

Configuration Manual

MSc Research Project
User Perceptions on the Security of Electric Vehicle (EV)
Charging

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Project Submission Sheet
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Configuration Manual

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1 Introduction

This configuration manual is designed to provide comprehensive guidance on setting up and executing the research project titled "User Perceptions on the Security of Electric Vehicle (EV) Charging." It aims to ensure replicability and transparency by detailing the hardware and software specifications, tools, and procedures used in the project. This manual is intended for researchers and practitioners who wish to understand the technical aspects of our study, replicate the research process, or build upon our work. It outlines every necessary step, from initial system setup to the final execution, providing a clear pathway for reproducing the research findings.

2 System Specifications

2.1 Hardware

- **Device:** Lenovo Legion 5 Pro Laptop
- **Specifications:** 32 GB RAM, standard internal hardware (no specialized hardware used)

2.2 Network

- Standard network settings (no specific requirements or configurations noted)

3 Software Tools

3.1 Data Analysis and Visualization

- **SPSS:** IBM's statistical software suite used for data analysis, graph, and table creation.
- **Google Colab:** Used occasionally for similar purposes as SPSS.

3.2 Document Preparation

- **LaTeX:** Utilized for writing the research paper.
- **Visual Studio Code:** Code editing software, supplemented with TexWorks installation.

- **LaTeX Workshop Extension:** An extension for Visual Studio Code, providing features for LaTeX typesetting.

3.3 Survey Tool

- **Microsoft Forms:** Used to create and distribute the survey via social media channels.

3.4 Data Management

- **Microsoft Office Suite:** Primarily Excel, for viewing and managing survey data in xlsx and csv formats.

4 Project Implementation

This section provides detailed instructions for setting up and executing the project, including the installation of necessary software, environment setup, and execution procedures.

4.1 Installation of Software Tools

SPSS can be downloaded and installed from the IBM website as shown below in the screenshots

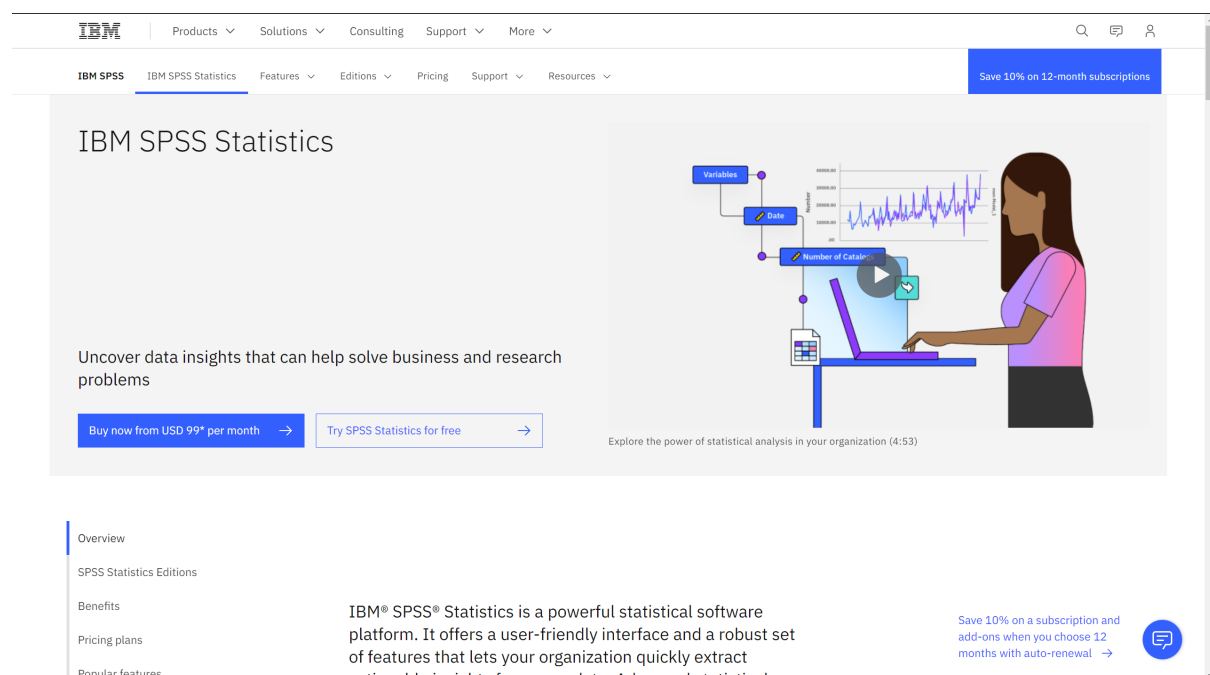


Figure 1: SPSS Download Page

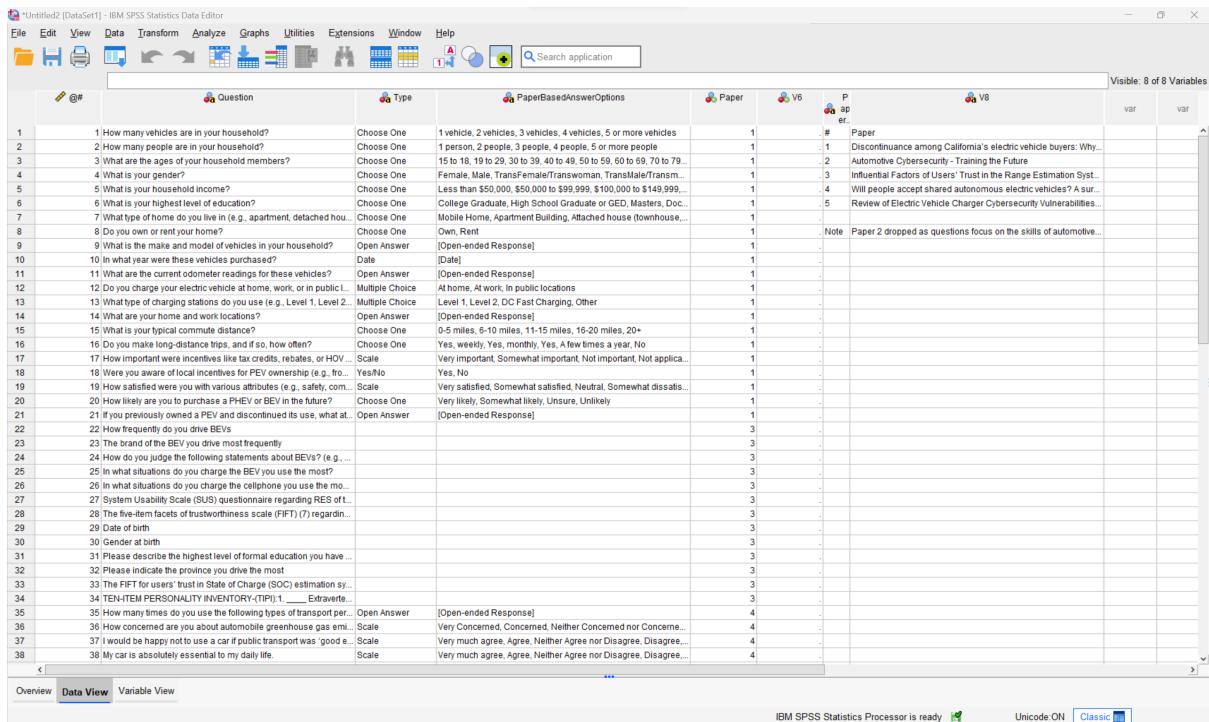


Figure 2: SPSS

4.2 Setting up the Environment

As for the environment, Visual Studio code and its extension that is setup is shown below in the images, along with it, TexWorks which is the engine to compile latex code to pdf is also shown

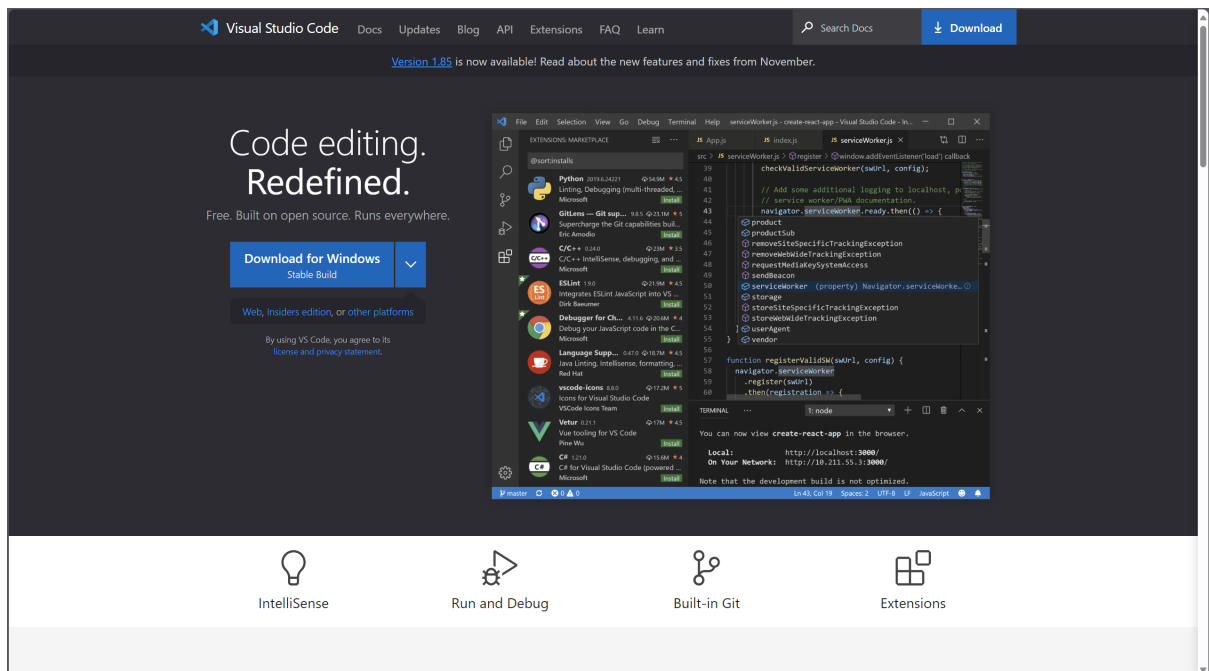


Figure 3: Visual Studio Code Website

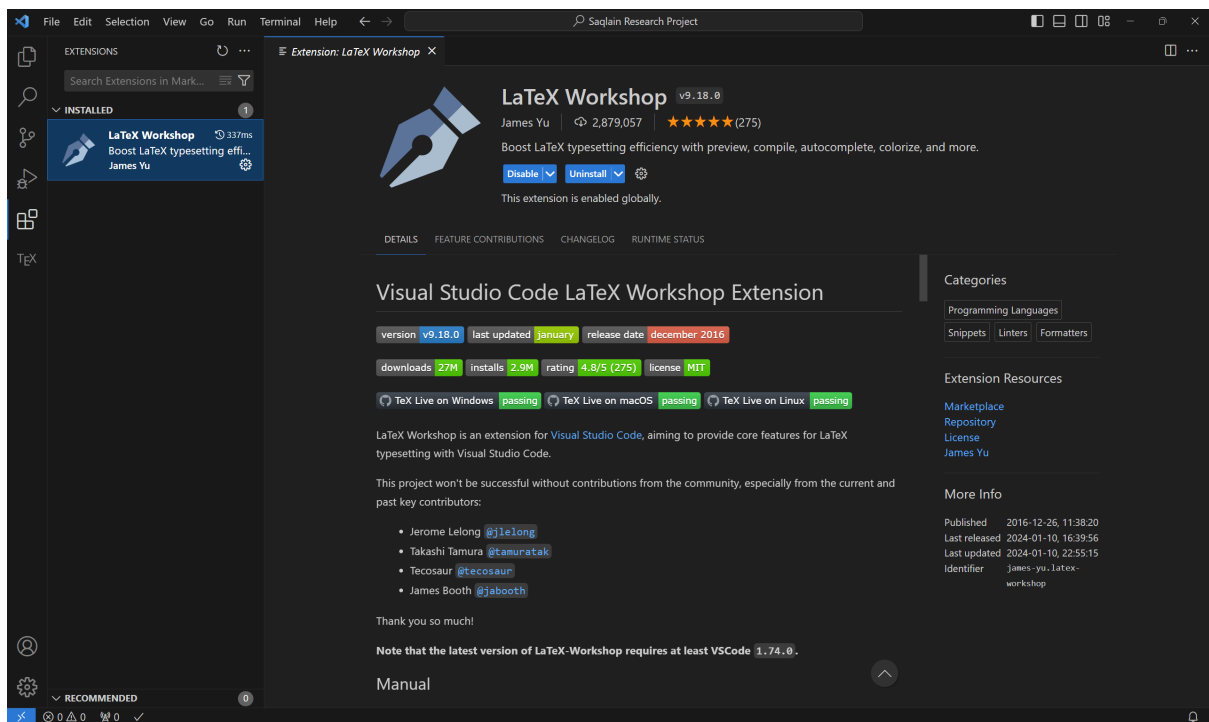


Figure 4: Visual Studio Code Extension for Latex

TeXworks

lowering the entry barrier to the TeX world

by Jonathan Kew, Stefan Löffler, Charlie Sharpsteen

»News »Introduction »Getting TeXworks »Documentation »Online resources »History »Future plans
»How can you help? »Thanks

News

(Feb 2023) TeXworks 0.6.8 released ([Get it](#) | [Changes](#))
(Feb 2022) TeXworks 0.6.7 released ([Changes](#))
(Mar 2021) TeXworks 0.6.6 released ([Changes](#))
(Mar 2020) TeXworks 0.6.5 released ([Changes](#))
(Mar 2020) TeXworks 0.6.4 released ([Changes](#))
(Mar 2019) TeXworks 0.6.3 released ([Changes](#))
(Apr 2017) TeXworks 0.6.2 released ([Changes](#))
(May 2016) TeXworks 0.6.1 released ([Changes](#))
(Apr 2016) TeXworks 0.6.0 released ([Changes](#))
(Apr 2015) TeXworks 0.4.6 released ([Changes](#))
(Apr 2013) TeXworks 0.4.5 released ([Changes](#))
(Apr 2012) TeXworks 0.4.4 released ([Changes](#))
(Jun 2011) TeXworks 0.4.3 released ([Changes](#))
(Jun 2011) TeXworks 0.4.2 released ([Changes](#))
(May 2011) TeXworks 0.4.1 released ([Changes](#))
(Mar 2011) TeXworks 0.4.0 released ([Changes](#))
(Oct 2009) TeXworks 0.2.3 released
(Oct 2009) TeXworks 0.2.2 released
(Oct 2009) TeXworks 0.2.1 released
(Sep 2009) TeXworks 0.2.0 released ([Changes](#))

Introduction


The TeXworks project is an effort to build a simple TeX front-end program (working environment) that will be available for all today's major desktop operating systems—in particular, MS Windows (7/8/8.1/10/11), typical GNU/Linux distros and other X11-based systems, as well as macOS. It is deliberately modeled on Dick Koch's award-winning [TeXShop](#) for Mac OS X, which is [credited](#) with a resurgence of TeX usage on the Mac platform.

To provide a similar experience across all systems, TeXworks is based on cross-platform, open source tools and libraries. The [Qt toolkit](#) was chosen for the quality of its cross-platform user interface capabilities, with native “look and feel” on each platform being a realistic target. Qt also provides a rich application framework, facilitating the relatively rapid development of a usable product.

The normal TeXworks workflow is PDF-centric, using pdfTeX and XeTeX as typesetting engines and generating PDF documents as the default formatted output. Although it is possible to configure a processing path based on DVI, newcomers to the TeX world need not be concerned with DVI at all, but can generally treat TeX as a system that goes directly from marked-up text files to ready-to-use PDF documents.

TeXworks includes an integrated PDF viewer, based on the [Poppler](#) library, so there is no need to switch to an external program such as Acrobat, xpdf, etc., to view the typeset output. The integrated viewer also supports source/preview synchronization (e.g., control-...



**Get TeXworks for Windows**
version 0.6.8, 23.7 MB
requires Windows ≥ 10

Alternatively, your TeX distribution may offer a TeXworks package.

Not what you are looking for? Check [Getting TeXworks](#) for other versions and other ways to obtain TeXworks.

Figure 5: Texworks Homepage

4.3 Code Execution in Python

Shown below is Google Colab which can be used to execute python code and its respective libraries to generate graphs and charts

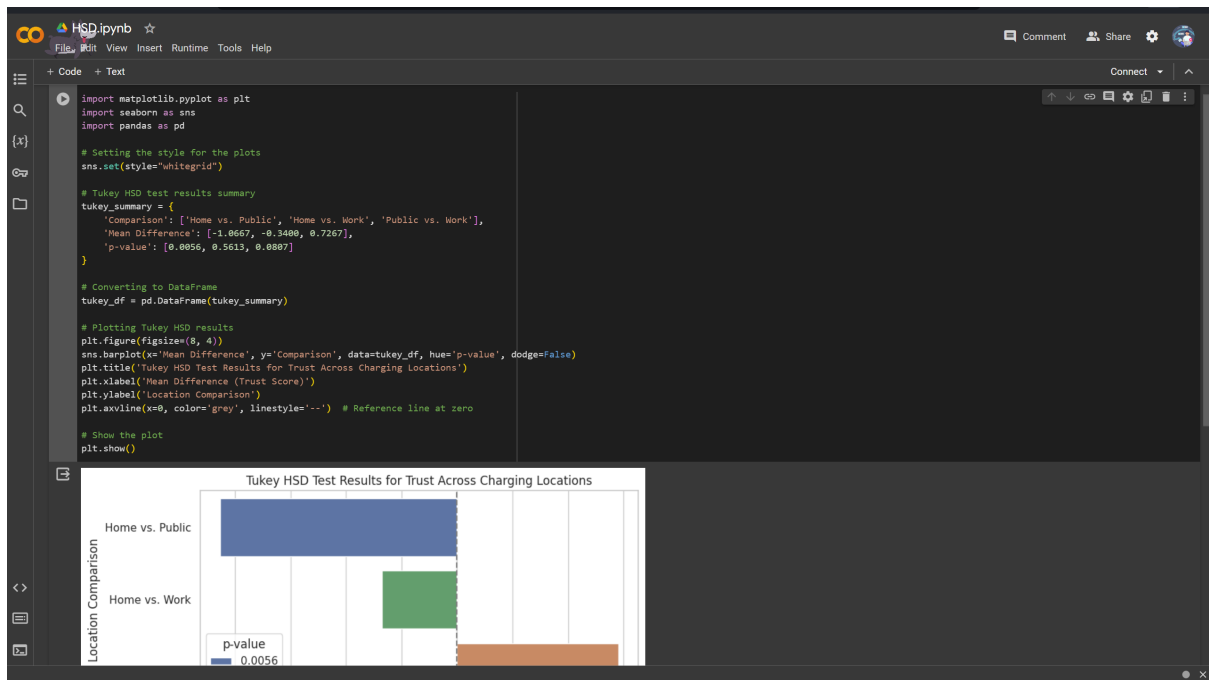


Figure 6: Google Colad being used to conduct HDS test using python

4.4 Data Management and Survey

As Microsoft Forms was used to create and conduct the survey and the data it generates is forameted in the comma seperated (csv) or Excel (xlsx) format, here are a few screens displaying its interface

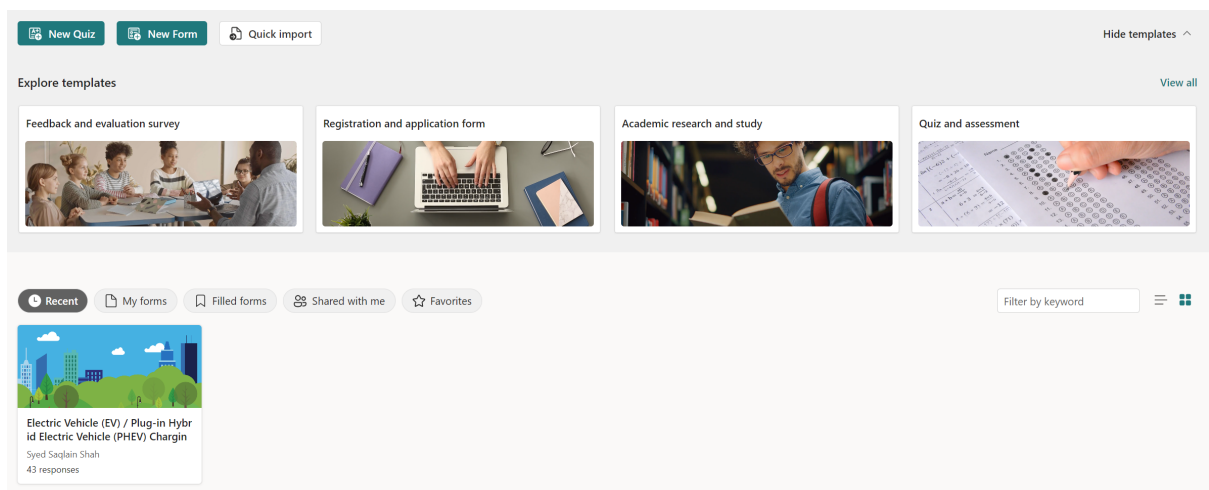


Figure 7: Microsoft Forms Interface

The screenshot shows a Microsoft Forms survey interface. At the top, there are tabs for 'Questions' and 'Responses' (with 43 responses). Navigation buttons include 'Preview', 'Style', 'Collect responses', 'Present', and a menu icon. The survey title is 'Electric Vehicle (EV) / Plug-in Hybrid Electric Vehicle (PHEV) Charging Security Study'. Below the title, it says 'Section 1'. The main content area is titled 'Consent' and includes a link for 'Privacy Policy & Survey Terms'. The first section is '1. Consent Request for Participation in Research Study'. It contains the following text:

Title of Project: Cybersecurity in EV / PHEV Charging: User Perspectives and Practices

Principal Investigator: Syed Saqlain Shah

Invitation to Participate: You are invited to be part of a research study focused on understanding user experiences and attitudes towards cybersecurity in Electric Vehicle (EV) / Plug-in Hybrid Electric vehicle (PHEV) charging stations.

- **Study Overview:** This research is a part of my MSc degree project at National College of Ireland. The aim of this study is to investigate EV / PHEV users' awareness of cybersecurity threats, how these threats influence their charging behavior, and their views on security measures at EV / PHEV charging stations.
- **What Participation Involves:** As a participant, you will be asked to complete an online survey. The survey is estimated to take about 10-20 minutes of your time.

Figure 8: Survey Questions

The screenshot shows the 'Send and collect responses' settings for the survey. On the left, there are three radio button options:

- ☒ Anyone can respond
Anonymous response, doesn't require sign-in
- ☐ Only people in National College of Ireland can respond
- ☐ Specific people in National College of Ireland can respond

At the bottom left, there is a 'Feedback' button. On the right, there are four icons: a link icon, a share icon, a grid icon, and a code icon. Below these icons, there is a text input field containing the URL 'https://forms.office.com/Pages/ResponsePag...'. To the right of the URL are two buttons: 'Copy link' and 'Copy link'. Below the URL is a checkbox labeled 'Shorten URL'. Below the checkbox is a preview of the survey form, which shows the title 'Electric Vehicle (EV) / Plug-in Hybrid Electric Vehicle (PHEV) Charging Security Study' and a placeholder for the survey content. Below the preview, it says 'Responders will see the form like this.'

Figure 9: Sharing the Survey

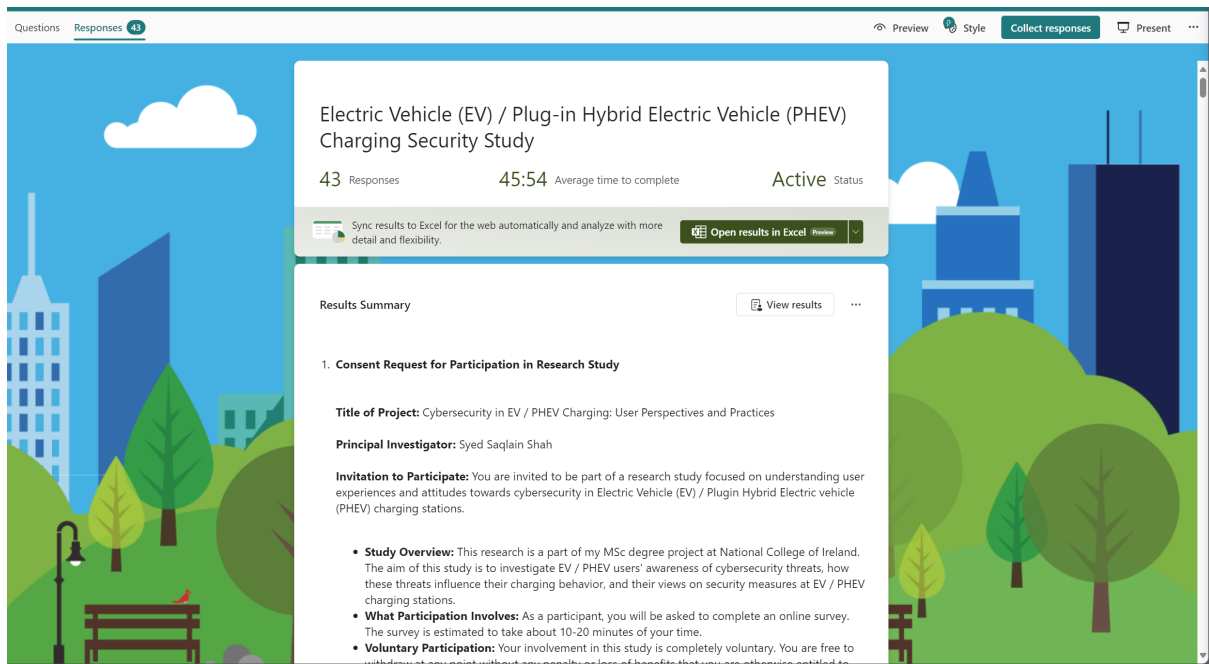


Figure 10: Microsoft Forms Responses tab for the survey

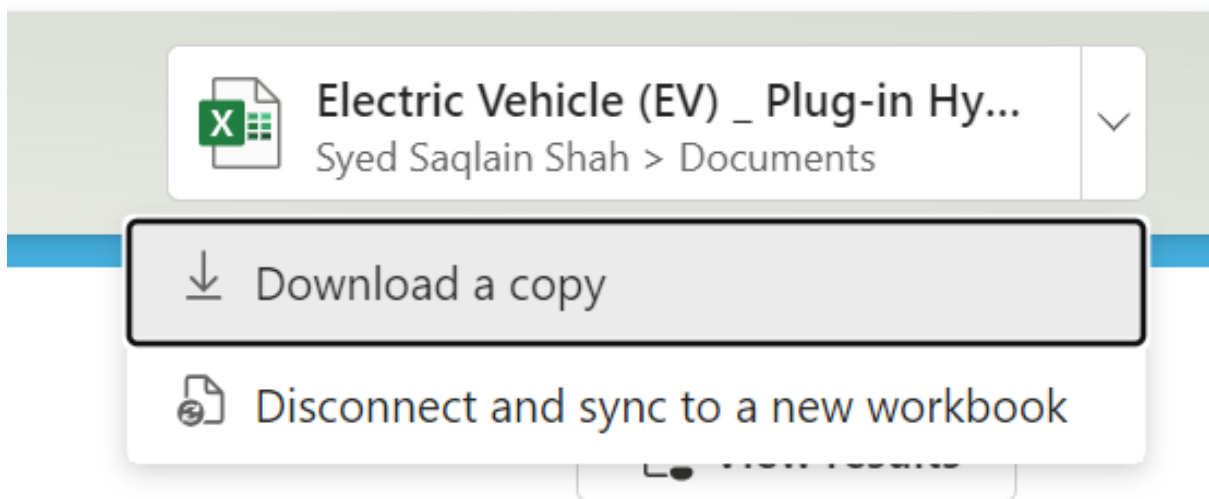


Figure 11: Provided options to be able to download the survey responses

	A	B	C	D	E	F	G	H	I	J	K	L
1	ID	Start time	Completion time	Email	Name	Consent Request follow up	What is your age?	What is your gender?	What is your nation?	What is your country?	What is your occupation?	What is your annual income?
2	6	12/12/23 6:21:26	12/12/23 6:32:14	anonymous		I Agree	45	Female	Irish	Ireland	Educator	74000
3	7	12/12/23 6:52:21	12/12/23 6:57:17	anonymous		I Agree	41	Male	Irish	Ireland	Cyber security	80000
4	8	12/12/23 9:13:29	12/12/23 9:18:47	anonymous		I Agree	41	Female	Irish	Ireland	Scientist	
5	9	12/12/23 9:50:39	12/12/23 10:13:43	anonymous		I Agree	55	Male	Irish	Ireland	Tax driver	35,000
6	10	12/12/23 11:50:10	12/12/23 11:58:41	anonymous		I Agree	52	Female	Irish	Ireland	Accountant / Lecturer	100+
7	11	12/12/23 12:12:11	12/12/23 12:19:45	anonymous		I Agree	45	Male	Irish	Ireland	Advertising	
8	12	12/12/23 12:11:07	12/12/23 12:20:33	anonymous		I Agree	41	Male	Brazilian	Ireland	IT & Marketing	
9	13	12/12/23 12:21:22	12/12/23 12:40:02	anonymous		I Agree	35	Female	Irish	Ireland	Client Servant	667000
10	14	12/12/23 13:01:14	12/12/23 13:06:58	anonymous		I Agree	34	Male	Saudi	Ireland	Sales Manager	160,000
11	15	12/12/23 13:48:14	12/12/23 14:02:23	anonymous		I Agree	36	Male	Irish	Ireland	IT security consultant	110000
12	16	12/13/23 11:12:37	12/13/23 11:18:20	anonymous		I Agree	43	Female	German	Ireland	Lecturer	78K
13	17	12/13/23 11:13:33	12/13/23 11:21:35	anonymous		I Agree	28	Male	Indian	Ireland	Research Scientist	88000
14	18	12/13/23 12:38:27	12/13/23 12:46:59	anonymous		I Agree	29	Male	Indian	Ireland	Researcher	
15	19	12/13/23 13:11:03	12/13/23 13:22:06	anonymous		I Agree	63	Male	Irish	Ireland	University Lecturer	80,000
16	20	12/13/23 14:22:18	12/13/23 14:30:05	anonymous		I Agree	49	Female	Irish	Ireland	Educational programme National Manager	
17	21	12/13/23 14:58:26	12/13/23 15:11:10	anonymous		I Agree	47	Female	Irish	Ireland	Community educator	
18	22	12/13/23 14:53:33	12/13/23 15:14:04	anonymous		I Agree	71	Male	Irish	Ireland	bmsn controls	
19	23	12/13/23 14:55:01	12/13/23 15:20:33	anonymous		I Agree	51	Female	Irish	Ireland	Lecturer	80000

Figure 12: The xlsx format file open in Microsoft Excel