## Link to the Interactive Dashboard

https://public.tableau.com/views/DataVizindividualassignment1/HongKongfirstmarriageno_analysis2012-2021?:language=zh-TW&:sid=&:display_count=n&:origin=viz_share_link
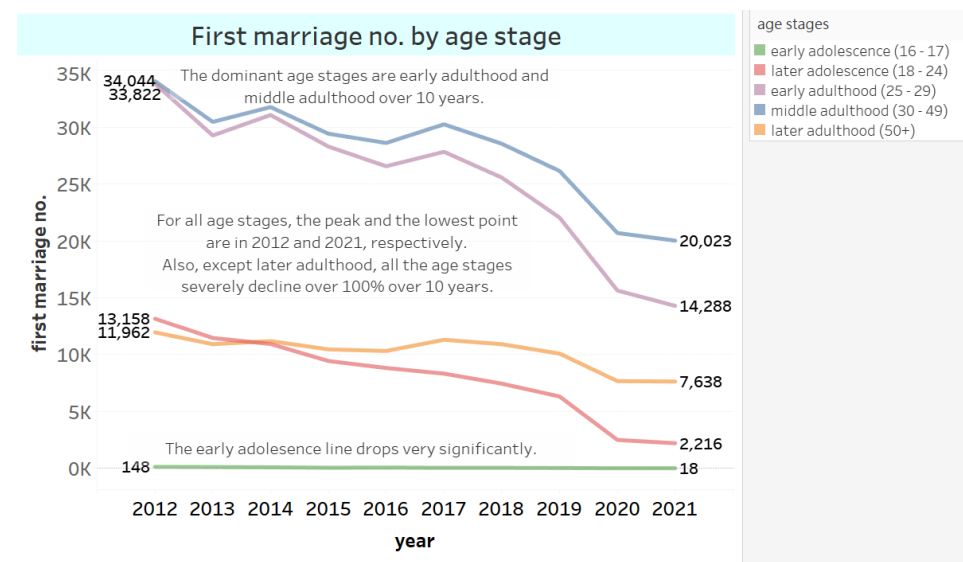
## Hong Kong's first marriage number Analysis 2012 – 2021

A modern analysis of Hong Kong's first marriage number will be presented to indicate the severity decrease with versatile data visualizations along with different granularities (e.g. year, age group, age stage, gender). Census and Statistics Department, Hong Kong Special Administrative Region (2022a) had an analysis on the year-on-year change in inflation from 2012 to 2021. Consumer Price Index is measured as the inflation indicator with the base year of 2012 (10 years before the last available yearly data). Similarly, this modern analysis focuses on the recent 10 years of available marriage data (2012 to 2021) and 2012 is adopted as the base year. The data was collected from the website developed by HKSAR Office of the Government Chief Information Officer (2023).

## Partition for age variable: "Very young" group, age group, and age stage
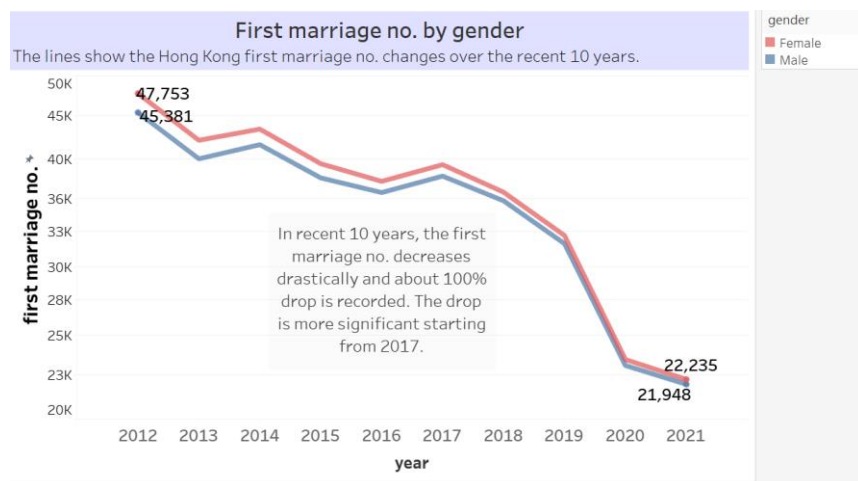
According to Marriage Ordinance of Hong Kong Legislation (2019), Hong Kong citizens aged over 16 but below 21 can only make a marriage registration with the signed approval of parents or guardians. This analysis draws attention to them and calls them "very young" group. The age group partition used in some data visualizations is suggested in the analysis of demographic trends in Hong Kong 1991 – 2021 (Census and Statistics Department, Hong Kong Special Administrative Region, 2022b). Also, age stage partition, containing lesser groups, is customized in this analysis to introduce a more concise characteristic for explanatory purposes.
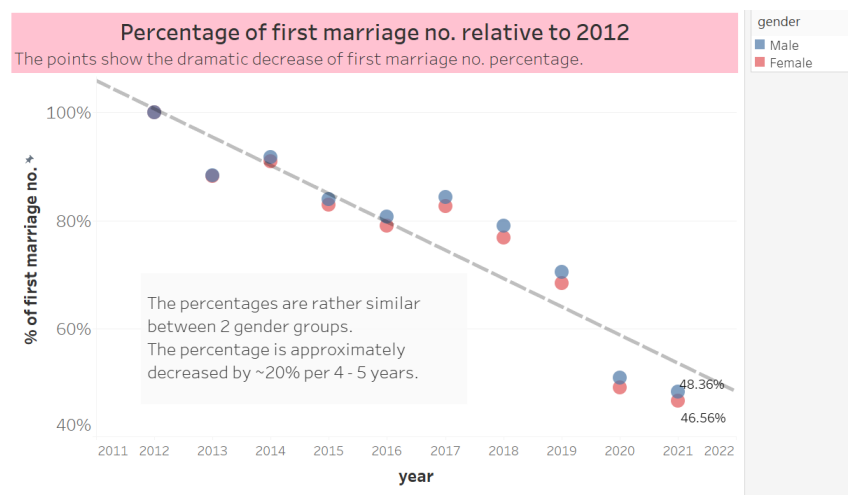
# First marriage number by age stage



The first marriage number has decreased significantly in 10 recent years. For all age stages, the years with the peak and the lowest marriage number are 2012 and 2021, respectively. The dominant age stages are early adulthood and middle adulthood over 10 years. Except for later adulthood, all the age stages severely decline over 150% in 10 years. Later adolescence, dropping nearly 6 times (13,158 to 2,216), was recorded as the most serious drop, other than early adolescence. For "very young" group, early adolescence drops more than 10 times, from 146 to 18.
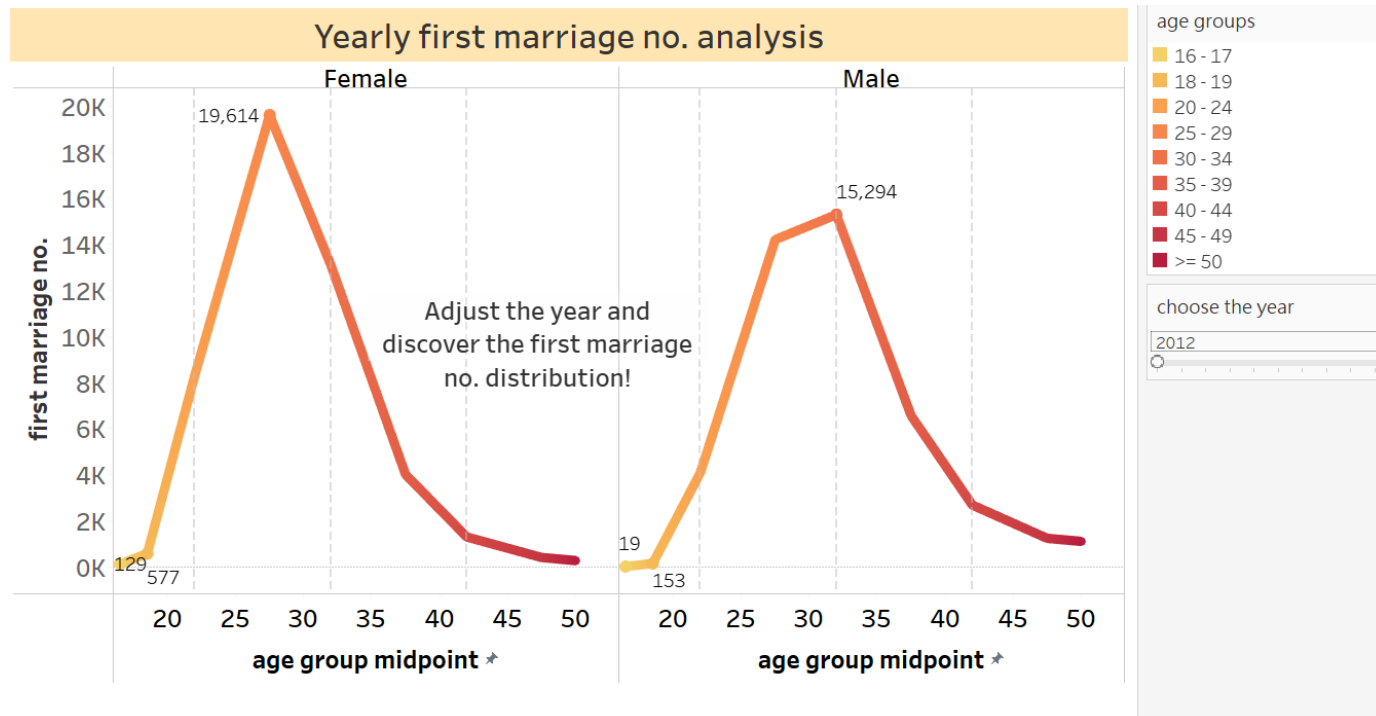
# First marriage number by gender



In the last 10 years, the first marriage number by gender (male and female) has decreased by more than 100%. Males and females recorded a drastically decreased number from approximately 45.3 thousand (K) to 21.9 K and 47.8K to 22.2K, respectively. A more dramatic drop is recorded starting from 2017. The yearly marriage number by gender is almost identical within a 2% or lower difference.

## Percentage of first marriage number relative to 2012



Comparing to 2012, the percentage numbers of the yearly first marriage are rather similar between 2 gender groups. For both gender groups, the percentage numbers decreased by nearly 20% per 4 to 5 years. Up to 2021, an about 50% decline is recorded for both groups, where male and female remains at 48.36% and 46.56%, respectively.
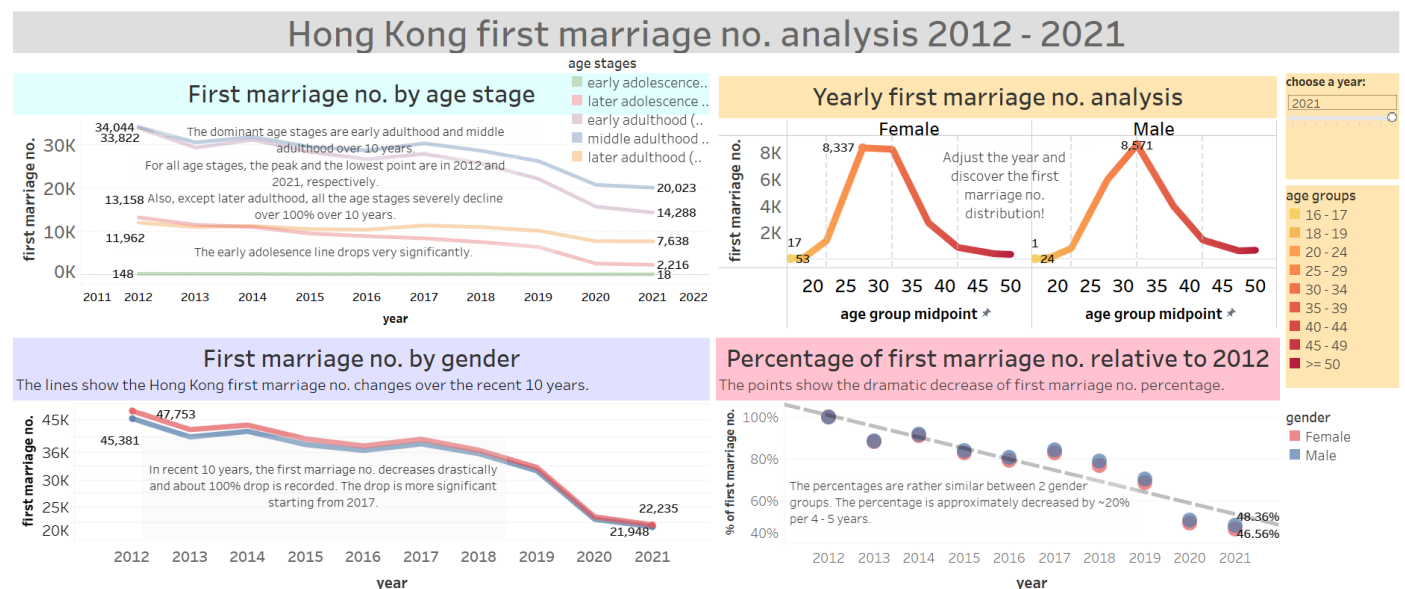
## Yearly first marriage number analysis



The line plot delivers interactivity to the reader to adjust the year and discover the first marriage distribution. Throughout 10 years, for male and female, the lower quantile, median, and upper quantile for male and female are $20-24$, $30-34$, and $40-44$, respectively. Here, interval estimates (age groups) rather than point estimates (age) are given due to the precision limitation of the raw data. The raw age data is in age group and midpoint

method is used for quantile calculation. Therefore, interval estimates are more reliable than point estimates. Besides, for "very young" group, which is from the 2 age groups (16 – 17, 18 - 19), indicates there is a serious imbalance in marriage number (usually 10 times difference over years) by gender. This shows those males tend to marry some older females from other age groups.

## Dashboard: a comprehensive view of the graphs



A dashboard contains all the graphs, is represented to let readers have a comprehensive view on the data and verify the correctness of interpretation.

# References

Census and Statistics Department, Hong Kong Special Administrative Region. (2022a). Hong Kong Monthly Digest of Statistics. Hong Kong Monthly Digest of Statistics.

Census and Statistics Department, Hong Kong Special Administrative Region. (2022b). Demographic Trends in Hong Kong 1991-2021. Demographic Trends in Hong Kong 1991-2021.

Hong Kong e-Legislation. (2019, September 11). Retrieved October 1, 2023, from https://www.elegislation.gov.hk/hk/cap181!en-zh-Hant-HK?pmc=0&SEARCH_WITHIN_CAP_TXT=marriage&m=0&pm=1&xpid=ID_1438402807685_001

Hong Kong Special Administrative Region Office of the Government Chief Information Officer. (2023, August 15). Hong Kong Population. DATA.GOV.HK. Retrieved October 1, 2023, from https://data.gov.hk/tc-data/dataset/hk-censtatd-tablechart-popn/resource/6992491c-d40a-45c6-a3a4-3c937c360fdb