Final Project Report

Title/name of project/software tool

Author

Keywords

**A – Free text**

4-6 standard pages

## Introduction

The recent years have been marked by widespread illness, lockdowns, social distancing and generally by uncertainty related to the Covid-19 pandemic. In a time of crises such as this, mental health is exposed (Bu et al. 2021) and subjects will seek to find meaningful activities to cope with the upheaval (Cluster London, 2020, Nartker, 2022). The goal of this report is to investigate the impact of the covid-19 pandemic on creative hobbies;  specifically, whether there has been an increase in creative hobbies, handcrafting etc. during the pandemic. In a combination of increased leisure time and mental well-being benefits of creative hobbies it is likely that greater interest have been shown towards arts and crafts to get through the crisis.

## Problems and background

The Covid-19 pandemic has evidently had great impact on the daily lives of people all around the world. This includes alterations to work routines along with home schooling, great reduction of social interactions and closure of various leisure activities (Bu et al. 2021). This may initially indicate that people had more time to kill during lockdowns but with isolations came along accumulative digital demands (Cluster London, 2020). In a study on the mental health in UK during an 11-week Covid-19 lockdown, Bu et al. (2021) found that screen-based activities was indicative of an increase in depressive and anxiety symptoms as well as a decrease in life satisfaction. In France, the mental health decreased between timepoints around 5 years before to during the pandemic for a cohort with ages ranging from 23-93 years (Ramiz, 2021). The study found that anxiety symptoms, depressive symptoms and self-rated metal health were strongly correlated with the participants reporting a high impact of the pandemic on their personal life. Further, the results suggested a relation between high amount of screen-time and increase in anxiety symptoms (Ramiz, 2021). Contrary to these negative effects on mental health, engaging in creative activities has been shown to be beneficial in improving mental well-being (Huotilainen et al.).

It is hypothesised that the interest in handcrafts has increased since March 2020 as a response to the covid-19 pandemic, specifically illustrated by an increase in the published knitting patterns in this period.

## Software Framework

The code used for this project is written on a MacBook (Retina, 12-inch, Early 2016) with 8 GB RAM, running macOS BigSur (11.5.2) operating system, and implemented using R (4.1.1) in the desktop version of RStudio (1.4.1717).

## Data Acquisition and Processing

Two Rmarkdowns were created for the purpose of this report; one for preprocessing and one for analysis and visualisations. These can both be found in the *Final Project Report* folder in the author’s GitHub repository. The preprocessing code is quite heavy to run, uses a lot of resources and time, so for reproducibility of the analysis, the cleaned data was written to .csv files that can also be accessed through the GitHub repository.

**Data Acquisition**

The data used for the report was scraped from Ravelry.com using the API. A prerequisites for scraping data from Ravelry.com is a Ravelry developer account. Once this was set up and an app with read only access was created, the associated username and password was written to a .renviron file stored in the Home directory (Ravelry GitHub repository). The ravelRy r package could then be installed and loaded and used through the developer account.

Additional data included the ‘COVID-19 Lockdown dates by country’ obtained from Kaggle (ref?). Both the original and the cleaned Lockdown dates data sets are available through the GitHub repository.

The ravelry package was used to scrape all available patterns and associated information that appeared in advanced searches containing the search terms specified in table 1. The scraping was executed December 10, 2022.

|  |  |
| --- | --- |
| craft | “knitting” |
| designer\_country | “denmark” |
| availability | “online” |
| pattern\_source\_type | “website” |
| page\_size | “1649” |

Table 1. Example search terms for advanced search for Denmark.

The search terms were determined to delimit the amount of data and to control for the type of patterns to be analysed as a marker for arts and crafts in general. Craft was specified to knitting to reduce amount of data, designer country was specified to ensure unique patterns for each country included in the analysis and the page\_size was specified to include all patterns appearing in the search. Availability and pattern\_source\_type were specified to ensure that the scraped patterns were all limited to online availability on websites for purchase.

The countries included in the analysis consists of nine European countries (Denmark, France, Spain, Czech Republic, Austria, Norway, Ireland, Latvia, Iceland) with varying population size and geographical location to somewhat reflect the variety of countries in Europe . Further, a requirement of the chosen countries was a page\_size above 50, in order to have enough data for that specific country.

**Preprocessing**

The knitting pattern data was scraped using the search\_patterns command from the ravelRy package (cite igen) and this was accomplished using nine similar lines of code only differing in the designer\_country and page\_size specification to match each country included in the analysis. The obtained data consisted of nested data frames containing a huge amount of information and additional data. Due to computational and time constraints it was decided only to include the ten most frequent designers and the patterns they had crafted for further analysis. A list of these designers were extracted by grouping by this variable, counting the patterns, ungrouping, arranging in descending order and slicing from 1-10. The data was then filtered to only contain patterns from designers in this list. The tidyverse package (cite) was used to complete this filtering process.

The get\_patterns function from the ravelRy package (cite) was then used to extract some of the nested data, including the publish time and other relevant pattern info. Further, a column containing the year the pattern was published was computed from the published dates using the format function from the lubridate package (cite). A column containing country information was then added and the nine data frames were row binded to one final data frame and saved to a .csv file.

The data containing lockdown dates per country was loaded and filtered to contain only countries relevant for the analysis. Some countries had multiple rows of data to reflect the dates of lockdown in different provinces. However, all rows with a NA in that column reflected a countrywide lockdown and the data was therefore filtered to contain only the rows with NA values in the Province column. The lockdown data now included a single lockdown data for each of the nine countries and was also saved to a .csv file.

## Emperical Results

Illustrations

## Critical evaluations

There are many ways to investigatzse the relation between arts and crafts and the pandemic. This may not be the optimal way – I will start to explain why in a few senteces – but it is a way and definitely a way to show the technical skills acquired through this course used in a social, societal context.

## Conclusion

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## References

<https://github.com/walkerkq/ravelRy>

<https://www.worldometers.info/population/countries-in-europe-by-population/>

<https://www.dst.dk/Site/Dst/SingleFiles/GetArchiveFile.aspx?fi=udroko&fo=uhtlande--pdf&ext=%7B2%7D>

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