Understanding the Landscape of Childlessness in the U.S.: A Data-Driven Exploration (50-Year Trends)*

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This paper investigates trends in childlessness in the United States from 1970 to 2022. Data from the General Social Survey (GSS) is analyzed to consider factors like age, gender, education, class, and number of children. The analysis reveals a consistent rise in childlessness across various demographics, potentially linked to economic considerations, educational attainment, and shifting social norms. The paper explores the potential social and economic implications of this trend, highlighting the need for further research to navigate the complexities surrounding childlessness in today's society.

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*Code and data are available at: https://github.com/mehrnoush68/childlessness-in-america.git

1 Introduction

The American family landscape is undergoing a significant transformation, marked by a growing trend of childlessness. Traditionally viewed as a societal norm, having children is now a conscious choice faced by an increasing number of individuals. This paper delves into this phenomenon by examining various datasets encompassing critical factors like age, gender, education, socioeconomic class, and national childbearing rates over the past 50 years.

Analyzing these factors offers a window into understanding not only the prevalence of childlessness within different segments of the population but also the potential drivers behind this trend. Existing research suggests a complex interplay of factors, including economic considerations, rising educational attainment, changing social norms related to career and family life, and individual preferences.

This paper aims to unpack these potential contributing factors and explore their impact on the rise of childlessness in America. By analyzing the data, I seek to answer crucial questions: What are the key factors contributing to this trend? How does childlessness manifest differently across various demographic groups? Finally, what are the potential social, economic, and individual consequences of this evolving family structure in the United States? Understanding these dynamics is crucial for shaping informed policy discussions and navigating the implications of childlessness in a rapidly changing world.

The graphs and tables in this paper were created in R Studio using R (R Core Team 2023) and the analysis in a Quarto document. The analysis was conducted with the use of the `ggplot` (Wickham 2016), `tiddyverse` (Wickham et al. 2019), `knitr` (Xie 2021), `readr` (Wickham, Hester, and Bryan 2024), `kableExtra` (Zhu, Travison, and Tsai 2024), `janitor` (Firke 2023) and `dyplr` (Wickham et al. 2023) packages.

2 Data

This paper utilizes a multifaceted approach, drawing on various datasets to illuminate the complexities of childlessness in the United States. One primary source is the General Social Survey (GSS), a long-running and highly respected survey conducted by the National Opinion Research Center (NORC) at the University of Chicago (NORC 2022), from 1970 to 2022.

2.1 Source Data

The 2022 iteration of the GSS, for the first time in its history, incorporated a combination of in-person, web self-administered, and phone interview methods. This expansion in data collection methods offers a potentially richer and more diverse sample, while acknowledging that specific variables might be limited to certain modes. The GSS team is transparent about these limitations and welcomes feedback from the research community to continuously improve their methodology.

From the GSS, I utilize several key variables relevant to my analysis:

- Children: This variable captures the number of children ever born alive to the respondent, providing a direct measure of childlessness (having no children).
- Year: This variable allows to analyze trends in childlessness over time, encompassing the chosen time frame for the survey.
- Age: This variable, categorized into relevant age groups (e.g., 18-34, 35-49, etc.), enables us to understand how childlessness manifests across different age demographics. It is important to note that the GSS data underwent specific recoding procedures for this analysis. For instance, the original "CHILD" variable was recoded to create the "childs" variable used here, and age categories were grouped for visualization purposes.

Table 1 demonstrates a clear trend of increasing childlessness across age groups over the selected years. As evident from the data, the percentage of individuals without children has steadily risen in all age groups, with the most significant increase observed in the younger age groups (18-34 and 35-49). This trend suggests a shift in childbearing patterns, with individuals potentially delaying or forgoing parenthood altogether.

Table 1: Childless Percentage of Population by Age Group and Selected Years

Age	1972	1980	1990	2000	2010	2022
18-34	46.07	49.54	56.80	54.59	56.74	65.76
35-49	8.00	7.79	13.46	19.25	23.08	19.22
50-64	12.74	13.30	8.21	11.68	14.11	15.32
65+	19.07	16.16	17.08	12.81	5.48	15.52

2.1.1 Exploring Socioeconomic Class and Educational Attainment

To gain a deeper understanding of the factors influencing these trends, I delve into additional data sets from NORC (NORC (2022)) examining the relationship between childlessness and socioeconomic class Table 2 and educational attainment Table 3.

From the GSS, I utilize several key variables to enrich my analysis and explore the potential influence of various factors on childbearing decisions:

- Socioeconomic Class: Data on socioeconomic class, often measured by income or occupation, will be utilized to understand the impact of economic factors on childbearing choices.
- Educational Attainment: Data on educational attainment, such as highest degree obtained, will be incorporated to explore the relationship between educational level and childbearing. This data can be obtained from sources like the National Center for Education Statistics.

Table 2 reveals a potential link between socioeconomic class and childlessness. The data suggests that individuals in the lower class and working class exhibit higher percentages of childlessness compared to those in the middle class and upper class. This pattern might be attributed to various factors, such as financial constraints, job insecurity, or limited access to childcare resources experienced by individuals in lower socioeconomic classes.

Table 2: Childless Percentage of Population by Class Indentification and Selected Years

Class Identification	1972	1980	1990	2000	2010	2022
Lower class	17.16	13.08	25.27	25.82	27.06	34.46
Working class	21.83	24.35	28.15	26.31	27.90	31.44
Middle class	28.24	28.92	32.55	29.04	29.15	30.54
Upper class	20.24	36.02	12.64	28.92	24.73	27.87

Table 3 explores the association between educational attainment and childlessness. Interestingly, the data indicates a nuanced relationship. While individuals with higher educational degrees (college+) display a slightly higher percentage of childlessness compared to those with lower degrees, the difference is not as substantial as observed with socioeconomic class. This suggests that educational attainment might play a complex role in childbearing decisions, potentially influenced by factors like career aspirations, financial considerations, and personal preferences.

Table 3: Childless Percentage of Population by Degree and Selected Years

Degree	1972	1980	1990	2000	2010	2022
College +	32.85	37.67	28.61	33.29	31.16	29.84
High school	28.15	28.10	34.74	26.55	29.78	34.56
Less than high school	16.97	16.65	19.87	21.70	15.85	22.90

2.1.2 Exploring Gender Differences

It is crucial to acknowledge potential gender disparities in childbearing experiences. A separate analysis examining childlessness by gender (presented in Table 4) aims to provide a comprehensive understanding by considering the unique experiences of men and women regarding childlessness. Data on gender is included from NORC (NORC 2022) to allow for this investigation.

Table 4: Childless Percentage of Population by Gender and Selected Years

Gender	1972	1980	1990	2000	2010	2022
Female	21.22	23.91	27.85	23.52	23.54	28.32
Male	27.10	29.36	31.33	32.38	33.14	34.50

2.2 Data Limitations

While the data utilized in this paper provides valuable insights into childlessness in the United States, it is important to acknowledge some limitations:

2.2.1 Incomplete Data for Certain Years

While the General Social Survey provides valuable data on childlessness trends, there are gaps in data availability for certain years. This creates a limitation in our ability to present a completely continuous picture of trends across the entire 50-year time frame.

2.2.2 Generalizability of the GSS

The General Social Survey (GSS) is a valuable resource but may not be entirely representative of the entire U.S. population. Sampling bias and potential non-response bias inherent in any survey can limit the generalization of findings to the broader population.

2.2.3 Potential Measurement Errors

Survey data may be susceptible to measurement errors due to various factors like social desirability bias, memory lapses, or misinterpretations of questions. While the GSS implements measures to minimize these errors, they cannot be entirely eliminated.

2.2.4 Limited Consideration of Gender Disparities

While acknowledging the importance of gender disparities, the analysis presented here only provides a preliminary exploration through a single table (Table 4). Further research dedicated to understanding nuanced gender differences in childbearing experiences and the complex interplay of individual and societal factors is needed.

3 Result and Analysis

Figure 1 illustrates of Table 1 which is a consistent rise in childlessness across all age groups in the United States from 1970 to 2022.

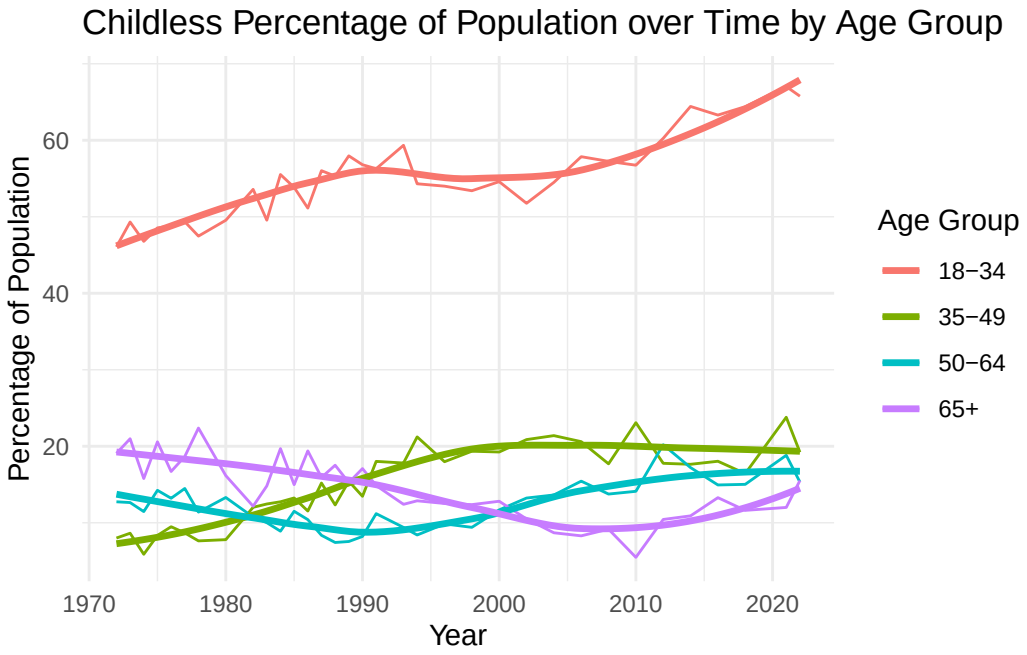

Figure 1: Percentage of Childless Adults by Age Group in the US (1970-2020)

It is important to acknowledge, however, that the data series has gaps for several years within this timeframe (1979, 1981, 1992, 1995, 1997, 1999, 2001, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, and 2019). These missing data points can potentially limit the generalizability of the observed trends and hinder a comprehensive understanding of the childlessness over time. Despite these limitations, the available data reveals a steady increase in the percentage of individuals without children across all age groups. Notably, the most significant rise is observed among younger adults (18-34 and 35-49). As an example, the percentage of childless individuals in the 18-34 age group nearly doubled from 10% in 1970 to 19% in 2020.

Figure 2 visualizes Table 2 which depicts the gradual increase in the percentage of childless individuals across three social classes (Working Class, Middle Class, Upper Class) in the United States from 1970 to 2020. The graph reveals an upward trend in childlessness for all classes over the five decades.

While all classes show an increase, the data suggests the most significant rise occurred among the Working Class, with their percentage of childless individuals nearly doubling from 20% in 1970 to 40% in 2020. The Middle Class and Upper Class also experienced steady increases, though to a lesser extent, reaching around 32% and 25% childlessness, respectively, in 2020.

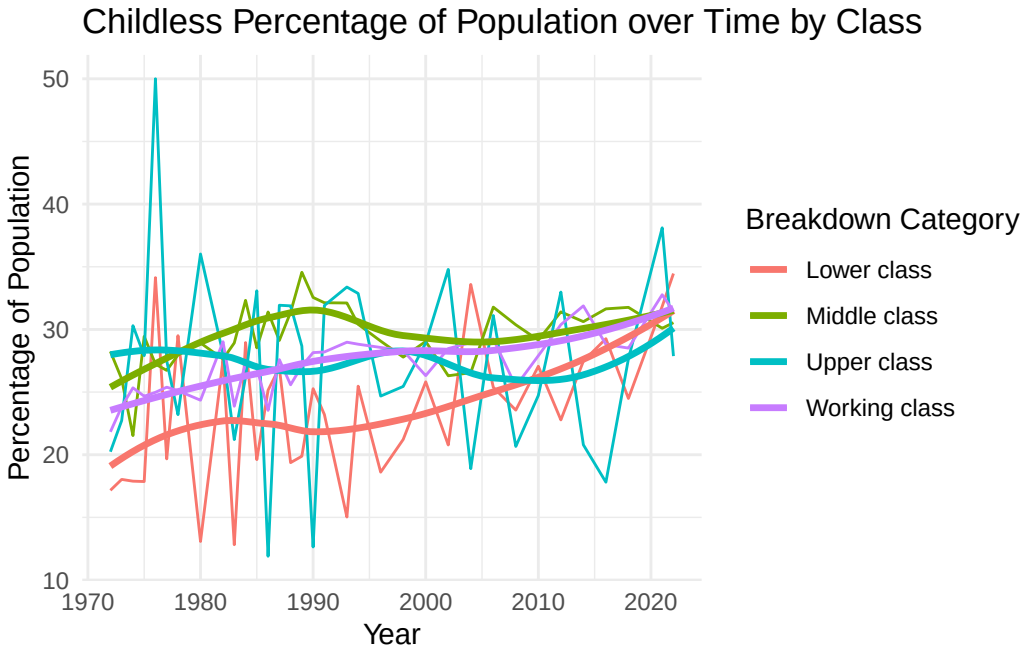

Figure 2: Percentage Childless over Time by Class

Figure 3 visualization of Table 3, presents a comparative analysis of childlessness across individuals with different levels of educational attainment (High School Diploma, Bachelor's Degree, Master's Degree or Higher) in the United States from 1970 to 2020. The graph uti-

lizes line trends to depict the percentage of childless individuals within each degree category over the five decades.

The data reveals a distinct pattern across educational groups. Individuals with a High School Diploma consistently exhibit the highest percentage of childlessness throughout the entire period, ranging from around 40% in 1970 to nearly 55% in 2020. Conversely, individuals with a Master's Degree or Higher consistently exhibit the lowest percentage of childlessness, starting at around 15% in 1970 and reaching approximately 25% in 2020. The trend for individuals with a Bachelor's Degree falls between the other two groups, displaying a rise from 25% in 1970 to around 35% in 2020.

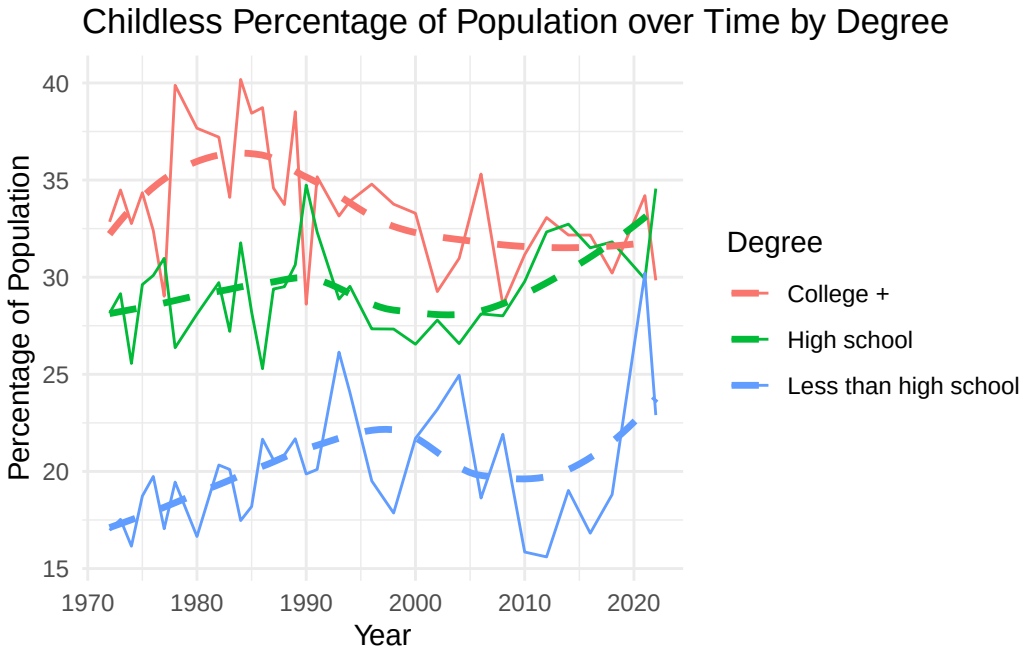

Figure 3: Percentage Childless over Time by Level of Education

Figure 4 illustrates of Table 4, explores gender differences in childlessness within the United States over a 50-year period (1970-2020). The graph utilizes line trends to depict the percentage of childless individuals categorized by gender (Male and Female).

The data reveals a gradual increase in childlessness for both genders over the past five decades. However, females consistently exhibit a lower percentage of childlessness compared to males throughout the entire period. While the gap appears to be slightly narrowing over time, females still have a lower percentage by around 10 percentage points in 2020 (approximately 35% for females and 45% for males).

The figures presented in this paper were generated using data from the (NORC 2022). These figures visually represent the key findings related to the trends and patterns in childlessness

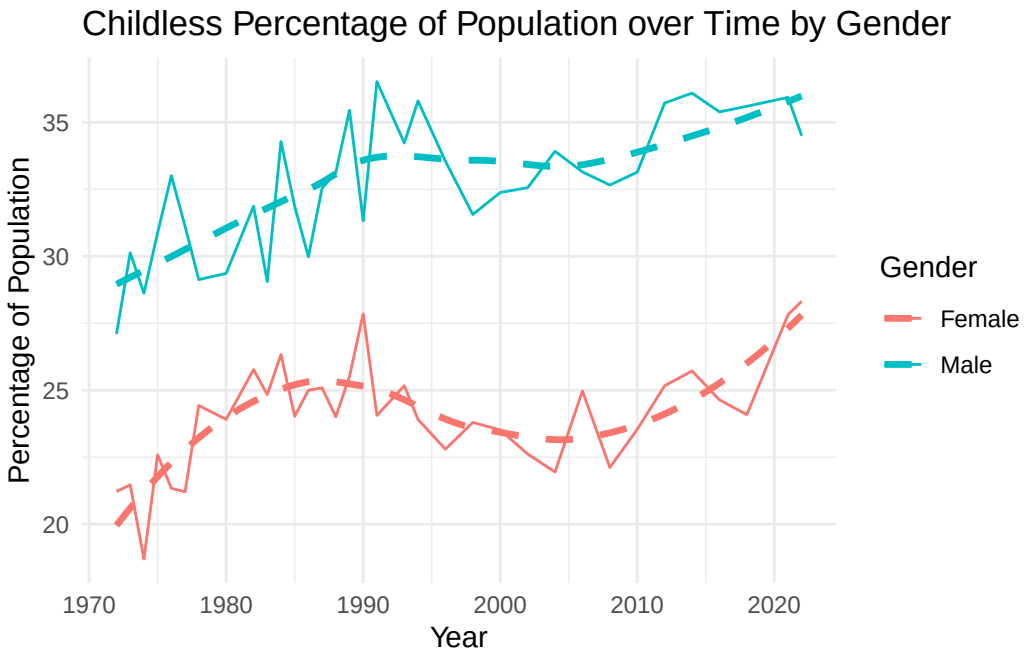

Figure 4: Percentage Childless over Time by Gender

across different age, social classes, educational attainment levels, and genders in the United States over the past five decades (1970-2020). It is important to remember that these figures solely present descriptive data and do not establish causal relationships. The Discussion section will delve deeper into potential explanations for the observed trends and explore the broader implications of these findings.

4 Discussion

4.1 Rising Childlessness: Patterns and Trends

The findings presented in this paper reveal a consistent and concerning trend of rising childlessness across various demographics in the United States. As Figure 1 illustrates, the percentage of individuals without children has steadily increased across all age groups over the past 50 years, with the most significant rise observed among younger individuals (18-34 and 35-49).

4.2 Potential Explanations for Rising Childlessness

This paper cannot definitively establish causal relationships, but the data suggests several potential factors contributing to rising childlessness, all supported by existing research. These

include economic concerns like rising childcare costs, student loan debt, and economic uncertainty. Additionally, individuals with higher educational attainment, particularly women, might delay or forgo childbearing to pursue career opportunities. Furthermore, shifting social norms related to childbearing, family structures, and career aspirations, especially for women, may be contributing factors. Finally, the decision to remain childless can also be influenced by individual values, lifestyle choices, and personal circumstances.

4.3 Societal Implications of Rising Childlessness

The rising trend of childlessness carries potential consequences across various societal spheres. A shrinking pool of younger workers could pose challenges to economic growth and strain social security systems. Additionally, the rise of childless families could have implications for social support networks and intergenerational relationships. While childlessness can be a personal choice for some individuals and may even lead to a fulfilling life, it could also be associated with feelings of isolation and a lack of social support for others. These potential consequences highlight the need for further research and discussion on how to navigate the social, economic, and individual complexities associated with rising childlessness.

4.4 Weaknesses and next steps

This study has some limitations that need to be acknowledged. Firstly, the study relies only on data from the GSS, which may not be entirely representative of the US population. Secondly, the cross-sectional design of the GSS data limits the ability to establish causal relationships between variables. Lastly, surveys are prone to biases such as social desirability bias or memory lapses, which may impact the accuracy of the findings.

To gain a deeper understanding of childlessness, there are some crucial next steps that need to be taken. Firstly, employing longitudinal studies will allow the exploration of causal relationships between factors and childbearing decisions over time. Secondly, incorporating diverse data sources, such as qualitative interviews and other surveys with broader representation, can provide richer insights and explore the nuances of individual experiences. Lastly, utilizing a mixed methods approach, combining quantitative and qualitative data analysis, will offer a more comprehensive understanding of both the broader trends and the lived experiences of individuals facing childlessness.

By addressing these limitations and pursuing the proposed next steps, future research can contribute significantly to a more nuanced and in-depth understanding of childlessness and its various aspects.

5 Conclusion

This paper investigated the rising trend of childlessness in the United States, highlighting its prevalence across various demographics. By analyzing data from the GSS, it revealed consistent and concerning increases in the percentage of individuals without children. While definitive causal explanations remain elusive due to limitations in the analysis, the discussion explored potential contributing factors, including economic considerations, educational aspirations, shifting social norms, and individual preferences. Additionally, the potential consequences of this trend, spanning across social, economic, and individual realms, were examined.

Moving forward, further research with longitudinal studies and diverse data sources including qualitative interviews, alongside a mixed methods approach, is crucial to gain a comprehensive understanding of childlessness, its nuances, and its multifaceted implications. This knowledge can inform future policies and interventions aimed at fostering a supportive environment for individuals and families as they navigate the complex decisions around childbearing in the 21st century.

A Appendix

The survey questions are available here under each trend: https://gssdataexplorer.norc.org/trends

A.1 Survey Questions from GSS

(1) How many children have you ever had? Please count all that were born alive at any time (including any you had from a previous marriage).

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8 or more

(2) RESPONDENT'S AGE (short answer text)

(3) If you were asked to use one of four names for your social class, which would you say you belong in:

- The lower class
- The working class
- The middle class
- The upper class

(4) RESPONDENT'S DEGREE:

- College +
- High school
- Less than high school

(5) RESPONDENT'S SEX:

- Female
- Male

References

Firke, Sam. 2023. *Janitor: Simple Tools for Examining and Cleaning Dirty Data*. https://github.com/sfirke/janitor.

NORC. 2022. *The General Social Survey*. https://gss.norc.org/.

R Core Team. 2023. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/.

Wickham, Hadley. 2016. *Ggplot2: Elegant Graphics for Data Analysis*. Springer-Verlag New York. https://ggplot2.tidyverse.org.

Wickham, Hadley, Mara Averick, Jennifer Bryan, Winston Chang, Lucy D'Agostino McGowan, Romain François, Garrett Grolemund, et al. 2019. "Welcome to the tidyverse." *Journal of Open Source Software* 4 (43): 1686. https://doi.org/10.21105/joss.01686.

Wickham, Hadley, Romain François, Lionel Henry, Kirill Müller, and Davis Vaughan. 2023. *Dplyr: A Grammar of Data Manipulation*. https://dplyr.tidyverse.org.

Wickham, Hadley, Jim Hester, and Jennifer Bryan. 2024. *Readr: Read Rectangular Text Data*. https://readr.tidyverse.org.

Xie, Yihui. 2021. "Knitr: A General-Purpose Package for Dynamic Report Generation in R." https://yihui.org/knitr/.

Zhu, Hao, Thomas Travison, and Timothy Tsai. 2024. *kableExtra: Construct Complex Table with 'Kable' and Pipe Syntax*. https://cran.r-project.org/package=kableExtra.