IT Army of Ukraine:
A Brief Look at Early Novice Joiners

UMassAmherst

Data Analytics and Computational Social Science Program

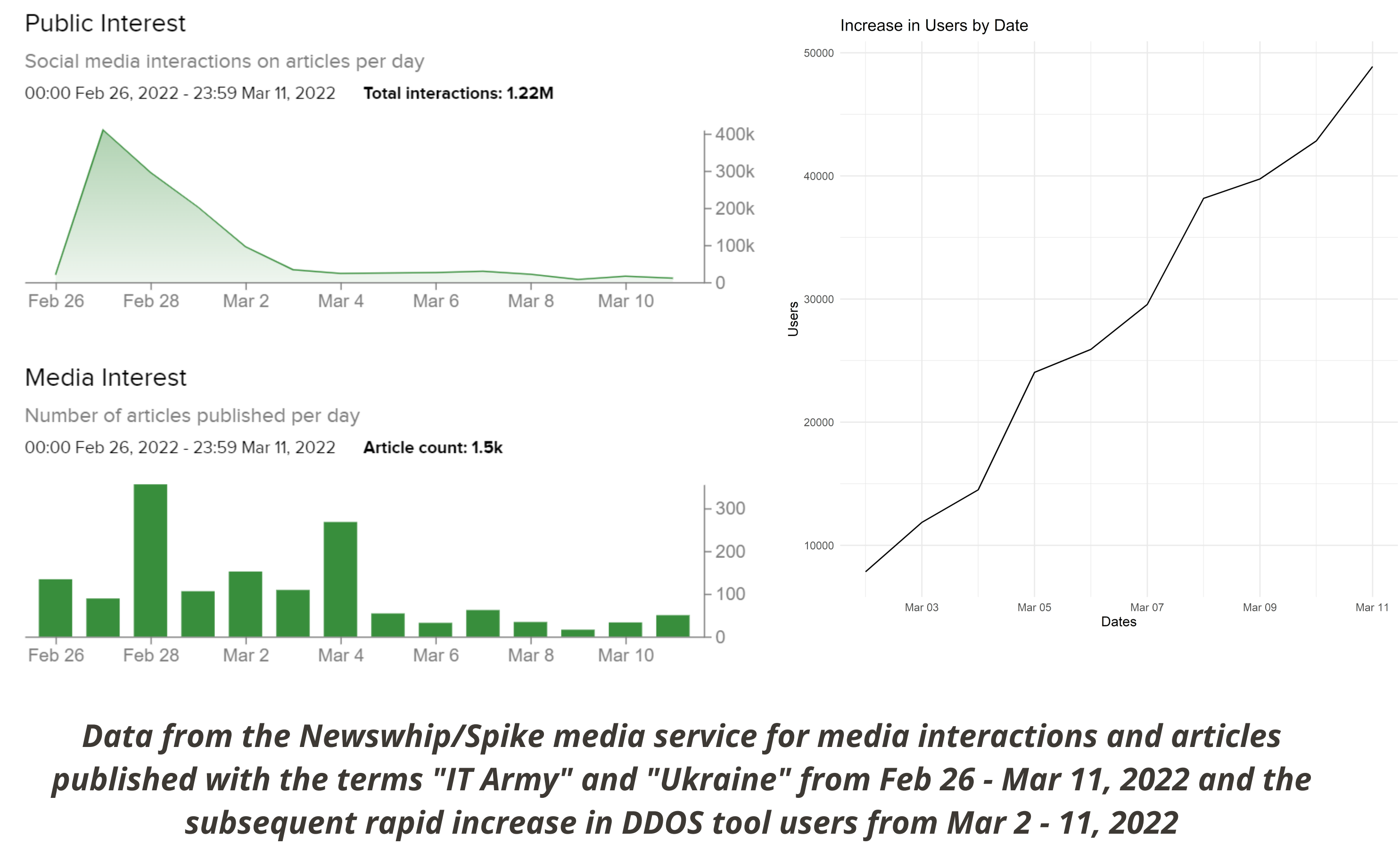*Kristina Becvar - kbecvar@umass.edu*

Introduction

The day after the Russian army invaded Ukraine, Ukraine's Vice Minister of Digital Transformation put out a call for "everyone" to join a new "IT Army". After he shared the Telegram messaging channel created for that purpose, people from all over the world came in droves in search of tasks they could engage in to help the cause.

Data Gathering

The call for volunteers was answered by many. I joined the channel as an observer, and after a couple of days was able to notice a pattern of people joining from all over the world asking how they could help fight disinformation. In response, volunteers formed offshoot channels for international and English speakers to share information on how to use "DDOS" pages pre-set to attack Russian disinformation sites. I was able to view a GitHub repository for one of these sites and gather the user count for one tool being shared as the primary "novice" tool on the pinned instruction post across all of the channels. The tool was up for 9 days.

Research Question

Is there a relationship between country of origin of DDOS users of the "IT Army of Ukraine" telegram channel and social/cultural characteristics of those countries? What about between country of origin and media exposure to coverage regarding the creation of the IT Army of Ukraine?

Data from the Newswhip/Spike media service for media interactions and articles published with the terms "IT Army" and "Ukraine" from Feb 26 - Mar 11, 2022 and the subsequent rapid increase in DDOS tool users from Mar 2 - 11, 2022

Hypothesis & Analysis

My hypothesis is that there is a correlation between social/cultural support of civil resistance and higher participation in the DDOS attacks. To investigate this hypothesis:
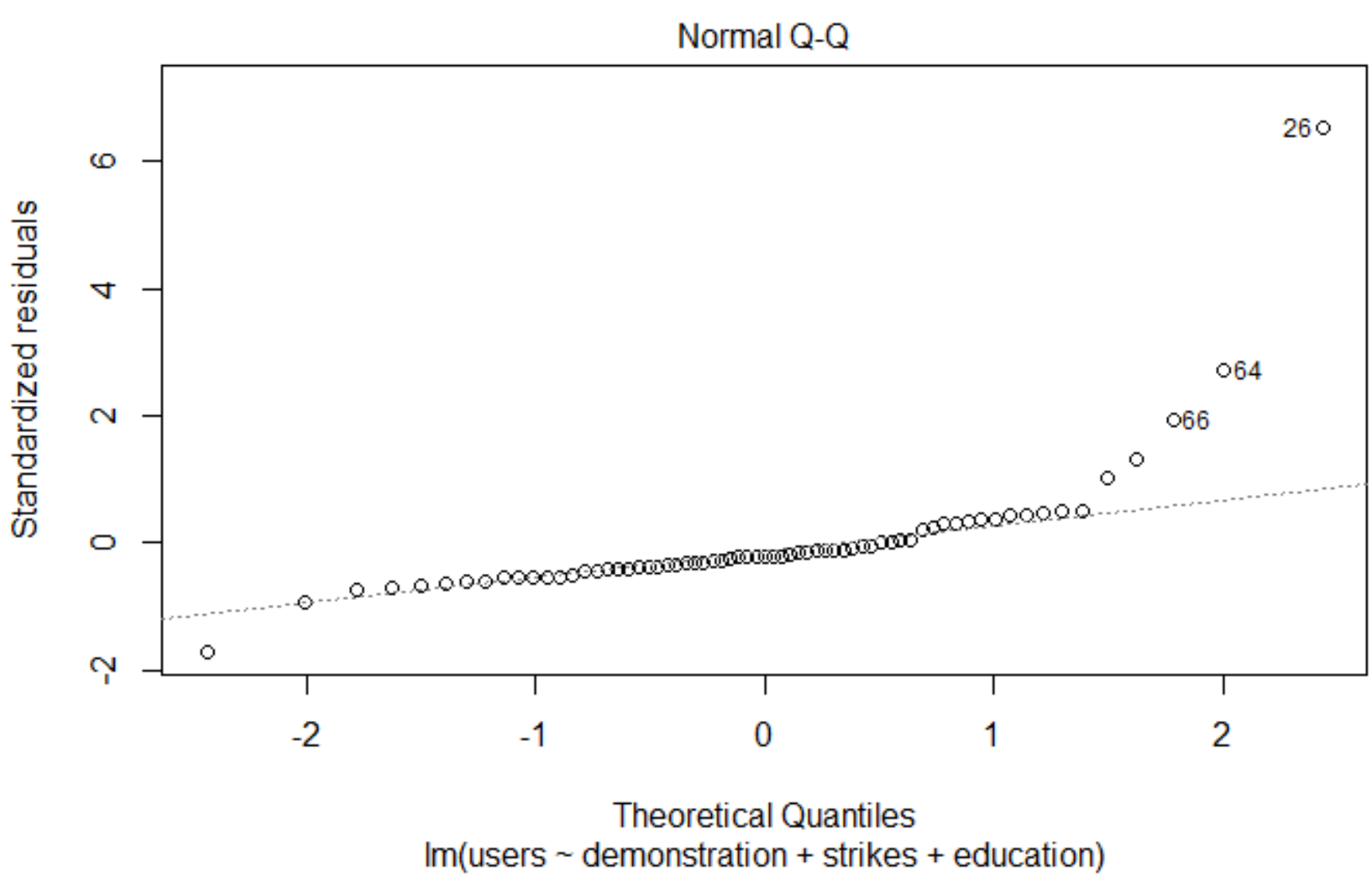
- I looked at the correlation between a country's base population and DDOS user activity for that country;
- I compared multiple linear models where the outcome is the DDOS users and the explanatory variables are selected from the Integrated Values Survey and from media interaction reports from the Spike/Newswhip service. Finally, I used regional total population data and sample regional population data as controls.
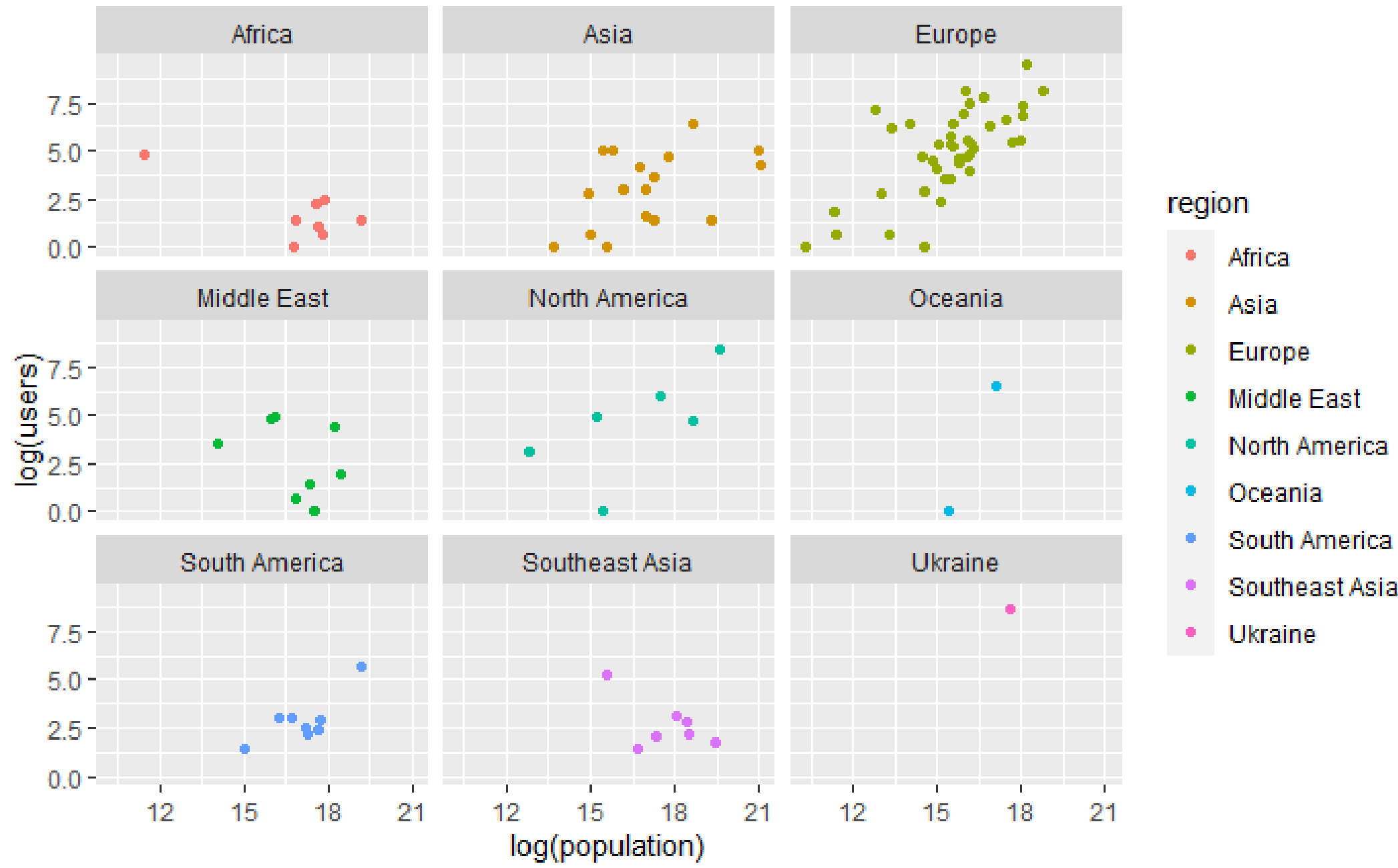
From its' inception on March 2 to the final day it was online, March 11, the site accumulated 48,879 users . The user counts were not correlated with the population of the respective countries.

Results

Using population data as a control, the population of each region being examined and the representative population of the countries represented in my sample are highly correlated. There were not many models that showed correlation between the country of origin of DDOS users and most of the variables I examined. There was a noteable correlation in the number of public interest queries measured by Spike/Newswhip and the DDOS countries of origin.


This model had a p-value of .003, but an adjusted R-squared of 0.164.

The model that had the best fit of any of the exploratory variables was the model with the DDOS users as the outcome variable and the exploratory variables of the propensity to engage in a demonstration and public strikes, and higher education levels. This model was not very strong.

The strongest individual variable correlation was a weak positive correlation between DDOS users and education level of the country of origin examined.

Media Interest & Public Interest

There was a noteable correlation in the number of public interest queries measured by Spike/Newswhip and the DDOS regions of origin. (R2 = 0.981, p < 0.001) There was a significantly lower correlation in the actual media coverage and DDOS regions of origin as measured by Spike/Newswhip. (R2 = 0.022, p = .724)
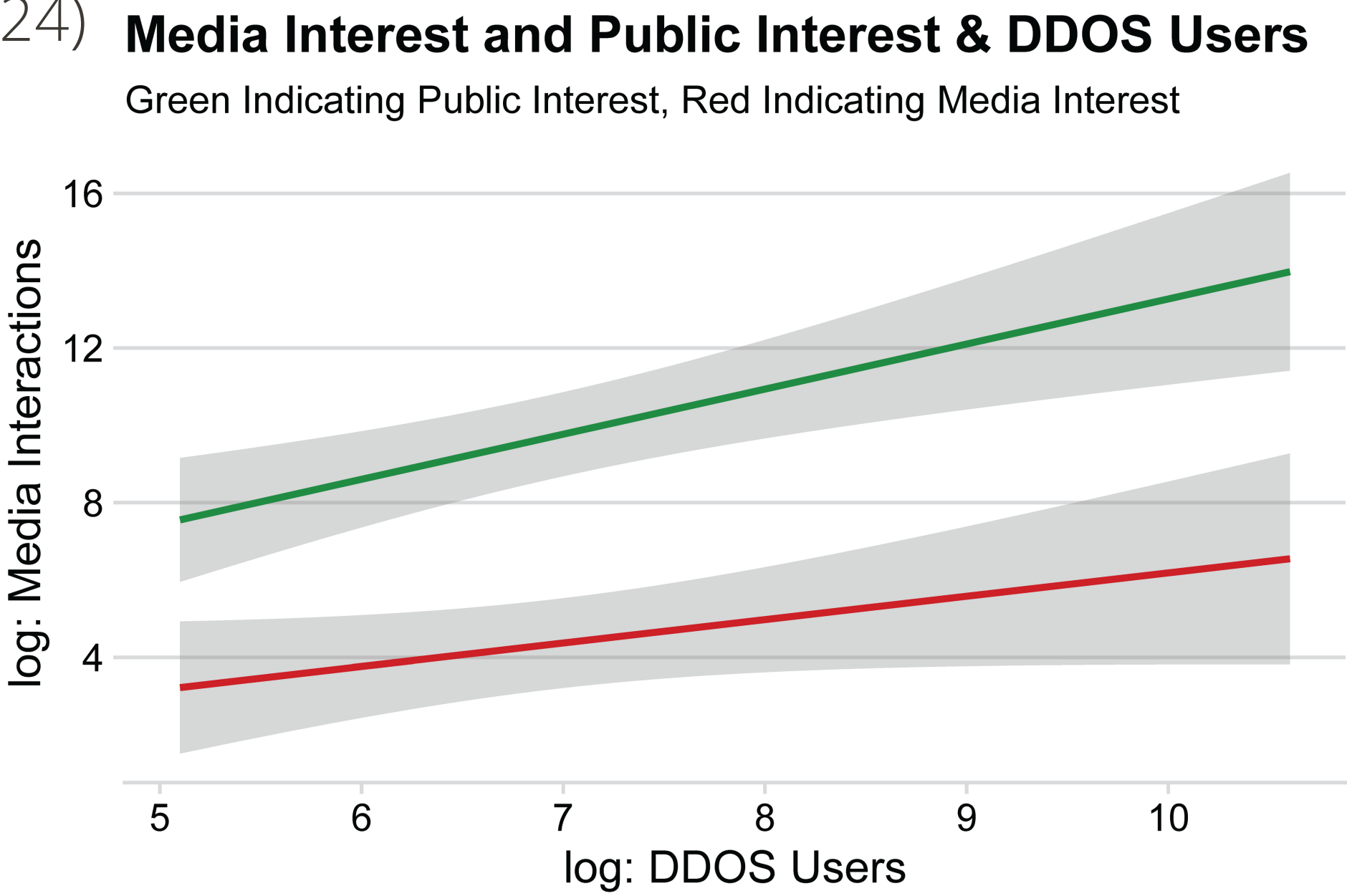
Conclusion

There was very little evidence of a model that made intuitive sense and demonstrated a **high** reliability, even though there were a few variables that showed p-values with potential significance and a couple of models that showed significance with **low** reliability. The other result, correlation of regional DDOS user counts with that region's social media searches by region, makes intuitive sense. This is not an unexpected result, but it is valuable as research context.

Further Analysis

After initial analysis, I am unable to conclude with confidence that there is a correlation between DDOS users and their country of origin's social and cultural indicators based on what variables I was able to study. More research is necessary to transform data further, use additional models, and analyze variables from additional cultural surveys. Further research should also look at how users of these types of tools may identify politically. This new type of protest or civil engagement is a new phenomenon and existing social models are needed to understand those engaging.