

Applied Data Science @ Columbia

Project 1: What made you happy today?

Project Description

- Project title: Childfree Life - What Brings Happiness to Married Couples Without Children in America?
- Author: Tien Nguyen - tn2510
- Project Summary: In contemporary America, the choice to lead a childfree life is increasingly prevalent. This project delves into the intricacies of happiness among married couples who have consciously opted out of parenthood. Through comprehensive research and interviews, several key inquiries were addressed to illuminate the facets of their contentment and fulfillment.

- Key Questions Explored:

1. What made married people without children happy?

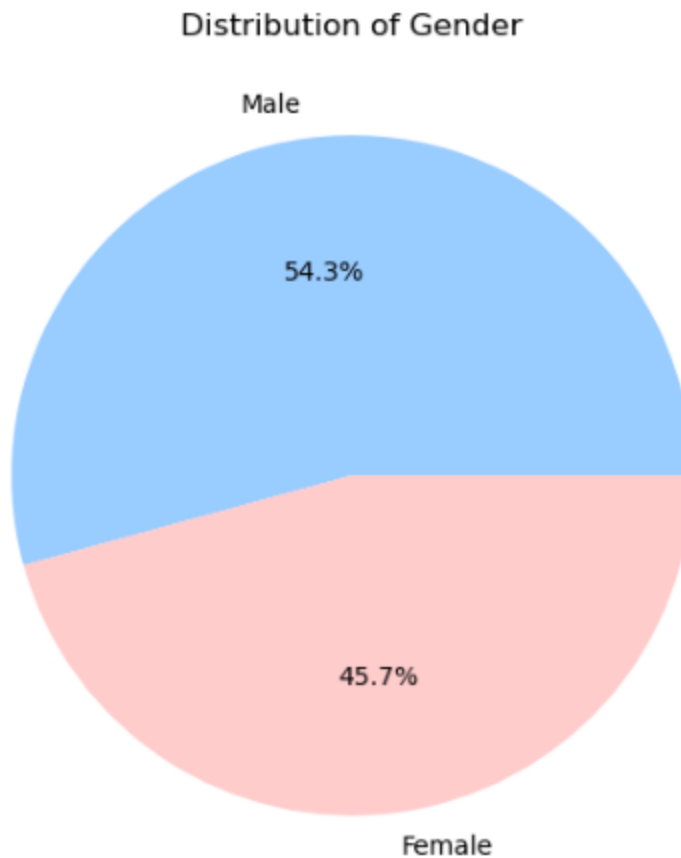
2. Do childless married couples ever desire to have children? Do they regret not having a child?

3. Within a family without children, how can husbands make their wives happy?

First look at the dataset

```
In [24]: from PIL import Image
import matplotlib.pyplot as plt
```

```
In [25]: image_path = '../figs/distribution_of_gender.png'
img = Image.open(image_path)
plt.figure(figsize=(8,6))
plt.imshow(img)
plt.axis('off')
plt.show()
```



The dataset exhibits a relatively balanced distribution between genders, with married men representing 54.3% and married women constituting 45.7%. This near-equal split suggests a fairly even representation of married individuals across genders within the dataset.

1. What made married people without children happy?

```
In [26]: img_path_female = '../figs/distribution_hap_cate_female.png'
img_path_male = '../figs/distribution_hap_cate_male.png'

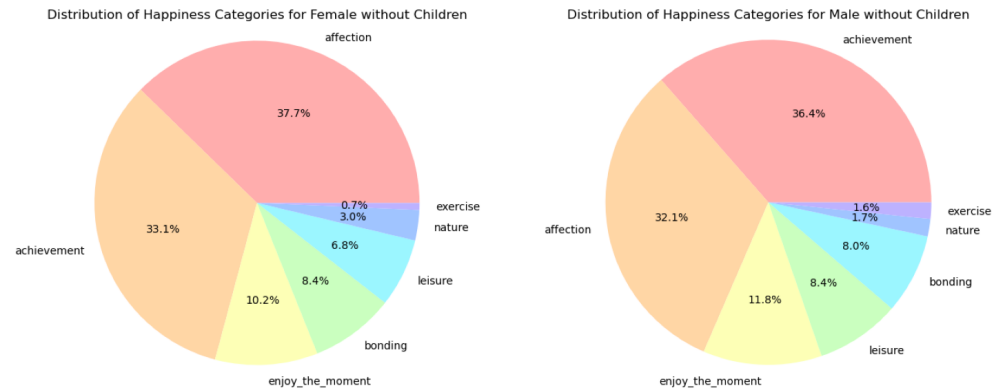
img_female = Image.open(img_path_female)
img_male = Image.open(img_path_male)

# Create a figure with two subplots side by side
fig, axes = plt.subplots(1, 2, figsize=(15, 6))

axes[0].imshow(img_female)
```

```
axes[0].axis('off')
axes[1].imshow(img_male)
axes[1].axis('off')

plt.tight_layout()
plt.show()
```



Based on the charts, we observe minimal disparity among the categories, and the order of categories appears consistent between childfree men and women in terms of what contributes to their happiness (these are happiness categories).

Affection and achievement are prominent in both charts. **However, among childfree married men, achievement appears to play a more significant role in contributing to their happiness, followed by affection. Conversely, for women, affection takes precedence over achievement in terms of its contribution to their overall happiness.** Specifically, affection constitutes 37.7% as opposed to men's 32.1%. For men, achievement is the most significant category at 36.4%, while for women, it is the second most significant at 33.1%.

The precedence of affection for women and achievement for men highlights a subtle gender difference in happiness drivers.

```
In [27]: img_path_wv = '../figs/word_frequence_mv_wo_children_bf.png'
img_path_wo = '../figs/word_frequence_mm_wo_children_bf.png'

img_female = Image.open(img_path_wv)
img_male = Image.open(img_path_wo)

# Create a figure with two subplots side by side
fig, axes = plt.subplots(1, 2, figsize=(15, 6))

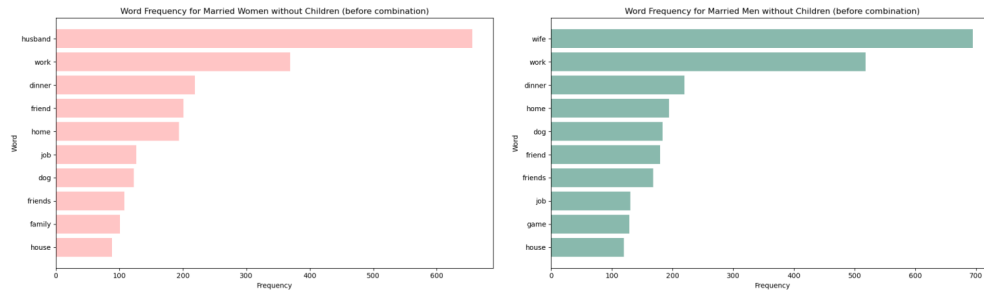
axes[0].imshow(img_female)
```

```

axes[0].axis('off')
axes[1].imshow(img_male)
axes[1].axis('off')

plt.tight_layout()
plt.show()

```



First look at the top 10 repeated words for couples without children, we can see that both parties emphasize relationships, be it with a spouse, friends, or family, as well as personal interests and activities like enjoying meals and spending time at home. The presence of words related to work in both charts suggests that professional fulfillment is also a source of happiness for childless married individuals.

In the chart for married men without children, the most frequent word is "wife," suggesting that the spouse is a central element of their happiness. "Work" also has a high frequency, indicating that their career or job is a significant part of their life. Other words like "dinner," "home," and "dog" suggest that simple pleasures, domestic life, and pets also play a role in their sense of contentment.

The chart for married women without children shows "husband" as the most frequent word, mirroring the men's chart where the spouse is also of high importance. "Work" is similarly significant, emphasizing career as a substantial factor in their happiness. "Dinner" and "friend" are also common words, pointing to social interactions and meals as sources of enjoyment. Additionally, "family" appears in their chart, which could indicate that connections with extended family are also valued.

However, in these two charts, we can see that there are terms with overlapping meanings. Hence, words like "job" and "work," "friend" and "friends" have been consolidated to more accurately reflect the frequency of these concepts.

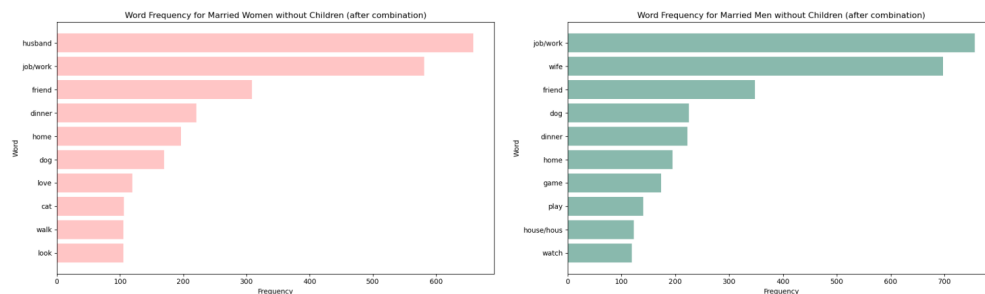
```
In [28]: img_path_ww = '../figs/word_frequency_mw_wo_children_af.png'
img_path_wo = '../figs/word_frequency_mm_wo_children_af.png'

img_female = Image.open(img_path_ww)
img_male = Image.open(img_path_wo)

# Create a figure with two subplots side by side
fig, axes = plt.subplots(1, 2, figsize=(15, 6))

axes[0].imshow(img_female)
axes[0].axis('off')
axes[1].imshow(img_male)
axes[1].axis('off')

plt.tight_layout()
plt.show()
```



The updated bar charts represent the word frequency for married men and women without children after combining similar terms, like "job" with "work" and "friend" with "friends." This consolidation provides a clearer picture of the priorities and interests within the responses of these groups.

For **married men without children**, we observe that "job/work" has become the most frequently mentioned term, surpassing "wife," which was the most frequent term before the combination. This shift highlights the central role that career and professional life play in the lives of these married men without children. It suggests that their identity or sense of fulfillment is strongly tied to their professional achievements or occupational roles.

In contrast, **for married women without children**, "husband" remains the most frequent term even after similar terms are combined, suggesting that the spousal relationship is still central to their discussions or thoughts related to happiness. "Job/work" also holds significant

importance, indicating that career is an important aspect of their lives, but it doesn't surpass the emphasis on the spouse.

The interesting observation here is the difference in the placement of "wife" and "husband" between the two groups. While both men and women without children value their spouse and their jobs, the data suggests that married men without children may place a slightly greater emphasis on their professional life, while married women seem to place their relationship with their spouse at the top.

Other words that appear in the top frequencies, like "friend(s)," "dinner," "home," "dog," and "game" for men, and "friend(s)," "dinner," "home," "dog," "love," "cat," and "walk" for women, show that social relationships, domestic life, and pets are common sources of happiness for both genders. These terms paint a picture of people finding joy in their everyday experiences and relationships, with or without children.

2. Do childless married couples ever desire to have children? Do they regret not having a child?

```
In [29]: img_path_ww = '../figs/word_cloud_married_women_w_children.png'
img_path_wo = '../figs/word_cloud_married_women_wo_children.png'

img_female_parent = Image.open(img_path_ww)
img_childless_wife = Image.open(img_path_wo)

# Create a figure with two subplots side by side
fig, axes = plt.subplots(1, 2, figsize=(15, 6))

axes[0].imshow(img_female_parent)
axes[0].axis('off')
axes[1].imshow(img_childless_wife)
axes[1].axis('off')

plt.tight_layout()
plt.show()

img_path_mw = '../figs/word_cloud_married_men_w_children.png'
img_path_mwo = '../figs/word_cloud_married_men_wo_children.png'

img_male_parent = Image.open(img_path_mw)
img_childless_husband = Image.open(img_path_mwo)

# Create a figure with two subplots side by side
```

```
fig, axes = plt.subplots(1, 2, figsize=(15, 6))

axes[0].imshow(img_male_parent)
axes[0].axis('off')
axes[1].imshow(img_childless_husband)
axes[1].axis('off')

plt.tight_layout()
plt.show()
```

Word Cloud for Married Women with Children



Word Cloud for Married Women without Children



Word Cloud for Married Men with Children



Word Cloud for Married Men without Children



From the word clouds:

- **Married Men with Children:** The focus seems to be on family-related terms like "son", "daughter", "family", "home", and activities such as "game", "watching", "vacation", indicating a life that revolves around family activities and responsibilities.
- **Married Women with Children:** Similar to the men's word cloud, we see a strong family orientation with words like "son", "daughter", "family", "school", and "home". There's also a mention of emotional

terms such as "love", "proud", which may suggest fulfillment in their roles.

- **Married Men without Children:** The words "wife", "work", "free", "travel", "dog", "dinner", and "weekend" suggest a focus on personal freedom, hobbies, and leisure activities. The presence of "work" indicates that career may also play a significant role in their lives. The absence of words indicating a desire for children or regret over not having them may imply contentment with their current lifestyle.
- **Married Women without Children:** This word cloud also emphasizes personal freedom and leisure with words like "husband", "vacation", "weekend", and "dinner". "Work" is similarly prominent, suggesting that career is an important aspect of life. The focus on the partnership with the "husband" and on personal activities might indicate satisfaction with their life as it is.

In both word clouds for childless married individuals, the notable repetition of "work" suggests that their careers are a significant aspect of their lives. In addition, the absence of words traditionally associated with a desire for children or regret, such as "wish", "regret", "children", "baby", or "parenting", could suggest that **these individuals may be focusing their energies on their professional achievements and finding fulfillment in their work and personal freedoms.**

3. Within a family without children, how can husbands make their wives happy?

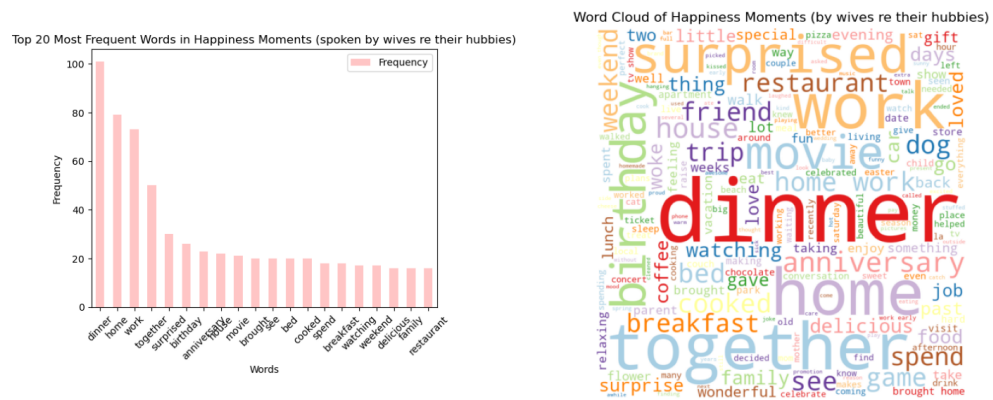
```
In [30]: img_path_ww = '../figs/top_20_words_wives.png'
img_path_wo = '../figs/top_wc_wives.png'

img_female_parent = Image.open(img_path_ww)
img_childless_wife = Image.open(img_path_wo)

# Create a figure with two subplots side by side
fig, axes = plt.subplots(1, 2, figsize=(15, 6))

axes[0].imshow(img_female_parent)
axes[0].axis('off')
axes[1].imshow(img_childless_wife)
axes[1].axis('off')

plt.tight_layout()
plt.show()
```

The bar chart and word cloud above offer insights into what wives appreciate and find happiness in, based on their conversations about their husbands.

The most frequent word that appears is "**dinner**," suggesting that **shared meals** are highly valued. This could mean that wives appreciate the **quality time** spent with their husbands during meals, whether it's a casual dinner at home or a more elaborate meal out. The act of dining together can be a moment of connection and enjoyment.

Other frequent words like **"surprise," "anniversary," "brought," "love,"** and **"breakfast"** indicate that wives cherish **special occasions and unexpected gestures**. Celebrating anniversaries and the joy of receiving surprises point to a desire for recognition and the importance of marking milestones. The mention of "breakfast" alongside "dinner" shows an appreciation for efforts made by husbands at various times of the day.

Words such as "weekend," "trip," "restaurant," "beach," and "vacation" highlight the importance of **shared experiences and leisure activities**. Getting away from the routine, whether for a short weekend trip or a longer vacation, and enjoying leisure time together at places like restaurants or the beach are significant for happiness.

The word "work" also appears frequently, which might suggest that wives value the balance their husbands strike between their professional and personal lives, or it could indicate that they appreciate conversations about each other's work life as a form of mutual support.

The word cloud reinforces these findings with additional context, where words like "home," "friend," "family," "love," "enjoy," "watching," and

"game" are prominent. It's clear that social activities, familial connections, and shared hobbies are also part of what brings joy in these relationships.

Five randomly selected sentences from the dataset of happy moments shared by these wives about their husbands further provide insight into the acts of service that contribute to marital satisfaction. Here's a closer look at these expressions of service:

```
In [31]: image_path = '../figs/Random_5.png'
img = Image.open(image_path)
plt.figure(figsize=(8,6))
plt.imshow(img)
plt.axis('off')
plt.show()
```

```
Sentence 1: My husband came home for lunch today, which he rarely does, so being able to see him in the middle of m
y day made me very happy
Sentence 2: My husband informed me that he had received a large raise and bonus
Sentence 3: My husband rubbed my back when we were going to sleep
Sentence 4: My husband hugged me while we discussed the progress of our home remodel
Sentence 5: My husband made me coffee this morning, so I didn't have to do it when I got up
```

Sentence 1. *Spontaneity in Togetherness:* The husband's unexpected return home for lunch is a break from the ordinary that brings joy through the simple pleasure of togetherness. It's a spontaneous act that enriches the day with a shared experience.

Sentence 2. *Celebrating Success Together:* By sharing news of a financial bonus, the husband includes his wife in a collective success that potentially benefits their shared life, reinforcing the partnership's strength.

Sentence 3. *Comforting Touch:* Physical gestures like rubbing one's back are intimate forms of communication and care, signifying comfort and a deep understanding of one's partner's needs.

Sentence 4. *Supportive Partnership:* Embracing while discussing shared projects, such as a home remodel, reflects a supportive partnership and a collaborative spirit in building a life together.

Sentence 5. *Daily Kindness:* Making coffee in the morning is an everyday kindness that speaks volumes about consideration and the desire to ease one's partner's burden.

Each of these acts of service demonstrates a different way in which husbands can contribute to the happiness of their wives. These acts don't necessarily require grand gestures or significant changes in routine; often, it's the small, everyday actions that can have the most profound impact on happiness in a relationship. The common thread among them is **thoughtfulness** – understanding what will make your partner happy and then taking the initiative to do it. From sharing important moments of the day to assisting with daily routines, these services strengthen the bond and appreciation between spouses.

By regularly performing acts of service, husbands can show their wives that they are loved, valued, and appreciated, which is especially meaningful in the context of a childfree marriage where the couple may have more opportunities to focus on each other.

Conclusion

- Married couples without children from a blend of professional fulfillment, spousal relationships, social interactions, and everyday experiences such as shared meals and time with pets
- They do not regret their decisions
- Within a family without children, husbands can contribute to their wives' happiness by:
 - Spending quality time together through shared meals and leisure activities.
 - Celebrating special occasions and making an effort to create surprises and celebrate anniversaries.
 - Planning and enjoying trips, vacations, and outings to break the routine and create shared memories.
 - Engaging in everyday activities that foster connection, like having breakfast together or enjoying common hobbies.
 - Balancing work life with personal time.

In [1]:

In []: