

### **07.07: Using YouTube music charts and Google Trends to track social changes since the COVID-19 outbreak**

The pandemic and the connected restrictions affected the whole world, changing the way people work and live. Much has been said about the effects on labour markets, shift of work to home and social outcomes. However, not much is known on the actual change of everyday behavior and how its changes relate to the severity of the crisis, the enforced restrictions or the level of development.

We provide first evidence on the change of daily life patterns that includes information on the whole period from the start of the pandemic for more than 50 countries. We use information on when people listen to music to track how the pandemic disrupted typical patterns. Our data comes from the YouTube weekly top charts and is combined with the Google Trends data to observe the hours of highest intensity of music listening across countries and time. We combine this data (ongoing work) with information on cases, restrictions and lockdowns, and macro indicators, as well as other available Google data for validation.

We find a marked shift in the listening patterns with the start of the pandemic. The pandemic reduced much of the music consumption in the hours typical for commuting to and from work. On the other hand, the consumption in late evening hours increased past the usual time, suggesting a possible shift to late working hours. These are in turn compensated by later day starts. These shifts are characteristic only of the workdays, confirming the relationship with school or work.

#### **Methods and data**

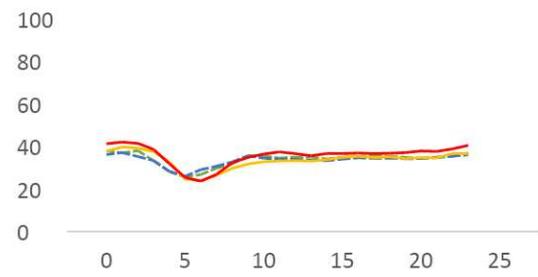
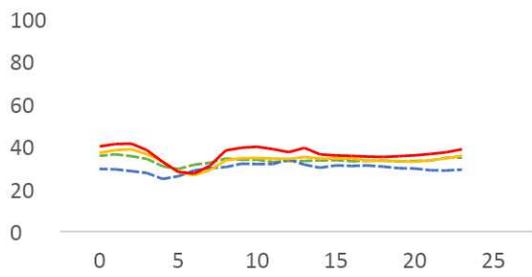
First, we have collected the weekly top 100 YouTube artists charts for the 57 available countries. The data so far was collected for the period of January 2020 to January 2021 and will be continuously extended to cover both further periods (including 2021) and earlier periods (2019 for a benchmark). The chart data includes the number of views in a given week for each of the top artists.

Second, for each week of the data, we have queried Google Trends for YouTube for the search popularity of the respective artists with an hourly frequency. Thus, for each week and each country, 100 artists were checked for popularity in the YouTube searches, with the queries returning the popularity with an hourly frequency for all seven days of the week. The combined dataset of Google Trends and YouTube charts allows us to track both the change in the hourly patterns of music listening and the change in total viewership.

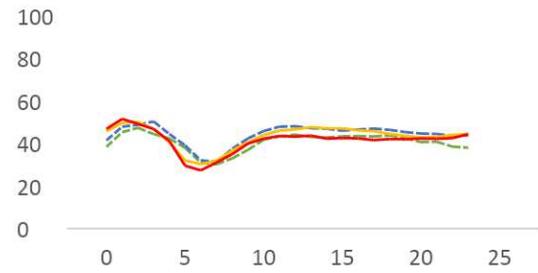
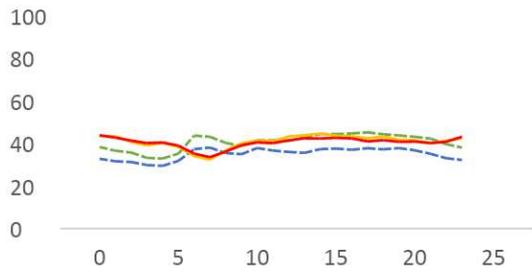
The few selected figures below show monthly averages for the estimated patterns of music listening in several countries. Of note are the shifts in workday patterns and lack of such shifts in the weekends. Moreover, Sweden – which did not enforce any restrictions at the start of the pandemic – does not reflect pronounced shifts. This is in line with the causal interpretation of the pandemic and restriction effects on the observed patterns.

Workdays	Weekends
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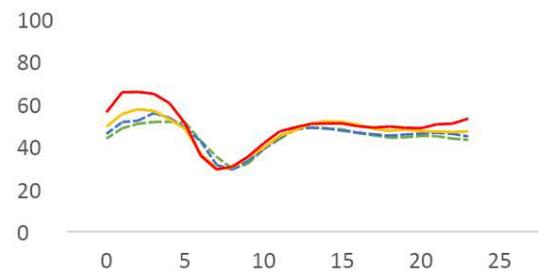
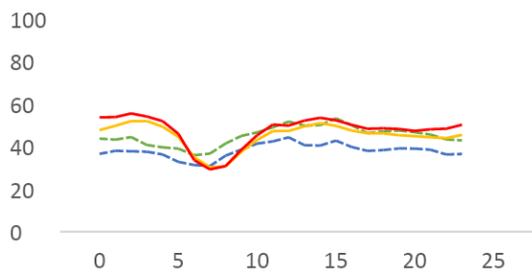
### Australia



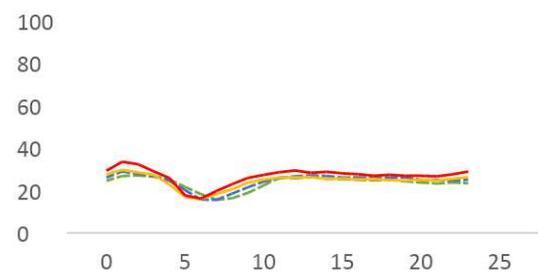
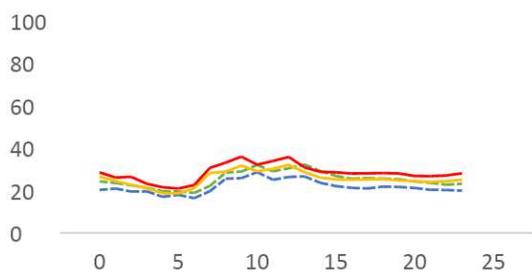
### Germany



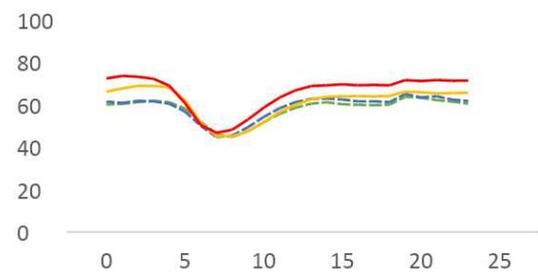
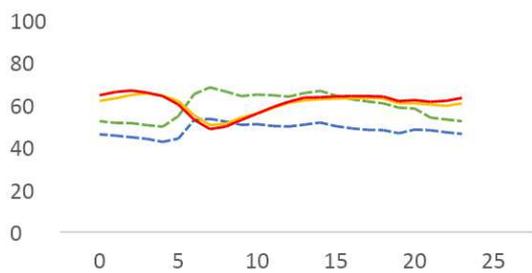
### Poland



### Sweden



### USA



--- January 2020    --- February 2020    --- April 2020    --- May 2020