.000000	1.000000	4.000000	3.000000	3.000000	1.000000	nan
best_song	1.000000	1.000000	nan	nan	nan	1.000000	2.000000	nan	nan
best_visual_effects	nan	nan	1.000000	nan	nan	2.000000	2.000000	nan	nan
best_makeup_hair	nan	nan	nan	nan	1.000000	2.000000	1.000000	nan	nan
best_foreign_film	nan	1.000000	nan						

**#2:**

## ***Deep-dive: How each Top Craft Categories***

*are represented across Best Picture Winners in terms of Nominations?*

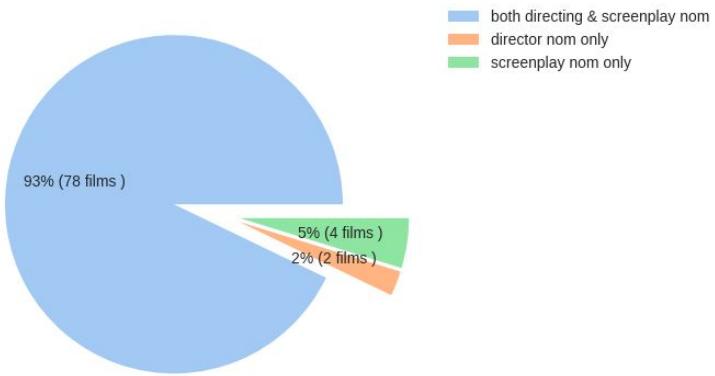
- *The Top 3: Directing/ Screenplay/ Editing*
- *The Acting Categories: Lead & Supporting Performance*

**#2.1:**  
***The Top 3:***  
***Directing + Screenplay + Editing***

# Rarely a Best Picture Winner misses a recognition in These Top 3 Craft

given how these top 3 Craft Categories represent the core aspect of film-making.

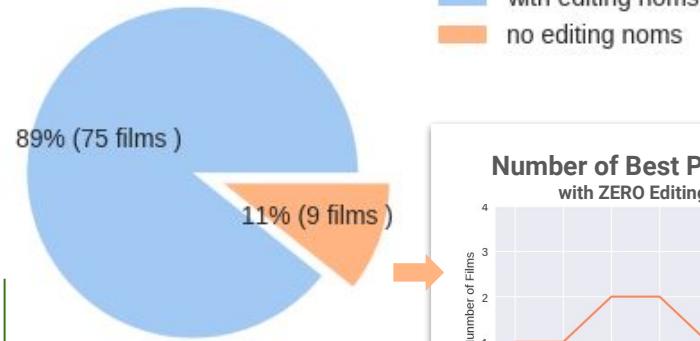
## Directing & Screenplay Nomination among All Best Picture Winners



**93%**  
Best Picture Winners  
have both Directing Screenplay nomination

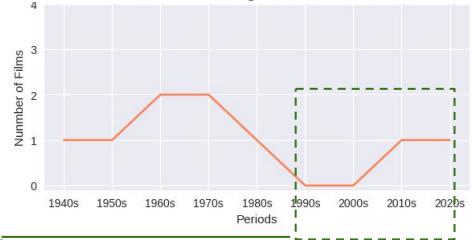
**No films**  
have neither Directing or Screenplay nomination

## Editing Nomination among All Best Picture Winners



**89%**  
all Best Picture Winners  
have an Editing Nomination

## Number of Best Picture Winners with ZERO Editing Nomination



**Only 2 Films since 1990s**  
have missed an Editing Nomination.  
  
Both are an extreme outlier:  
One is an one-take movie, the other has lowest  
number of Craft Nominations in Oscar history

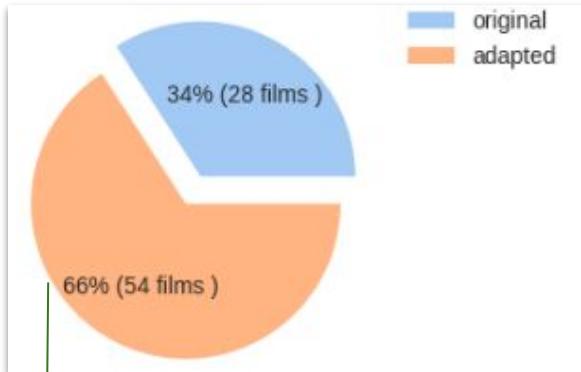
# In terms of Story, Best Pictures are often Remakes/ Adapted Sources

However, Original Story developed for exclusively for cinema is being increasingly celebrated in recent years.

## "Screenplay" Subcategory Breakdown

among Best Picture Winners with A Screenplay Nomination (n=97% all Best Picture Winners)

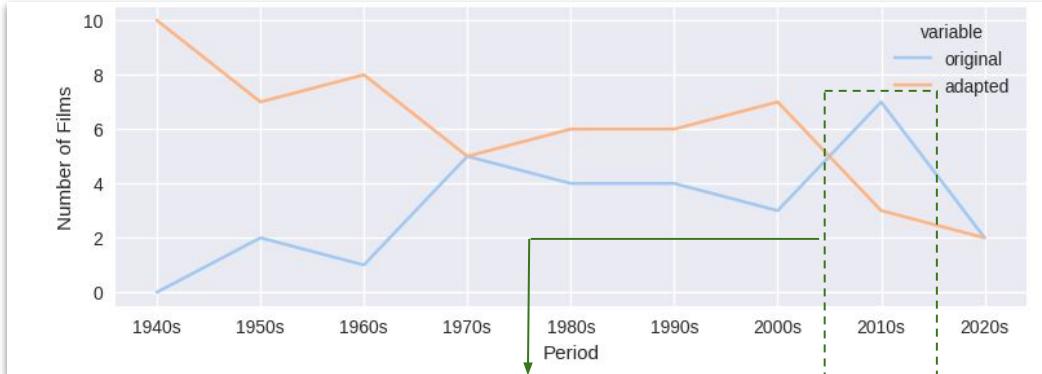
### By All-time



Historically, they are ADAPTATIONS



### By Decade



ORIGINAL Ideas & Stories are surpassing in 2010s



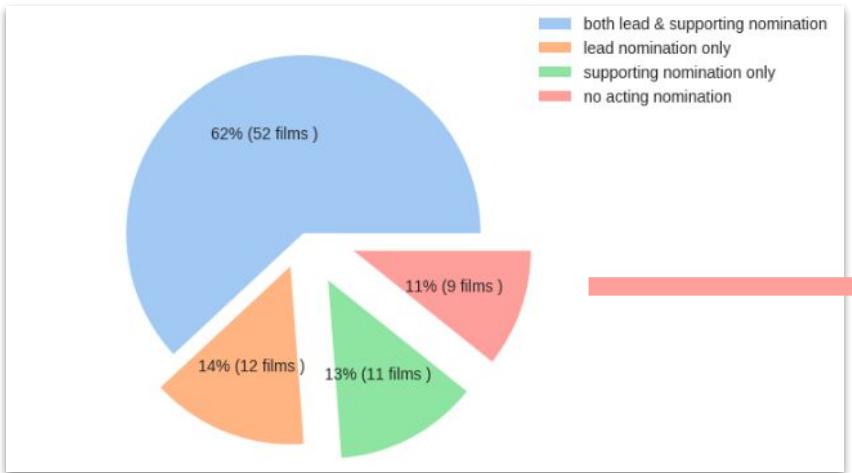
#2.2:

**The Acting Category:**  
***Lead & Supporting Performance***

# A Best Picture Winner rarely misses an Acting Nomination

whether for its lead OR supporting casts, reflecting how Acting is also a crucial film-making craft.

## Acting Nominations for All Best Picture Winners (n=84)



**89% Best Picture Winners**  
have minimally 1 Acting Nomination in

Fairly equal distribution  
between Lead & Supporting Subcategories



Only 3 Best Picture Winners  
have missed any Acting Nomination since 2000s,  
all are extremely unique cases!



Ensemble Cast are foreigners



Heavy CGI Film

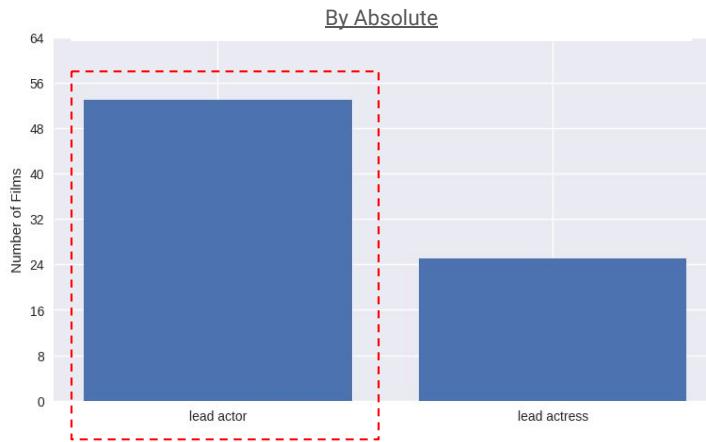
# However, there's a major Gender disparity within both Acting categories

alluding to Oscar/ Hollywood's issue of recognizing female characters/ female-driven movies as a Best Picture.

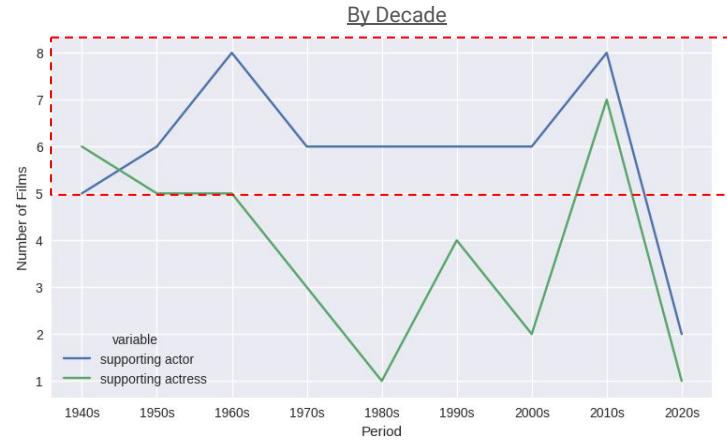
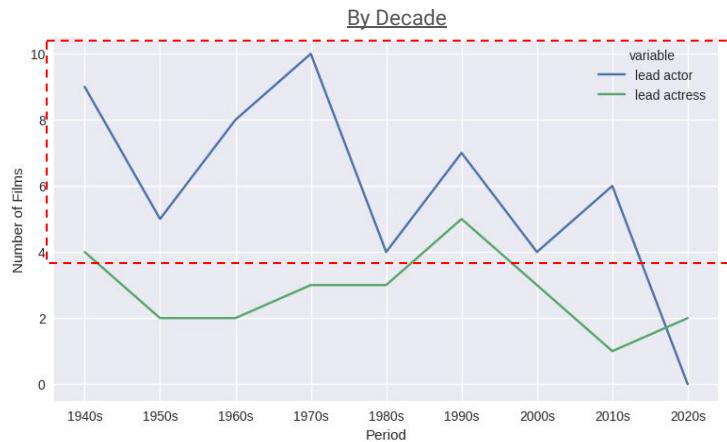
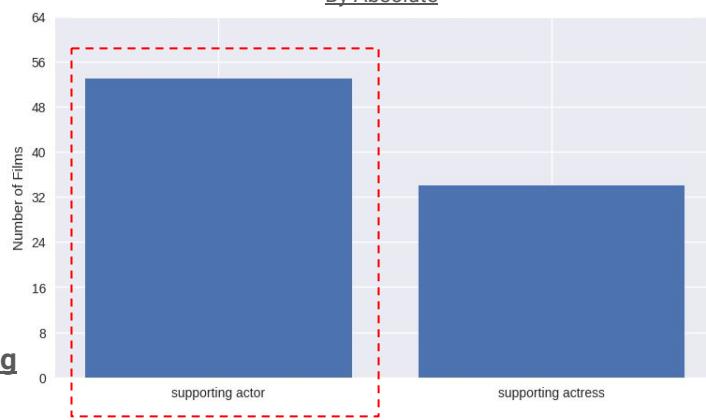
## Gender Subcategory Breakdown

among Best Picture Winners with an Acting nomination  
(n=87% all Best Picture Winners)

### Lead Category



### Supporting Category



#3:

## **How each Top Craft Categories**

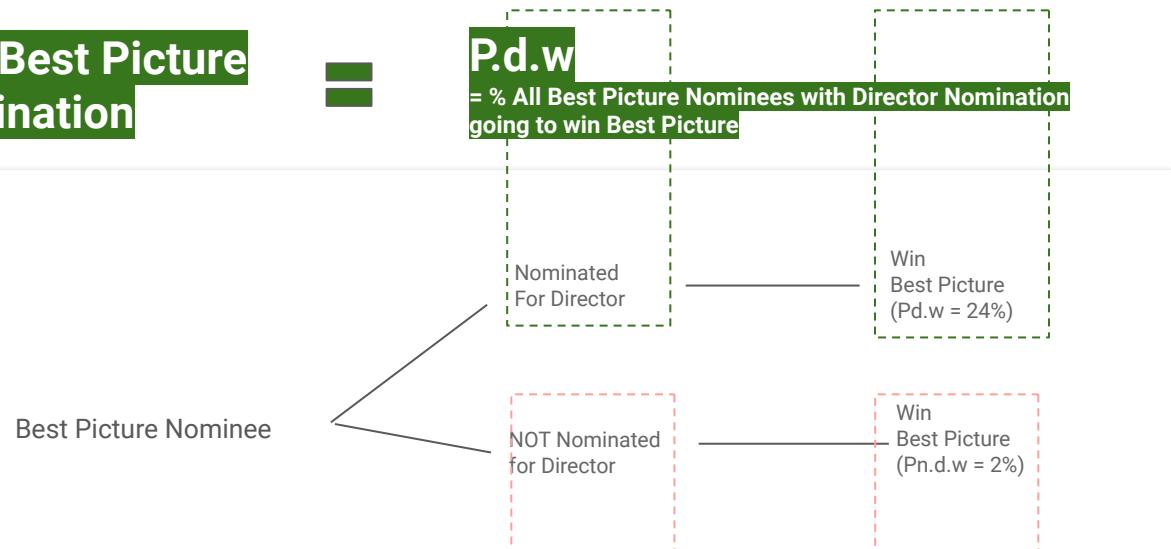
would impact a Best Picture Nominee chance at winning the Top Prize, via its Nomination?

# Approach to Conditional Probability Mapping :

using historical dataset of All Best Picture Nominees (1940-2023)

## 1. Probability to Win Best Picture with Director Nomination

Example  
with Director Category



## 2. Probability to Win Best Picture with No Director Nomination

P.n.d.w  
= % All Best Picture Nominees with Director Nomination going to win Best Picture

**A miss in Screenplay/ Directing/ Screenplay nomination significantly lowers a Best Picture Nominee's chance by 08~10 times at winning best picture.**

## % Probability to Win Best Picture

of a Best Picture Nominee, based on its nomination in Top Craft Categories

### 1. Screenplay (original or adapted)



### 2. Directing



### 3. Editing



### 4. Lead Acting (any gender)



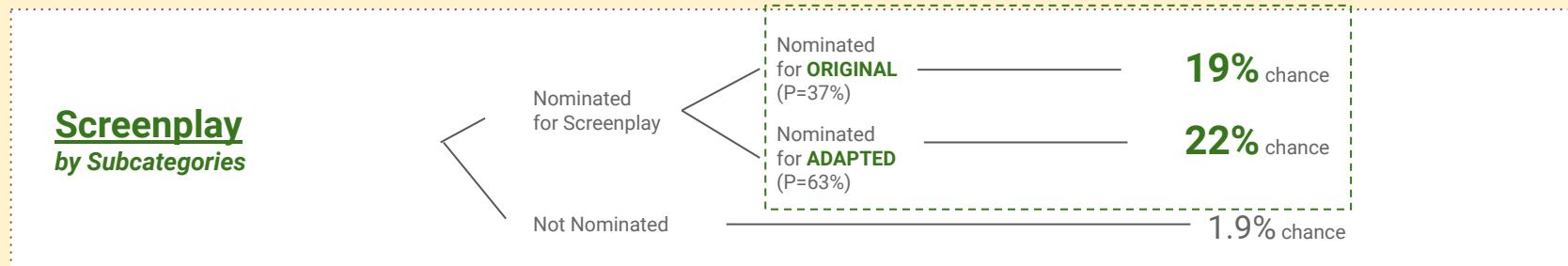
### 5. Supporting Acting (any gender)



**Among two Screenplay types, those being adaptations have slightly higher probability to win Best Picture than original stories.**

## % Probability to Win Best Picture

*of a Best Picture Nominee, based on its nomination in Screenplay Category*

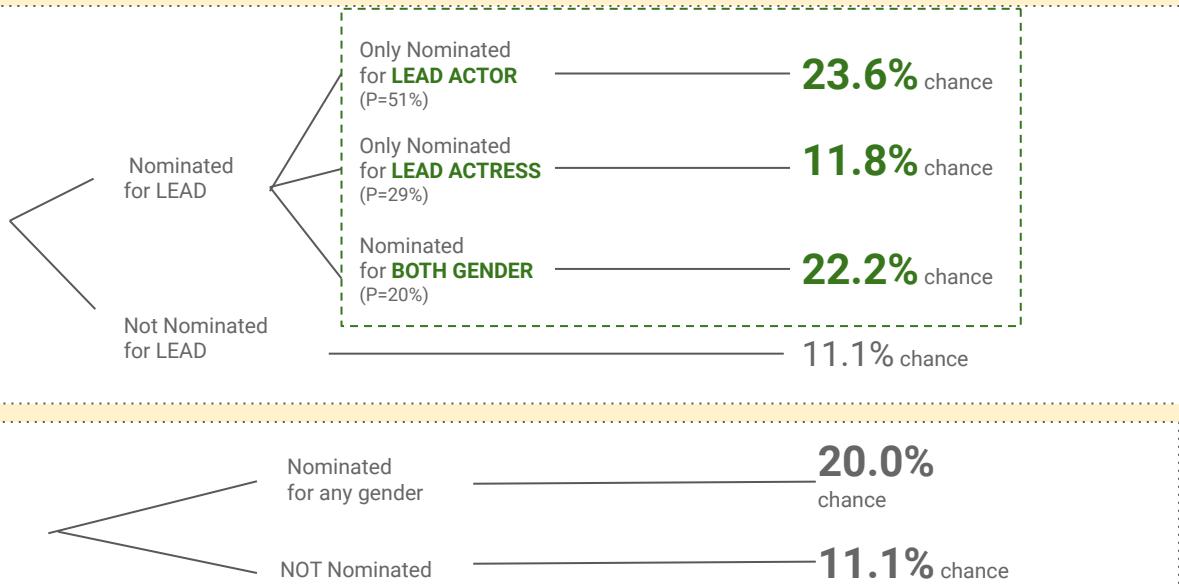


**Having Oscar recognition for the Male Lead brings ~2x higher probability to win Best Picture, than just the female lead ONLY.**

## % Probability to Win Best Picture

of a Best Picture Nominee, based on its nomination in Lead Category

### Lead Acting by Subcategories



### Lead Acting Summary

**Similar observation can also be said for the Supporting Category.**

## % Probability to Win Best Picture

of a Best Picture Nominee, based on its nomination in Supporting Performance Category

### Supporting Acting by Subcategories

Nominated  
for LEAD

Not Nominated  
for LEAD

Only Nominated  
for **SUPP ACTOR**  
(P=40%)

Only Nominated  
for **SUPP ACTRESS**  
(P=32%)

Nominated  
for **BOTH GENDER**  
(P=28%)

**24.8%** chance

**10.8%** chance

**29.3%** chance

10.0% chance

### Supporting Acting Summary

Nominated  
for any gender

NOT Nominated

**21.6%**  
chance

**10.0%** chance

**#4:**  
**Conclusion**

# What we learned:

through analyzing what film-making craft aspects are often nominated in the “Best Picture Winners”?

## Core Aspect of Cinema

The most frequently appreciated film-making crafts recognized among Best Picture at the Oscar have consistently also been **the core aspects of what makes “cinema”**: Screenplay / Director /Editing, followed by Acting

## Adaptation V.S Original Ideas

Historically, **remakes/ adaptations** from other media forms have been the norms among Best Picture Winners, given **how cinema is also the “youngest” arts platforms**.

However, in recent years, **Original Ideas** told specifically for the screen have been increasingly recognized, signaling positive change in cinema.

## Representation for Female POV

**Recognition for Female characters**, especially female leads, have consistently been under-presented compared to male counterparts within Best Picture Winners,

signaling a wider Industry issue of lack of appreciation for female characters in films OR how female stories are rarely a part of “Best Film” conversation at the Oscar.

# Top Nomination Package in the top craft categories\*

with highest probability to win Best Picture - calculated by multiplication of each craft category

\* subcategories are included

## Top 1 Package

(6% of all Best Picture Winners have this)

Best Director  
(P=24.2%)

Best Editing  
(P = 27.2%)

Best Adapted Screenplay  
(P = 21.6%)

Best Lead Actor  
(P=23.6%)

Best Supporting Actor & Actress  
(P=29.3%)

## Top 2 Package

(4% of all Best Picture Winners have this)

Best Director  
(P=24.2%)

Best Editing  
(P = 27.2%)

Best Original Screenplay  
(P = 19.3%)

Best Lead Actor  
(P=23.6%)

Best Supporting Actor & Actress  
(P=29.3%)

## Top 3 Package

(11% of all Best Picture Winners have this)

Best Director (P=16.0%)

Best Editing (P = 15.0%)

Best Adapted Screenplay  
(P = 21.6%)

Best Lead Actor  
(P=23.6%)

Best Supporting Actor Only  
(P=24.8%)

# **Ranking Best Picture Win Probability**

*of some 2024 Best Picture Nominees, based on its nomination in the Craft Category*

# The top 2, with Oppenheimer the most likely winner...



**Oppenheimer** (nominated in 11 craft categories)  
**0.098%** Probability of Winning Best Picture

Best Director  
(P=24.2%)

Best Adapted  
Screenplay  
(P=21.6%)

Best Editing  
(P=27.2%)

Best Lead Actor  
(P=23.6%)

Sup.Actor &  
Sup.Actress  
(P=29.3%)



**Poor Things** (nominated in 10 craft categories)  
**0.041%** Probability of Winning Best Picture

Best Director  
(P=24.2%)

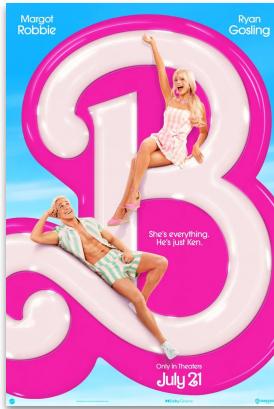
Best Adapted  
Screenplay  
(P=21.6%)

Best Editing  
(P=27.2%)

Best Lead  
Actress  
(P=11.8%)

Best Sup.Actor  
(P=24.8%)

# ... and the Bottom 2 least likely to win Best Picture



**Barbie** (nominated in 06 craft categories)  
**0.0007%** Probability of Winning Best Picture

No Best Director  
(P=2.4%)

Best Adapted  
Screenplay  
(P=21.6%)

No Best Editing  
(P=4.0%)

No Lead  
(P=11.1%)

Sup.Actor &  
Sup.Actress  
(P=29.3%)



**Past Lives**: (nominated in 01 craft category)  
**0.0002%** Probability of Winning Best Picture

No Best Director  
(P=2.4%)

Best Original  
Screenplay  
(P=19.3%)

No Best Editing  
(P=4.0%)

No Lead  
(P=11.1%)

No Supp  
(P=10.0%)