

# When Does it Make Sense to Ask Respondents for Visual Data? Insights for (Mobile) Web Surveys

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# Introduction

- An increasing proportion of web surveys are answered from a mobile device (Tourangeau et al., 2018), reaching 78.8% among millennials in the US and 63.8% in Spain (Bosch, Revilla & Paura, 2019b).
- Mobile devices have different sensors which offer new measurement opportunities → **visual data.**
- What is **visual data**?
  - Photos, screenshots, videos, and other types of visual content that can be stored in or accessed through a device, or produced with its camera or a screen capture tool.

# Why visual data?

- Expected advantages:
  - Richer information than what people can describe by text.
  - Information that respondents are not aware of.
    - e.g. type of mosquito: Mosquito Alert project.
  - More accurate information when memory is involved.
    - i.e. “mention all the items you bought in your last purchase.”
  - Could help engage groups with lower participation rates (e.g. Millennials, people with low literacy, etc.)

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	EUR
Naranja 2 kg	2,29 A
0,50EUR Dto Lidl Plus	-0,24
Edulis/Ensalada dúo	0,99 A
0,50EUR Dto Lidl Plus	-0,10
Edulis/Espinacas	0,89 A
0,50EUR Dto Lidl Plus	-0,09
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0,50EUR Dto Lidl Plus	-0,07
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<b>Total</b>	<b>4,36</b>
=====	
Tarjeta	4,36
<b>Ahorro total por descuentos</b>	<b>0,50</b>



# Considerations to ask for visual data

Researchers must bear in mind that...



Visual data does not  
work for all topics



Respondents' burden



Data quality, costs &  
ethics and data  
protection.

# Considerations to ask for visual data

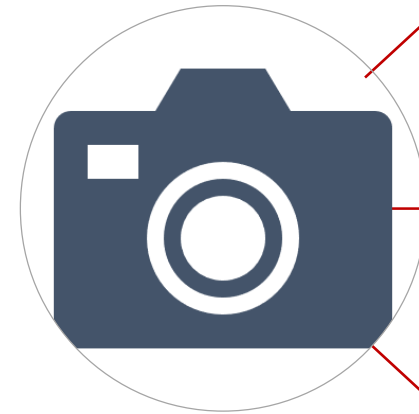
Researchers must bear in mind that...

Visual data does not work for all topics

Respondents' burden

Data quality, costs & ethics and data protection.

In order to receive visual data, respondents should have the...



- **Skills** to create and/or share visual data

- **Availability** of visual data

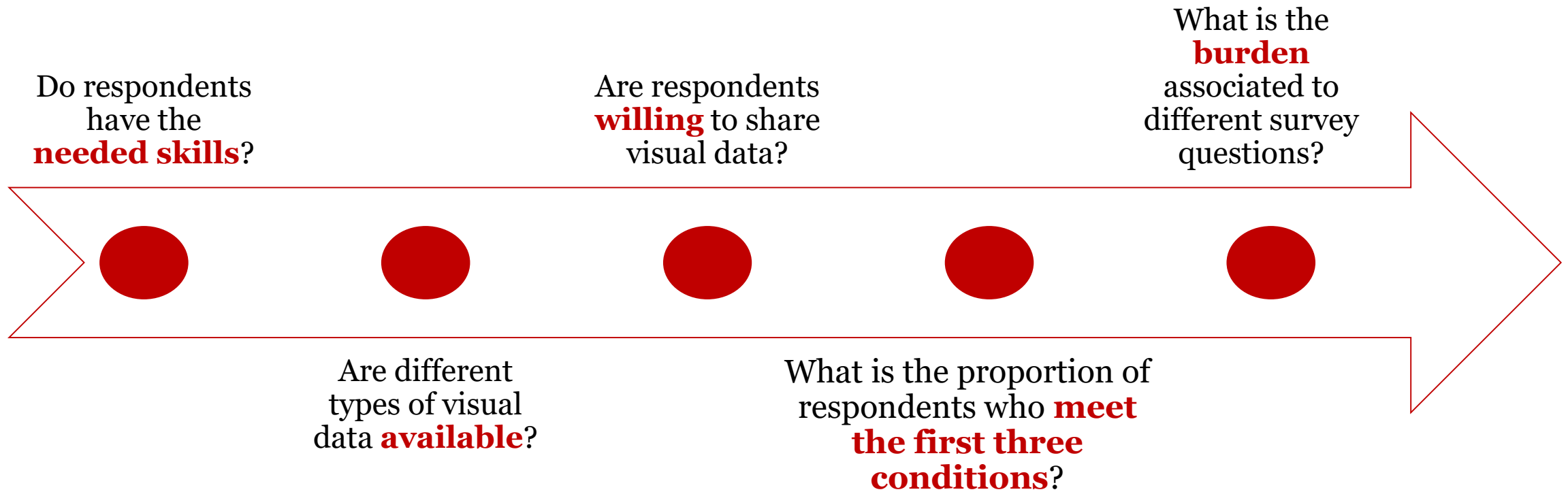
- **Willingness** to share visual data

# Background

- Willingness
  - Between **50%** (Revilla et al., 2019) and **65%** (Wenz et al., 2019) have stated to be willing to share images when asked during a web survey.
  - The willingness varies depending on what is being asked (Struminskaya et al., 2021)
- Actual participation
  - The actual participation also differs, ranging from **11%** (Jäckle et al., 2019; Read, 2019) to **52%** (Bosch et al., 2019a).

# Research question

## When does it make sense to ask respondents for visual data?



# Methods and Data

- Online survey

Questionnaire

## Smartphone block

*Would you agree to participate in a survey that you could only access from a smartphone?*

## PC block

*And if you could only participate from a PC?*



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- Online survey

Questionnaire

## Smartphone block

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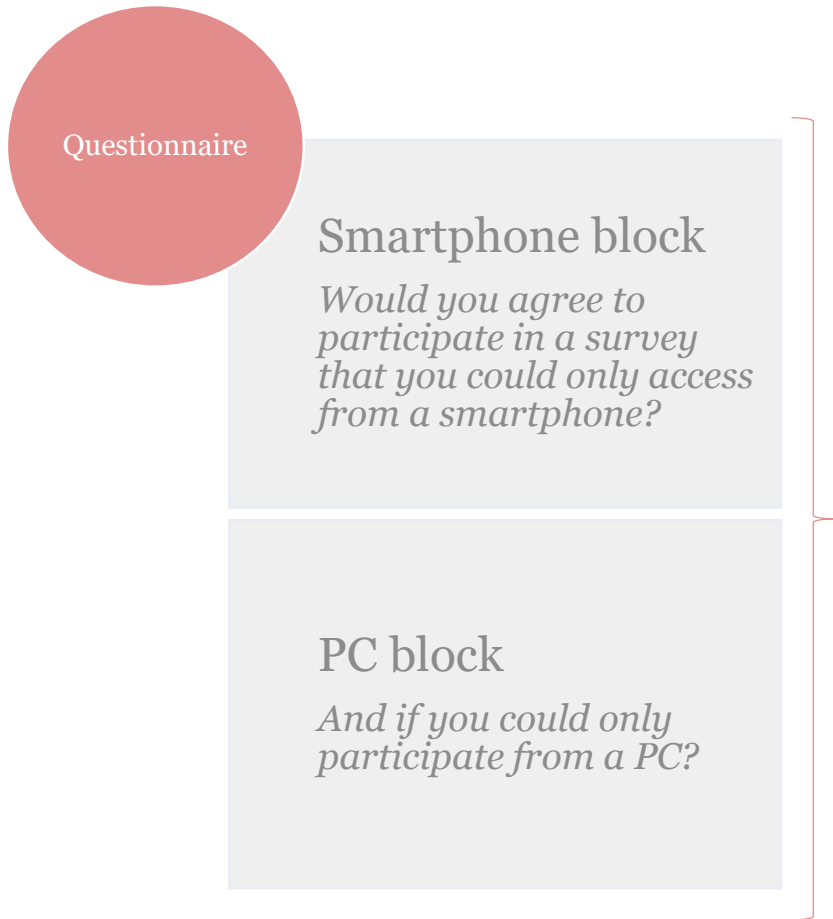
## PC block

*And if you could only participate from a PC?*

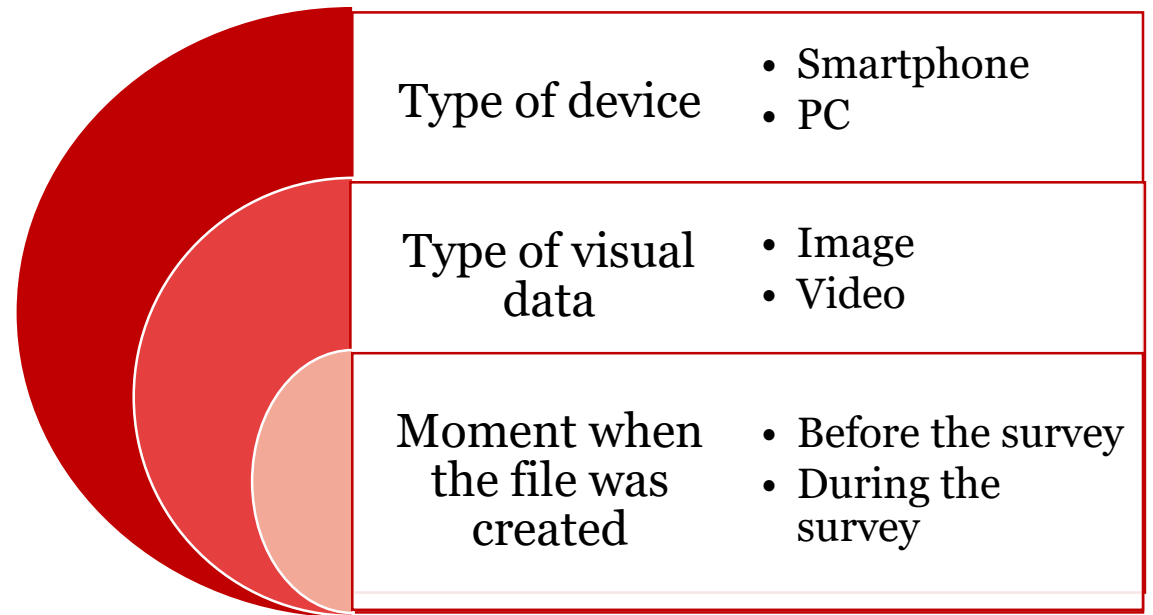
- Up to 71 questions
- Allowed to continue without answering except for filter questions.

# Methods and Data

- Online survey



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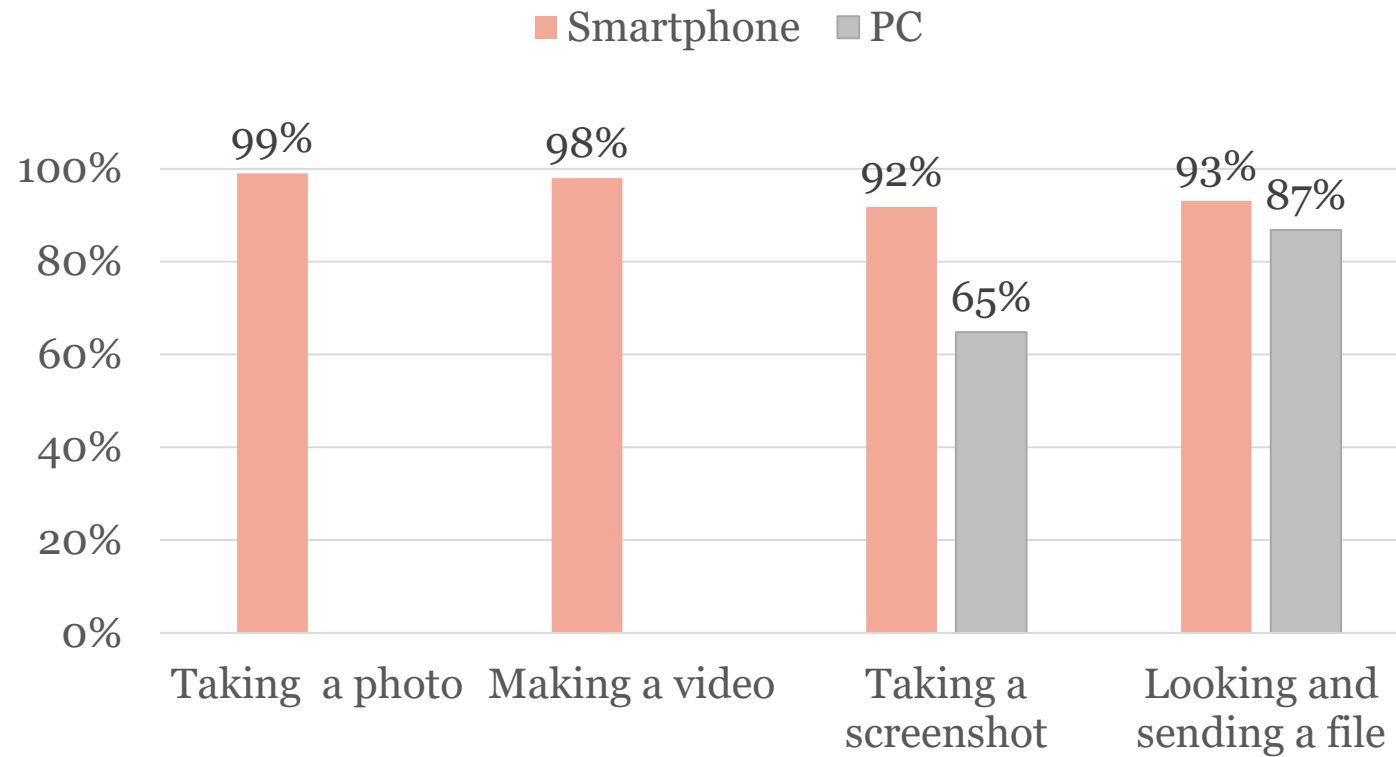
# Methods and Data

- Online opt-in panel in Spain (Netquest)
  - Data: May, 2021.
  - Quotas based on gender, age and education to be representative of internet adult population.
  - 857 respondents completed the survey.
- Analysis
  - Descriptive analysis and significance tests to characterize and compare the prevalence of the variables.

# Results

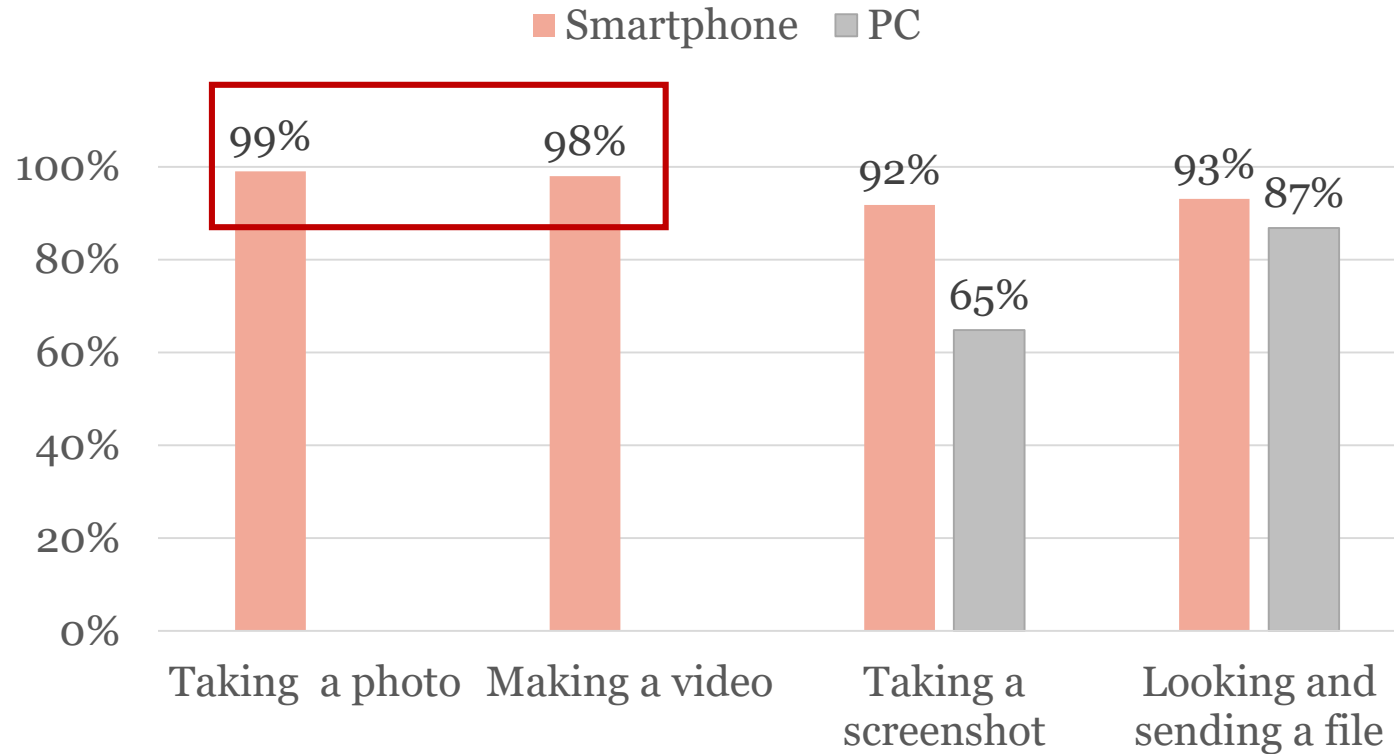
\*When comparing categories, all the differences shown in the slides are statistically significant.

# Skills of the respondents to create and/or share visual data



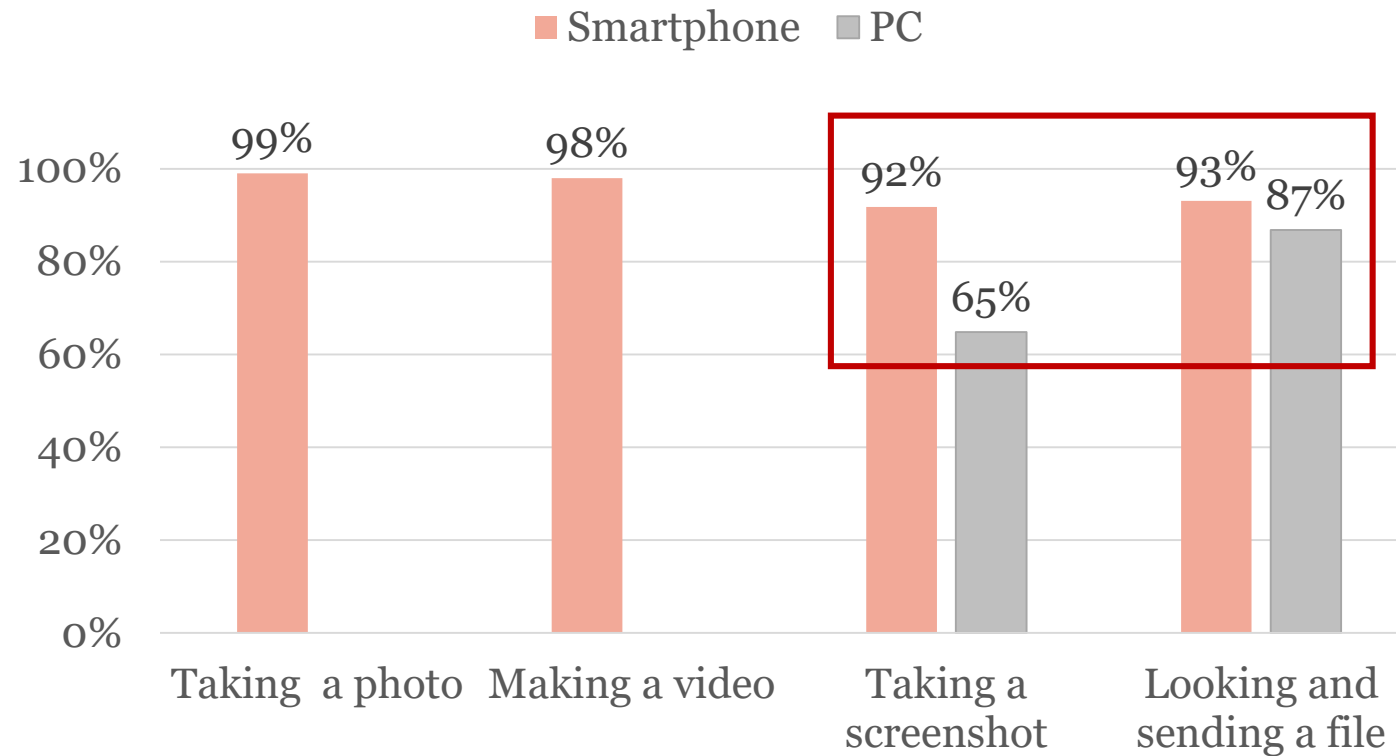
# Skills of the respondents to create and/or share visual data

- Almost all respondents know **how to take a photo or make a video**. Skills for the rest are high but already **not that universal**.



# Skills of the respondents to create and/or share visual data

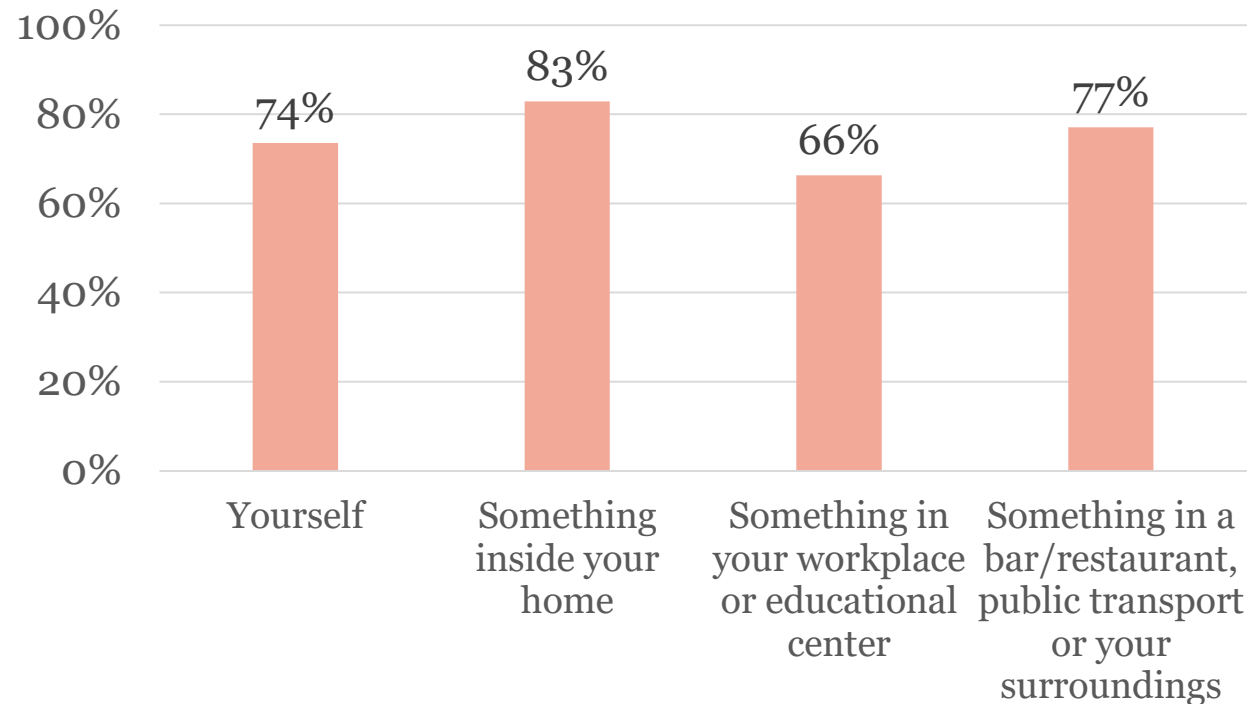
- In general, skills are **higher for smartphone**.



## Availability to create visual data during the survey

*At this moment, are you in a situation that would allow you to take a picture or make a video with your smartphone of yourself / something in the place you are answering from?*

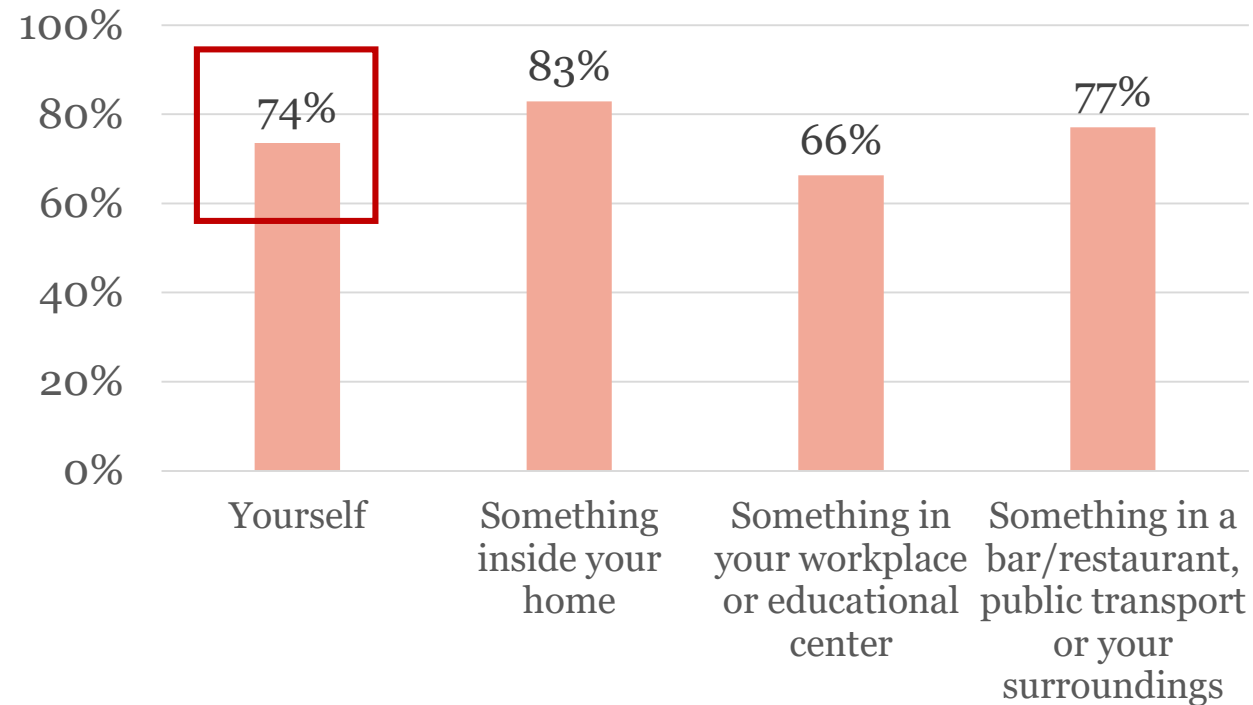
*Please do not consider whether you would agree to do so, we simply want to know if the situation you find yourself into would allow you to do so.*





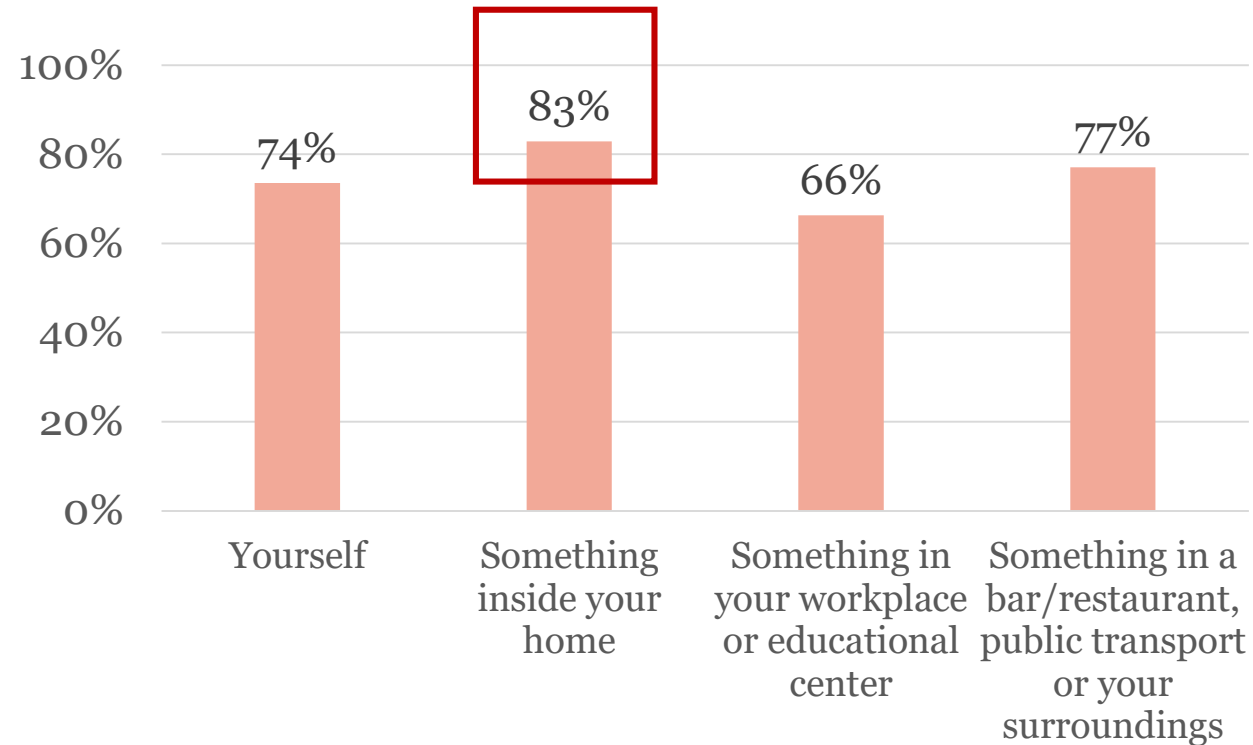
## Availability to create visual data during the survey

- 7 in 10 participants would be able to **take a selfie**.

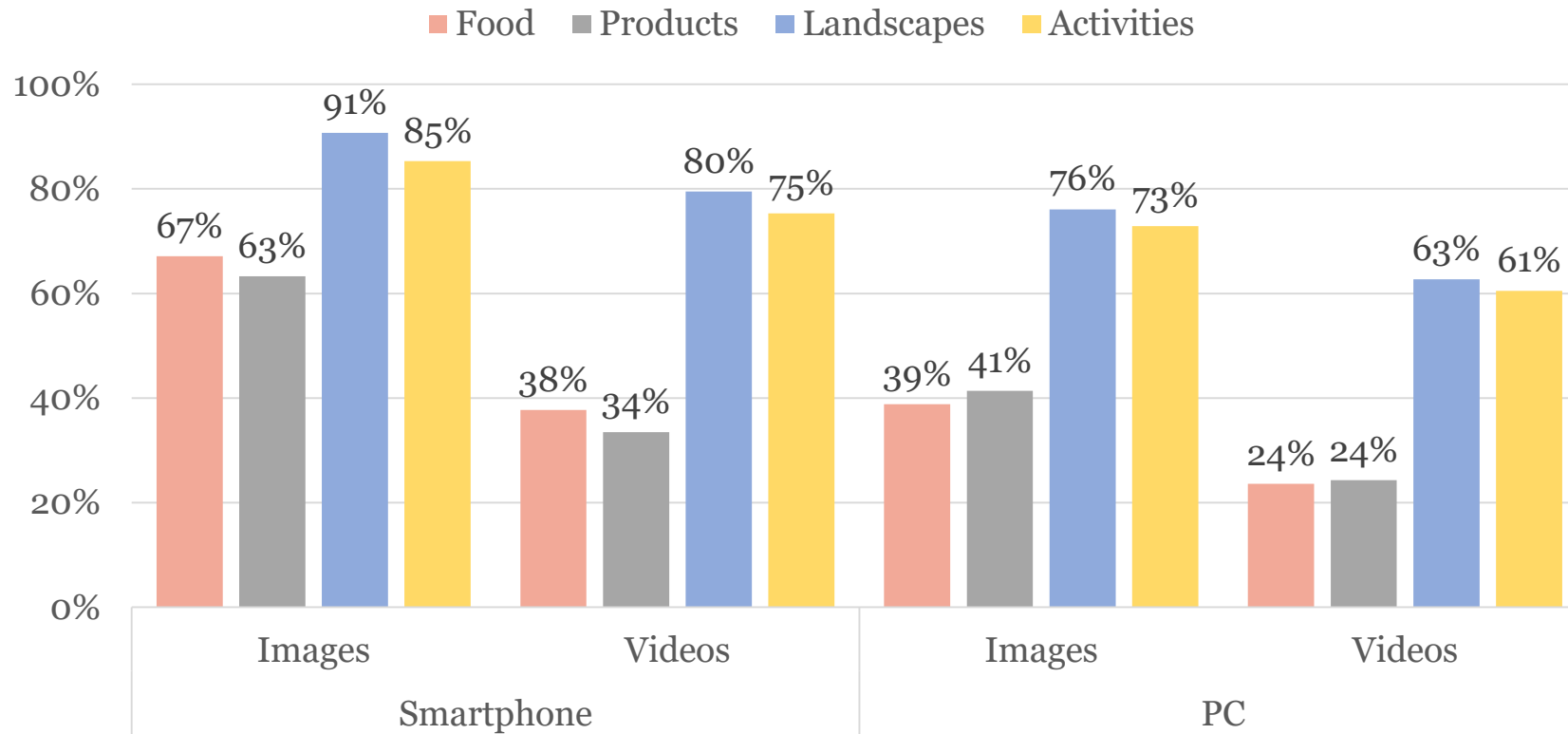


## Availability to create visual data during the survey

- If at home, 83% of smartphone respondents would be able **take a photo or video inside of it.**

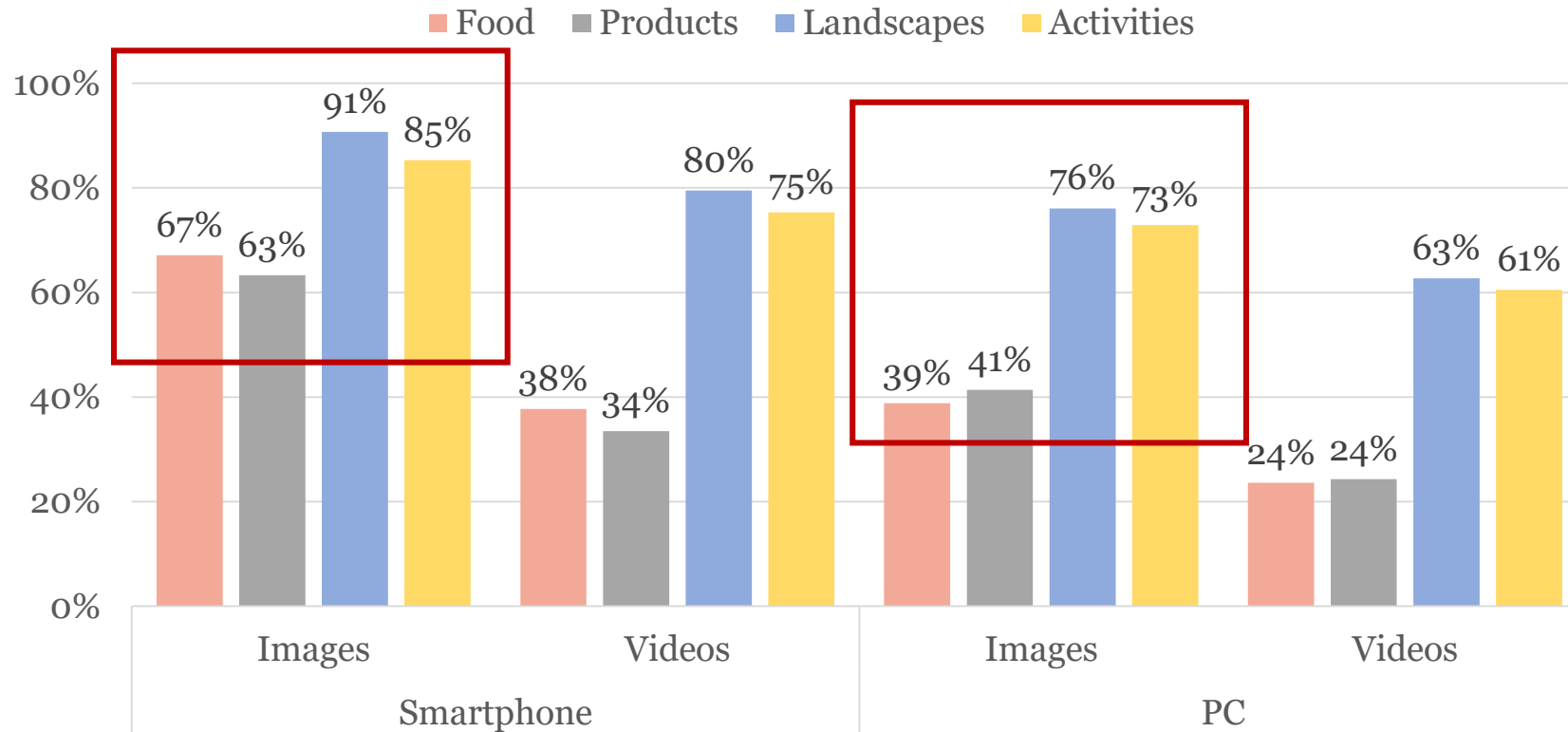


# Availability of already stored visual data



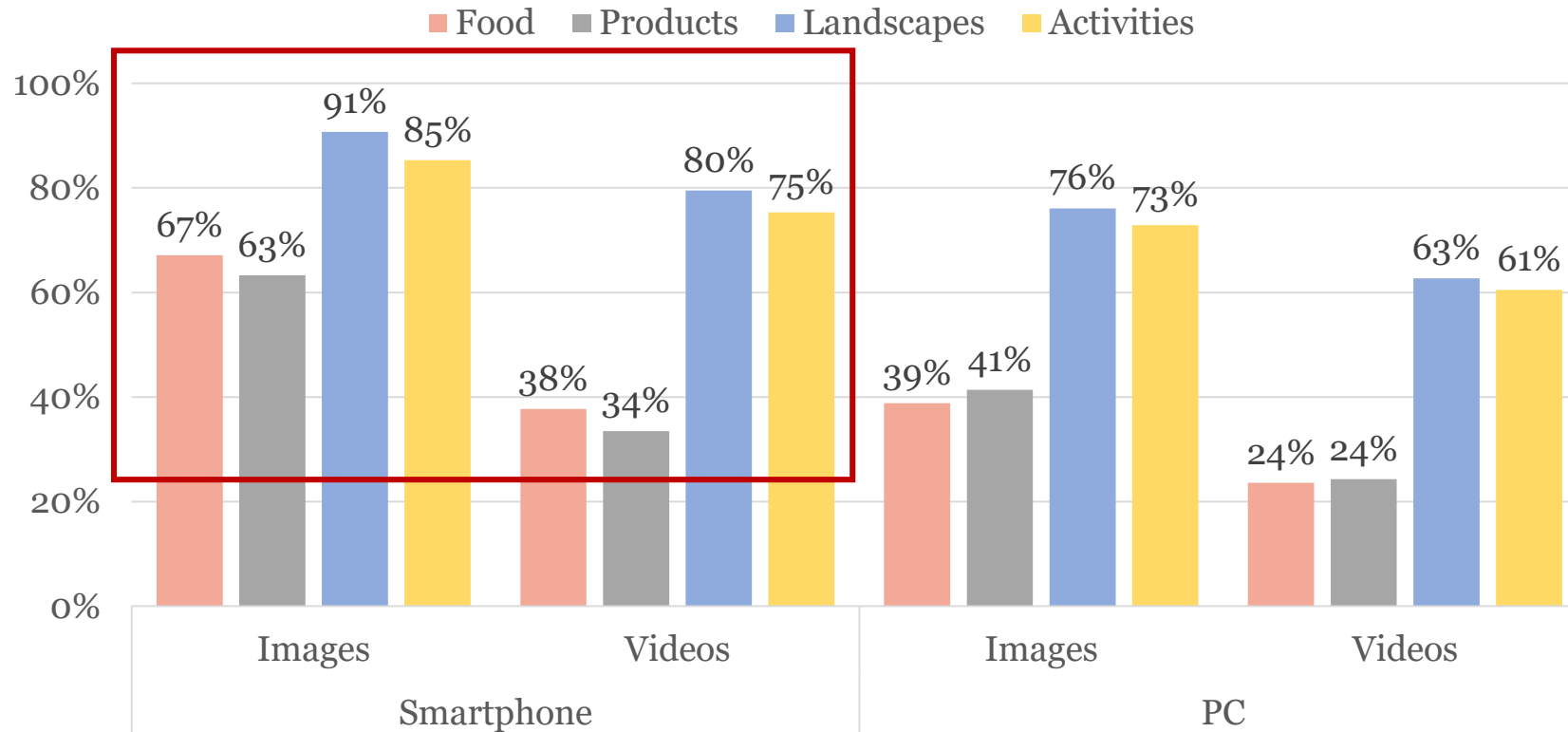
# Availability of already stored visual data

- Respondents have a **higher availability of images than videos.**



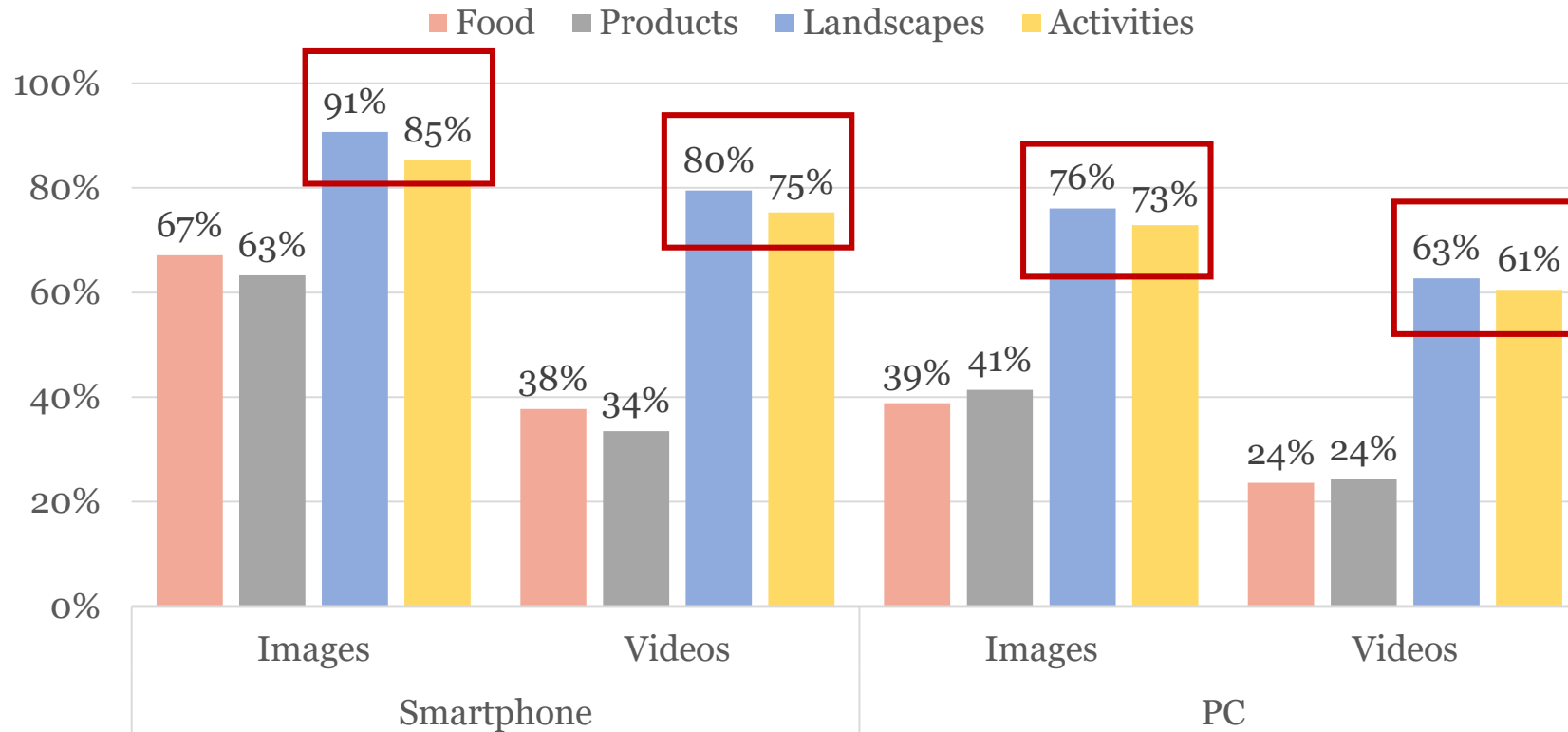
## Availability of already stored visual data

- There is a **higher availability of visual data in smartphones** than in PCs.

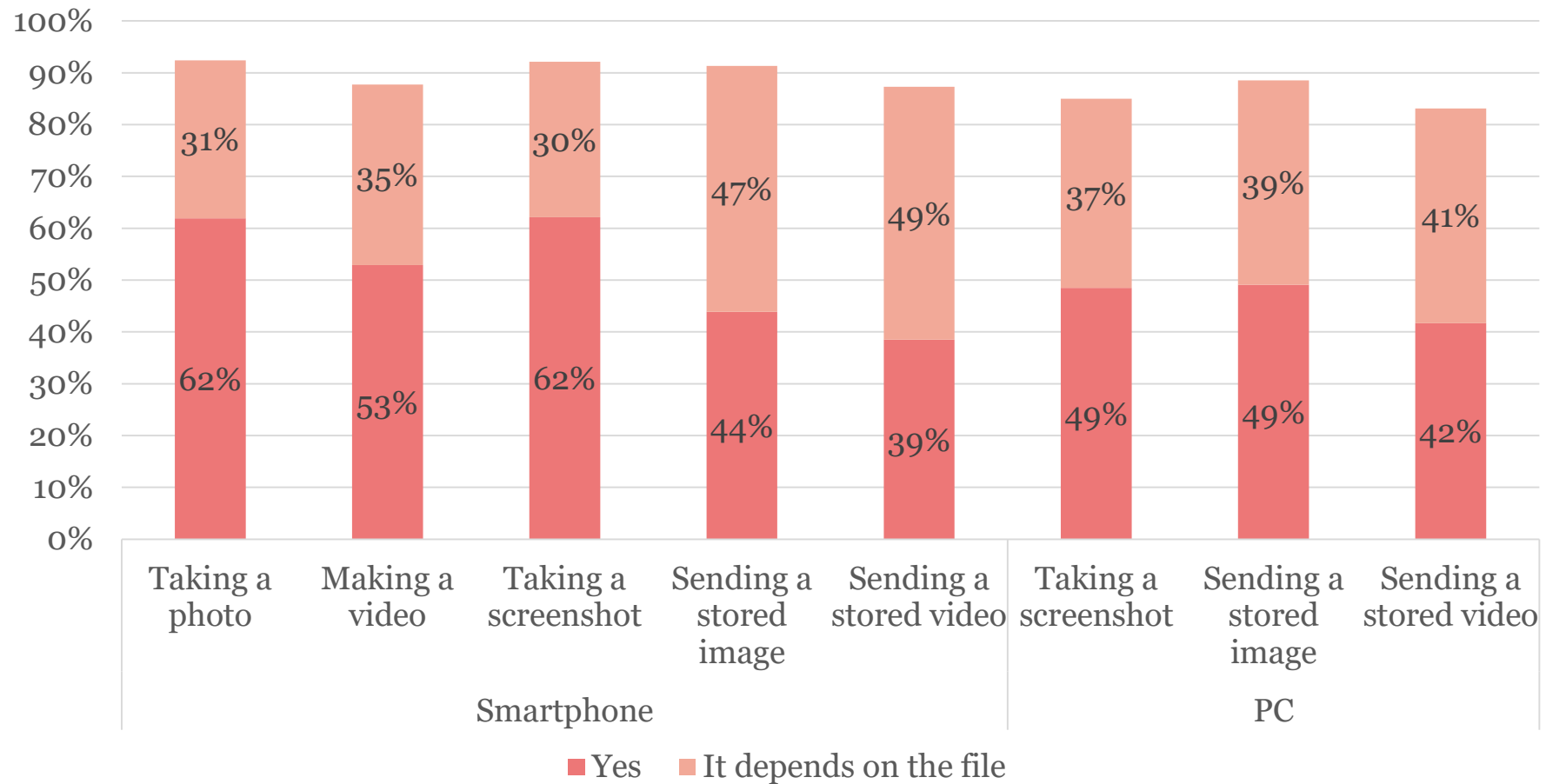


# Availability of already stored visual data

- The categories with the highest availability are **landscapes** and **activities**.

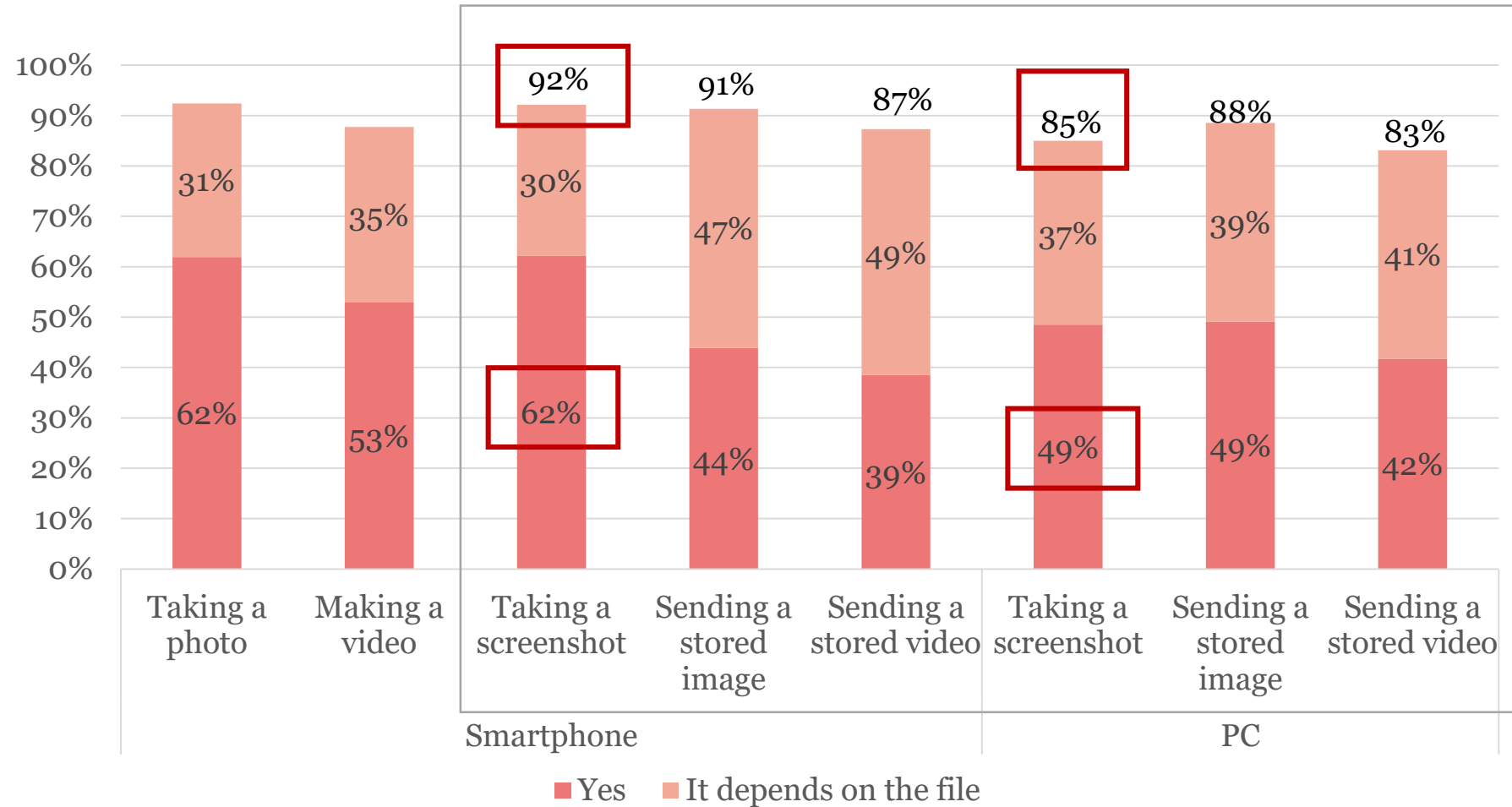


# Willingness to share visual data



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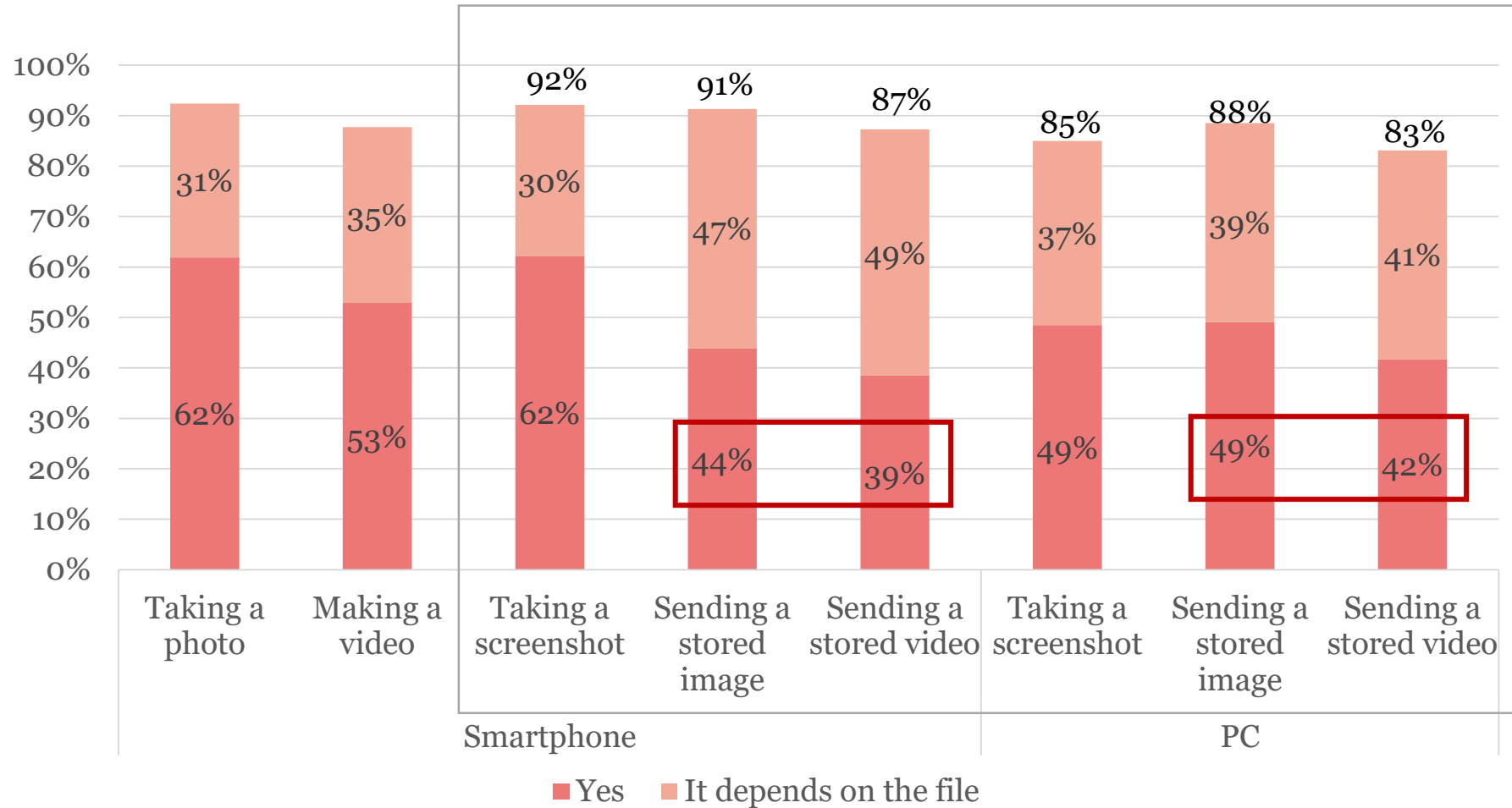
- The willingness to take and share a screenshot is **higher in smartphones than in PCs**.





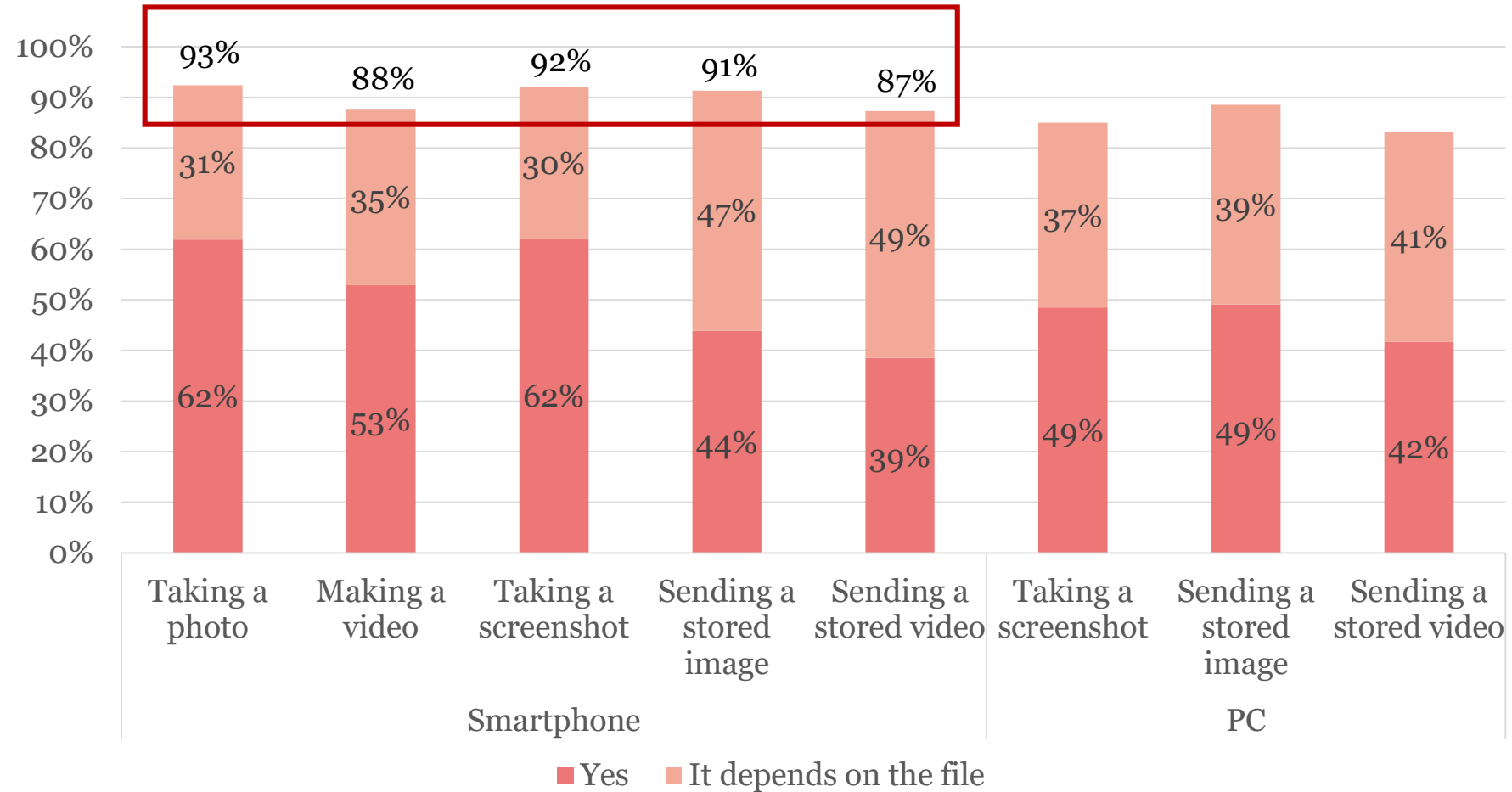
# Willingness to share visual data

- The absolute willingness for already stored visual data is higher in PCs.

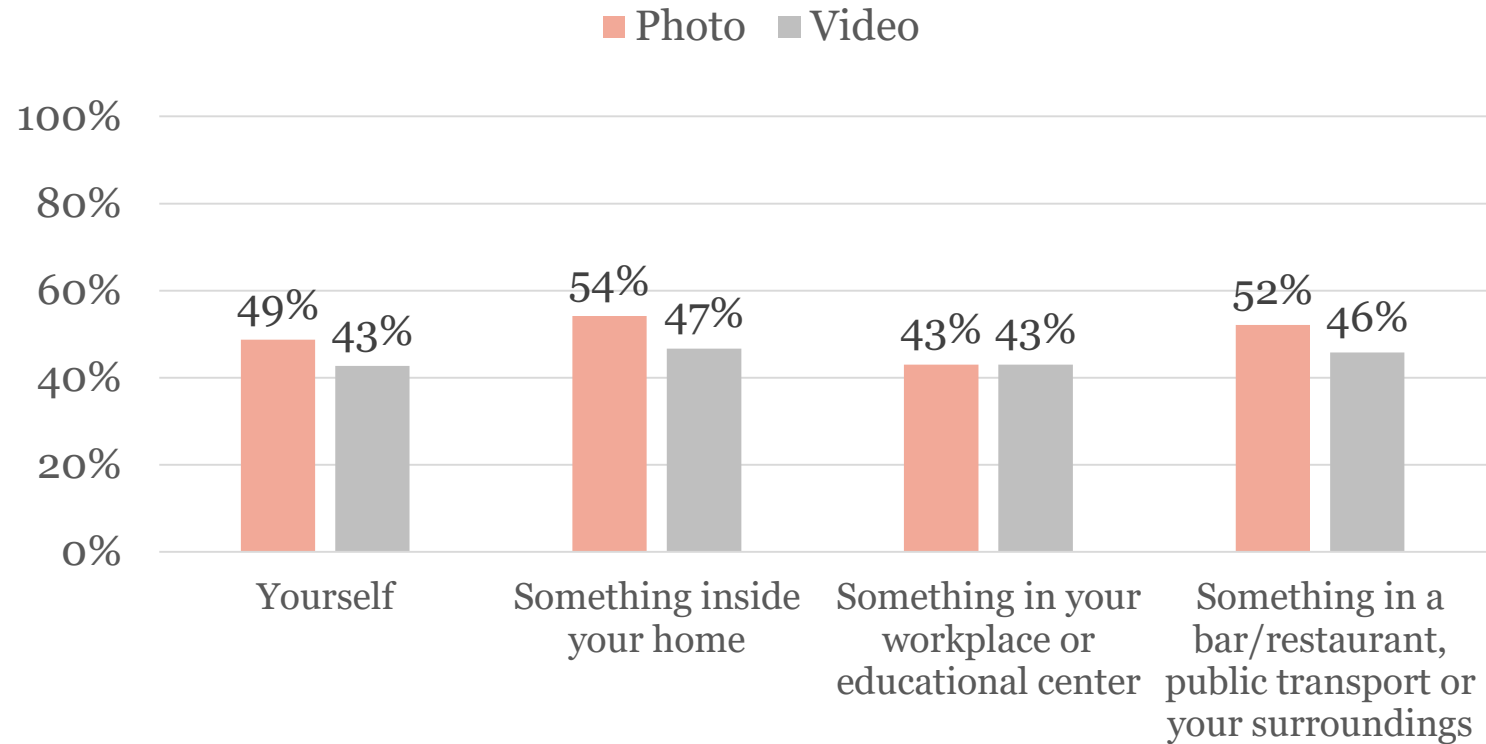


# Willingness to share visual data

- Almost 9 in 10 answering the smartphone block would be **willing to share visual data**.

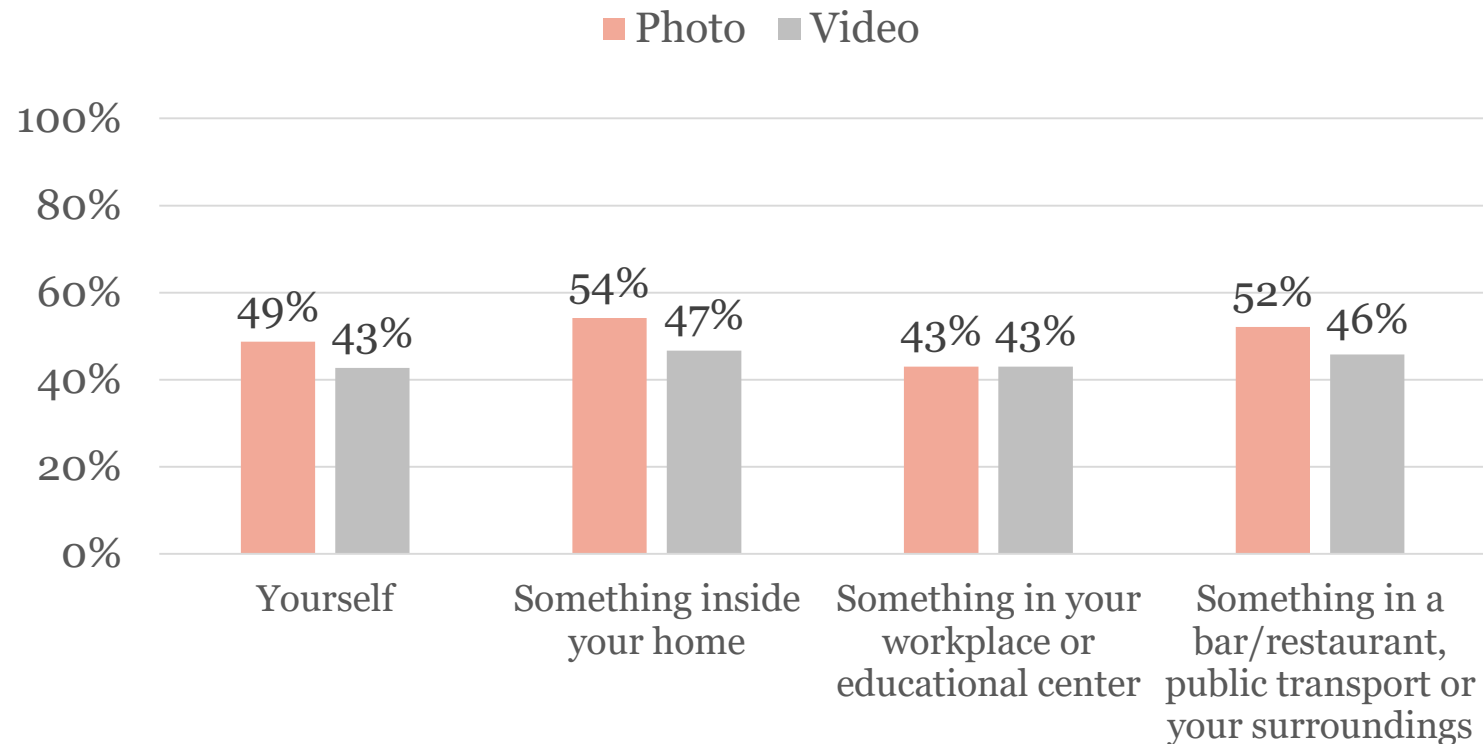


# Have the skills + Are willing + Are available to create a photo/video during the survey



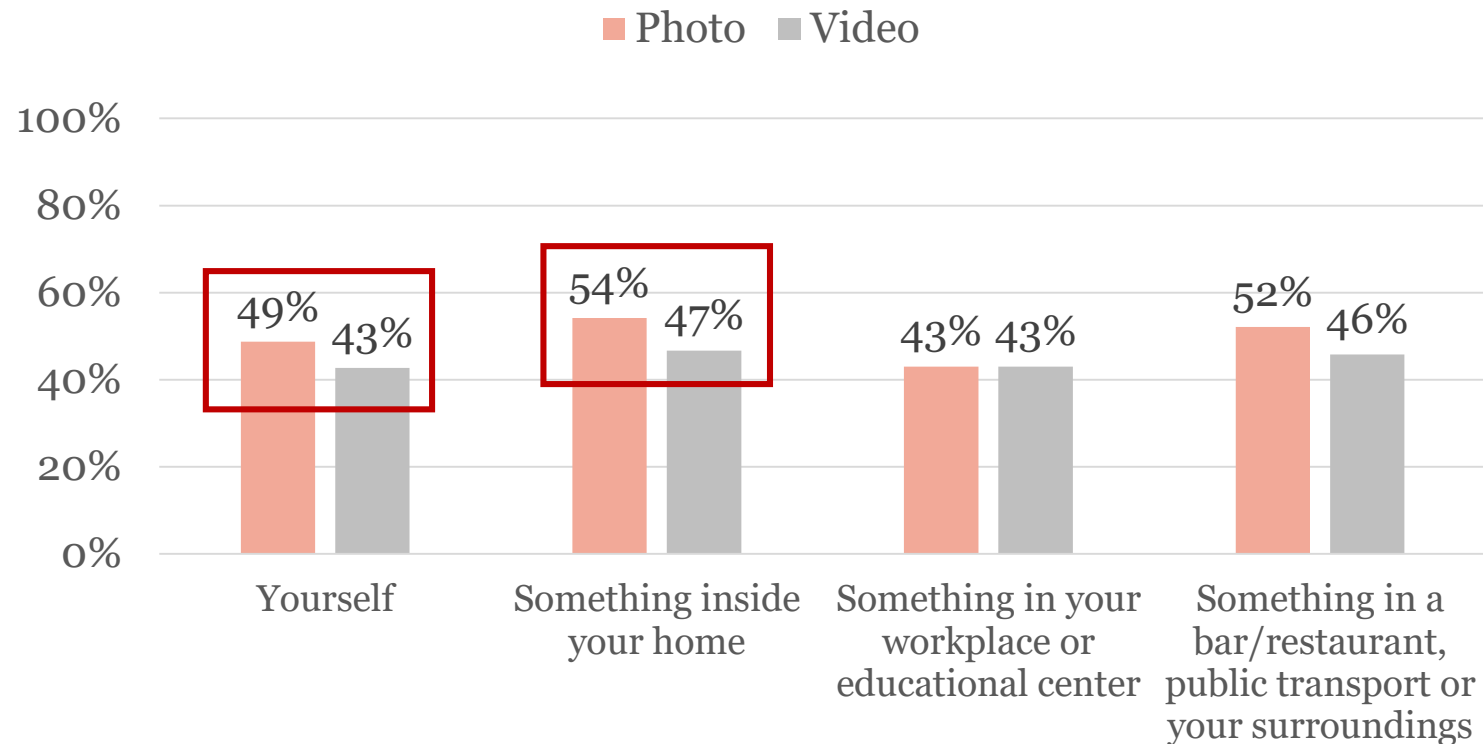
## Have the skills + Are willing + Are available to create a photo/video during the survey

- Nearly half of the respondents who would use their smartphone to answer provided a positive answer in the three dimensions at the same time.

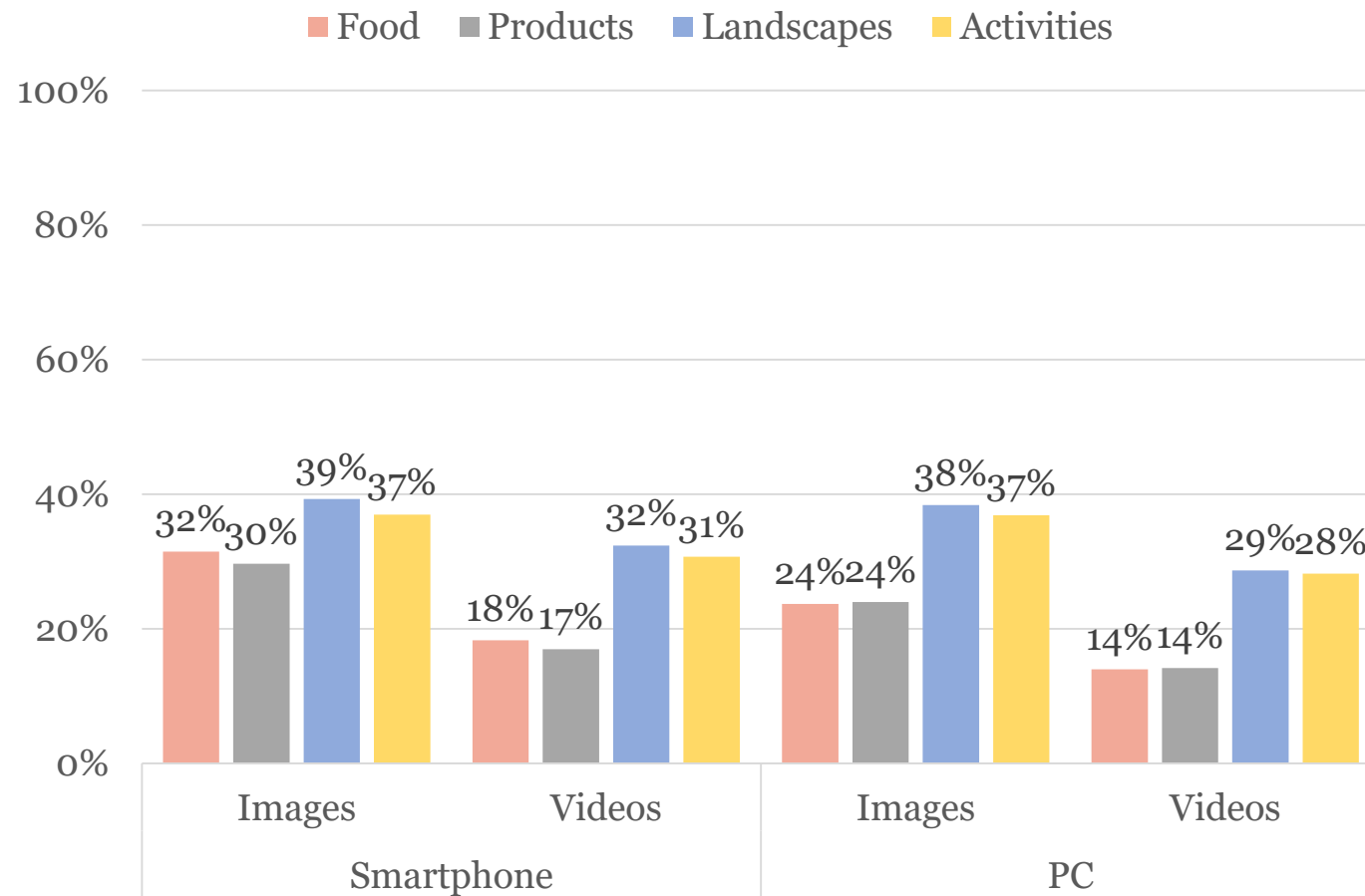


## Have the skills + Are willing + Are available to create a photo/video during the survey

- When it comes to selfies and visual data of their house, respondents show a higher percentage for photos.

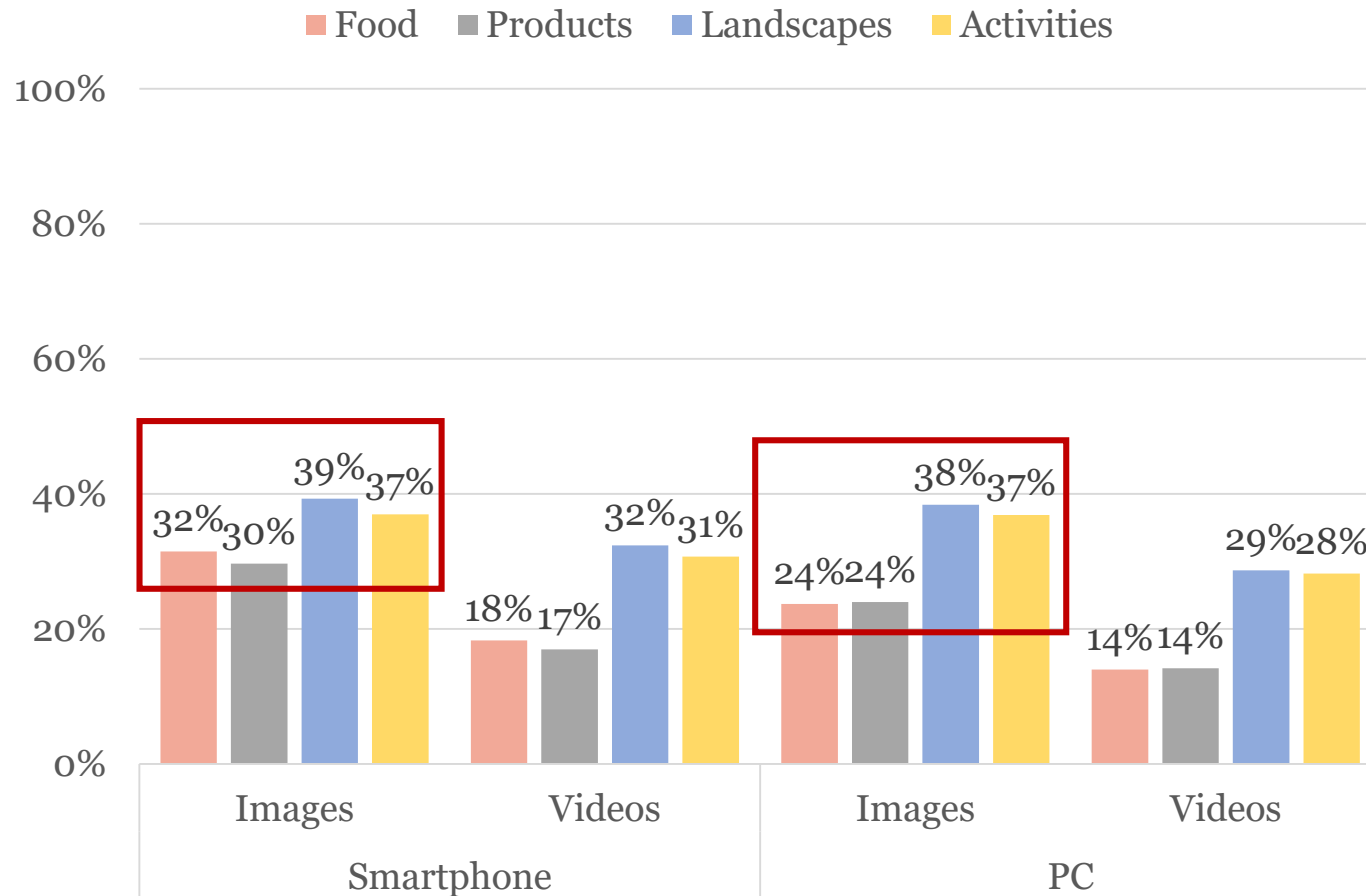


# Have the skills + Are willing + Have availability of visual data



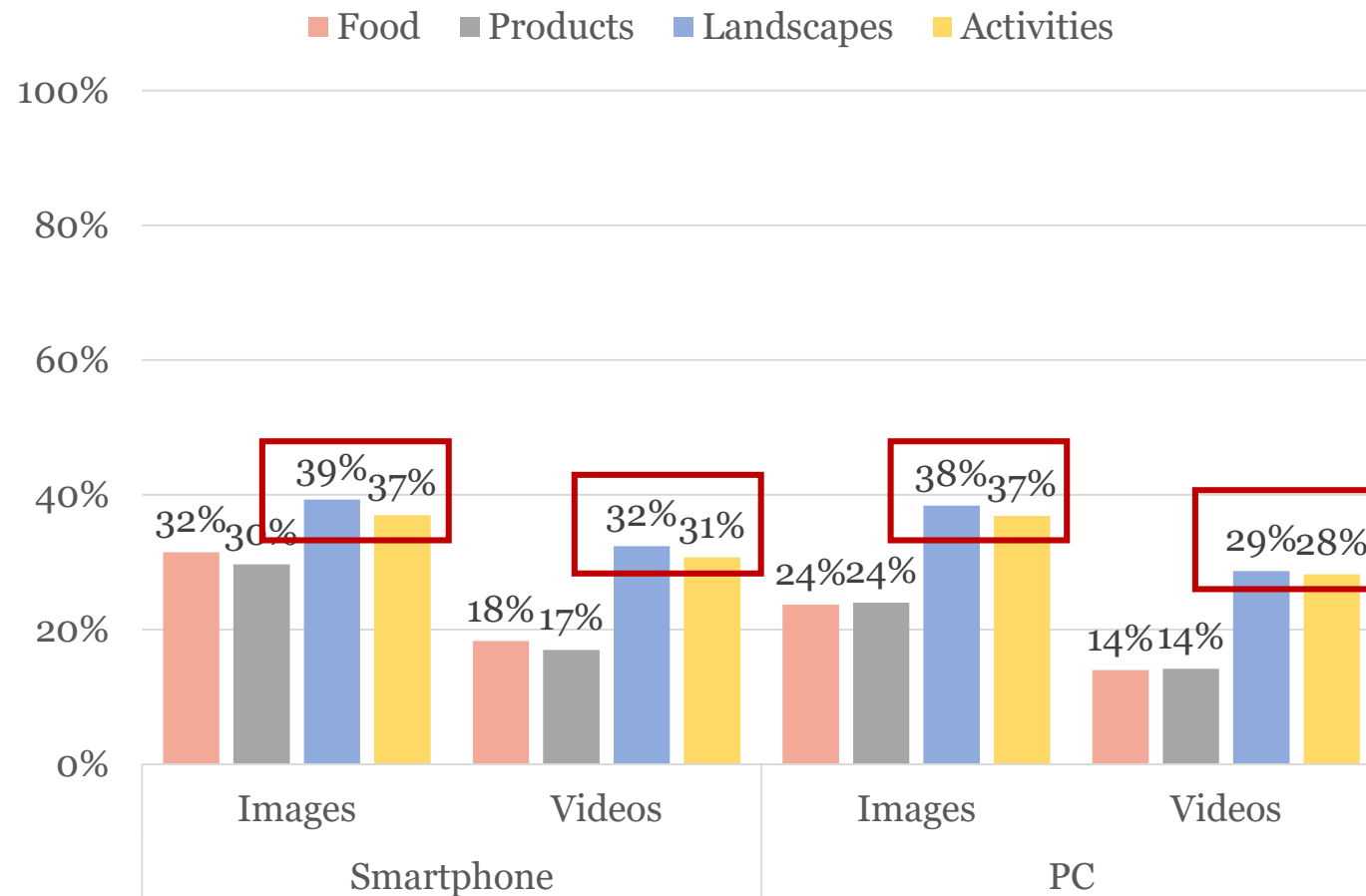
# Have the skills + Are willing + Have availability of visual data

- The highest percentages are observed for images.



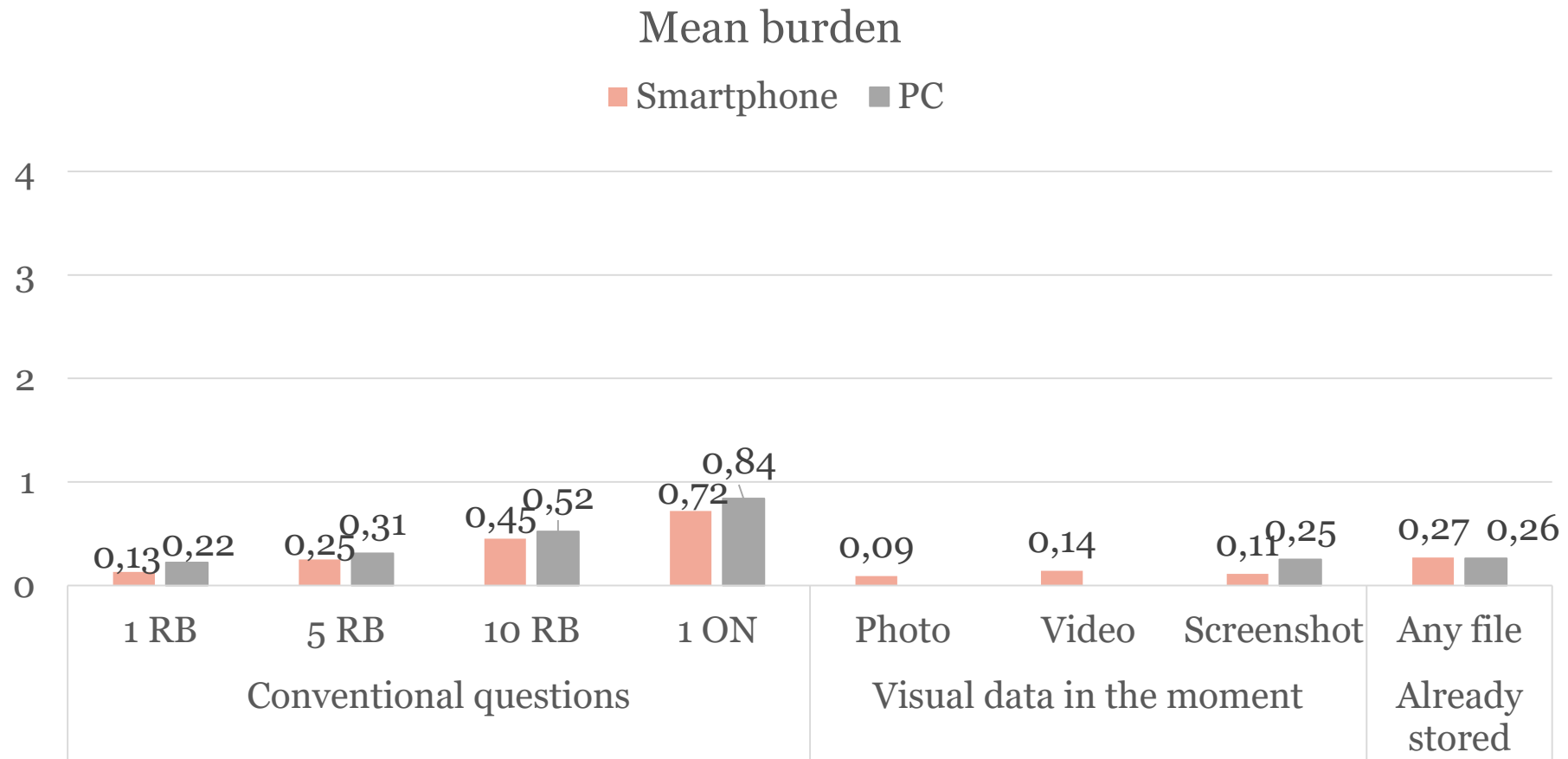
# Have the skills + Are willing + Have availability of visual data

- Almost 4 in 10 respondents would positively meet the three dimensions when considering landscapes and activities.



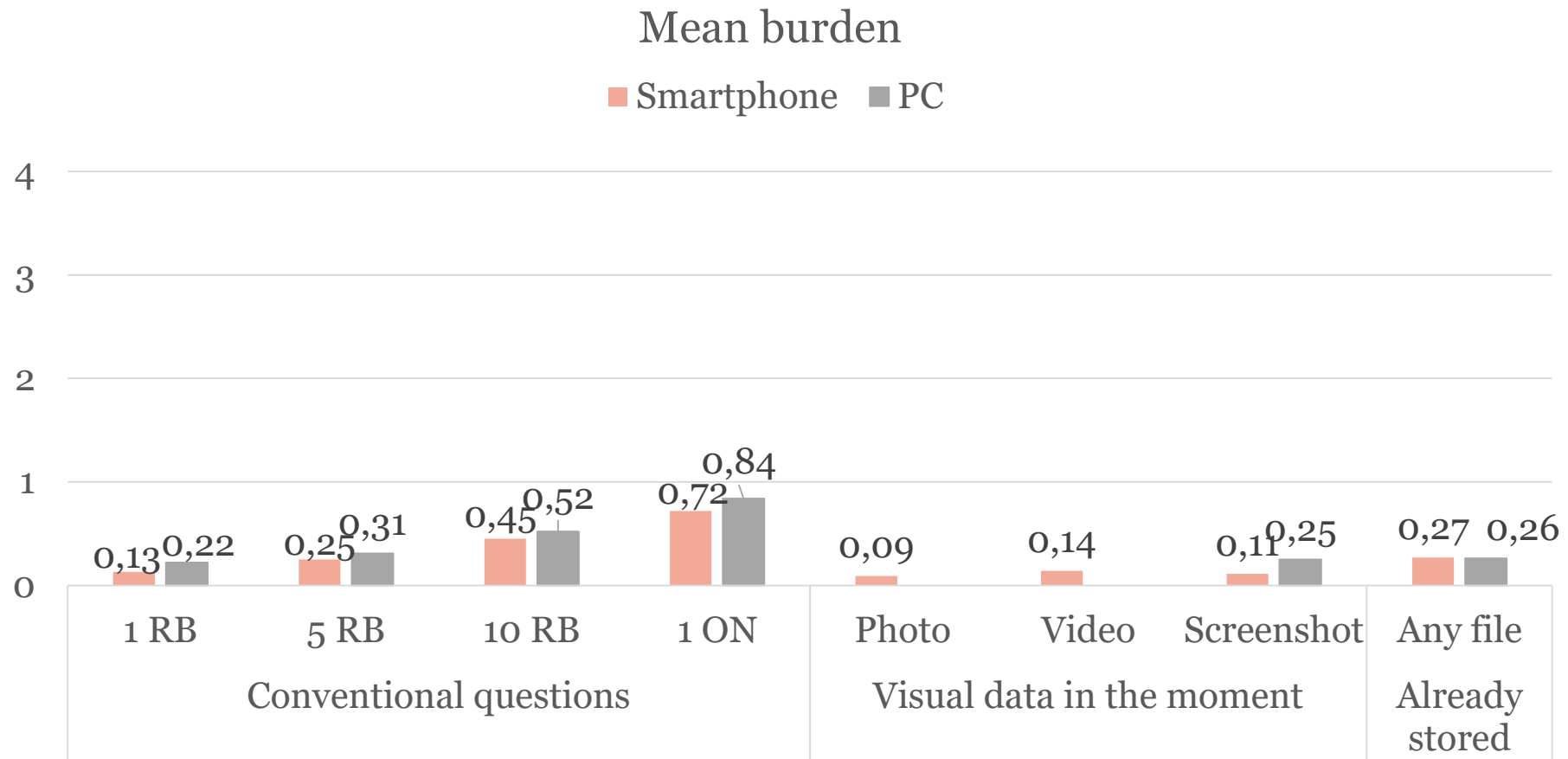


# Perception of burden regarding survey questions



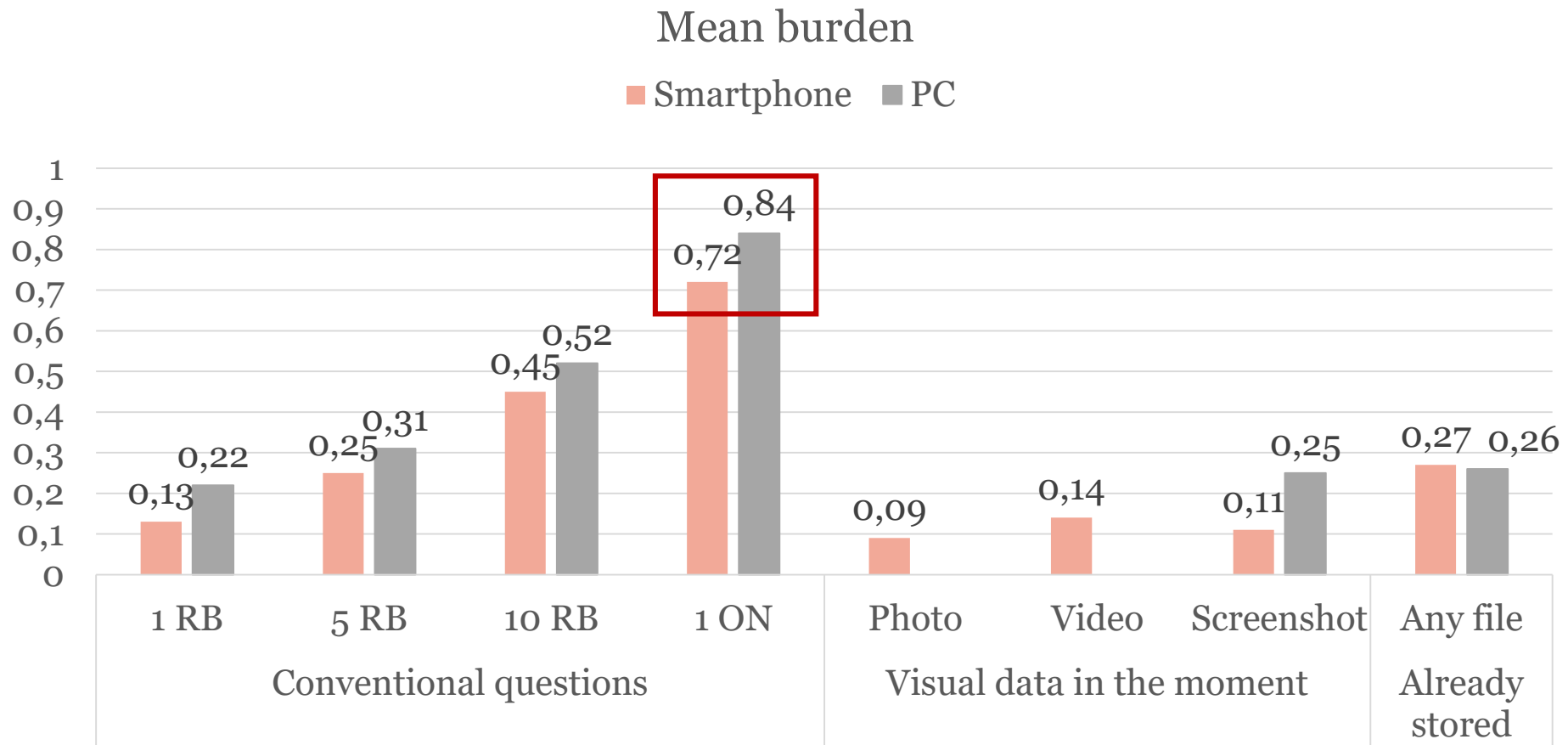
# Perception of burden regarding survey questions

- In the 0-4 scale, the burden is low for all types of questions.



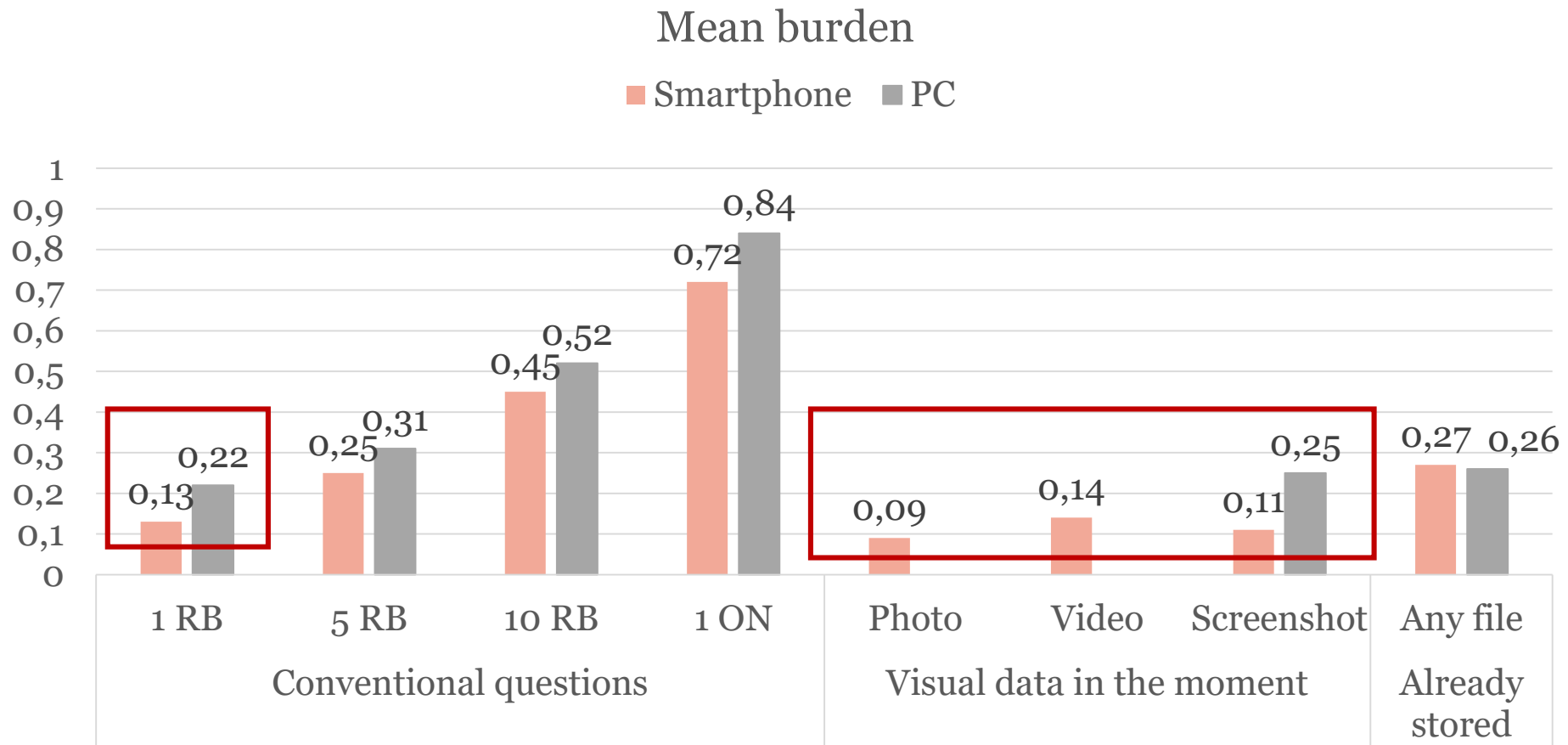
# Perception of burden regarding survey questions

- **The burden is higher for open narrative questions** compared to any type of visual data question.



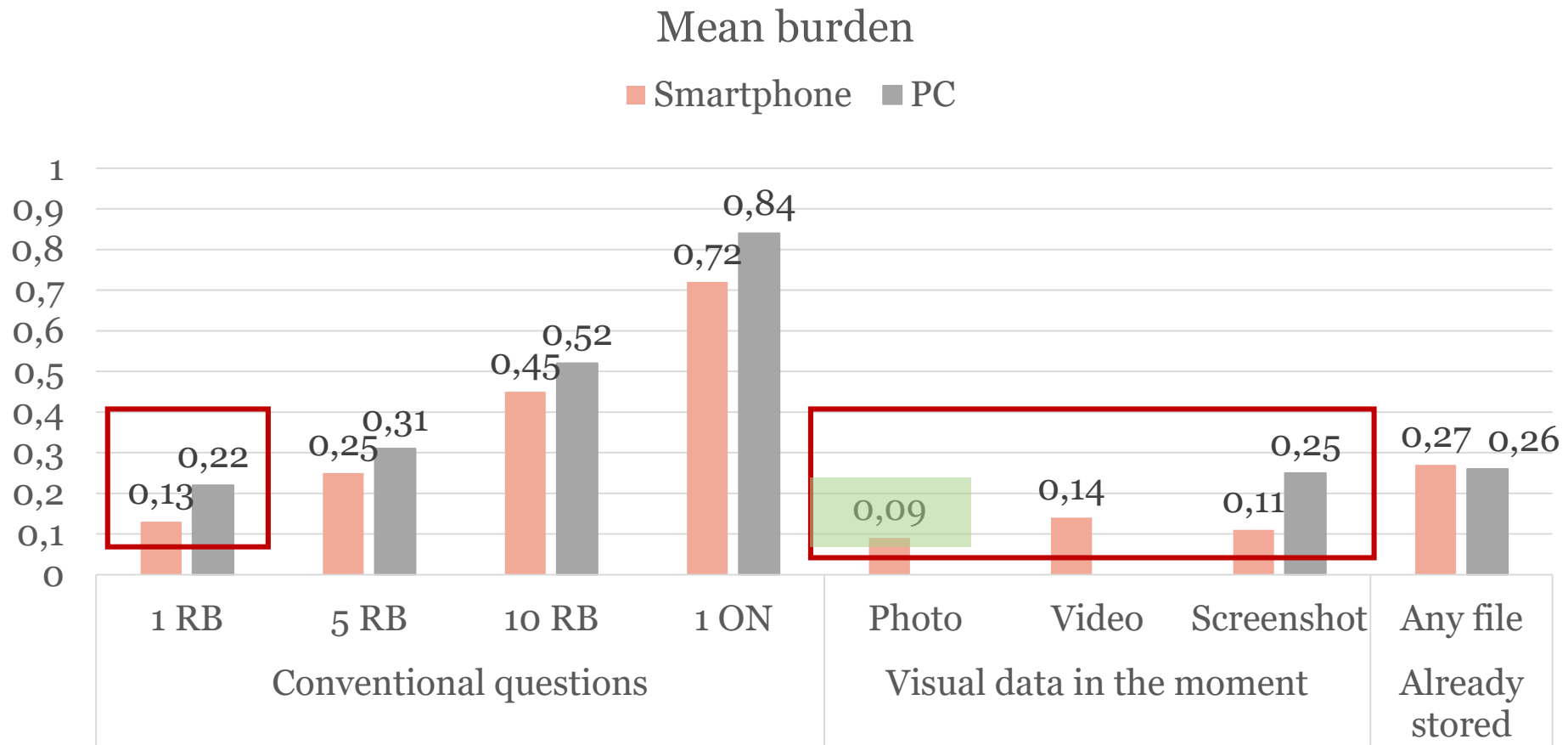
# Perception of burden regarding survey questions

- **Visual data produced in the moment with the smartphone have the lowest perception of burden**, and they compare to 1 radio button question's burden.



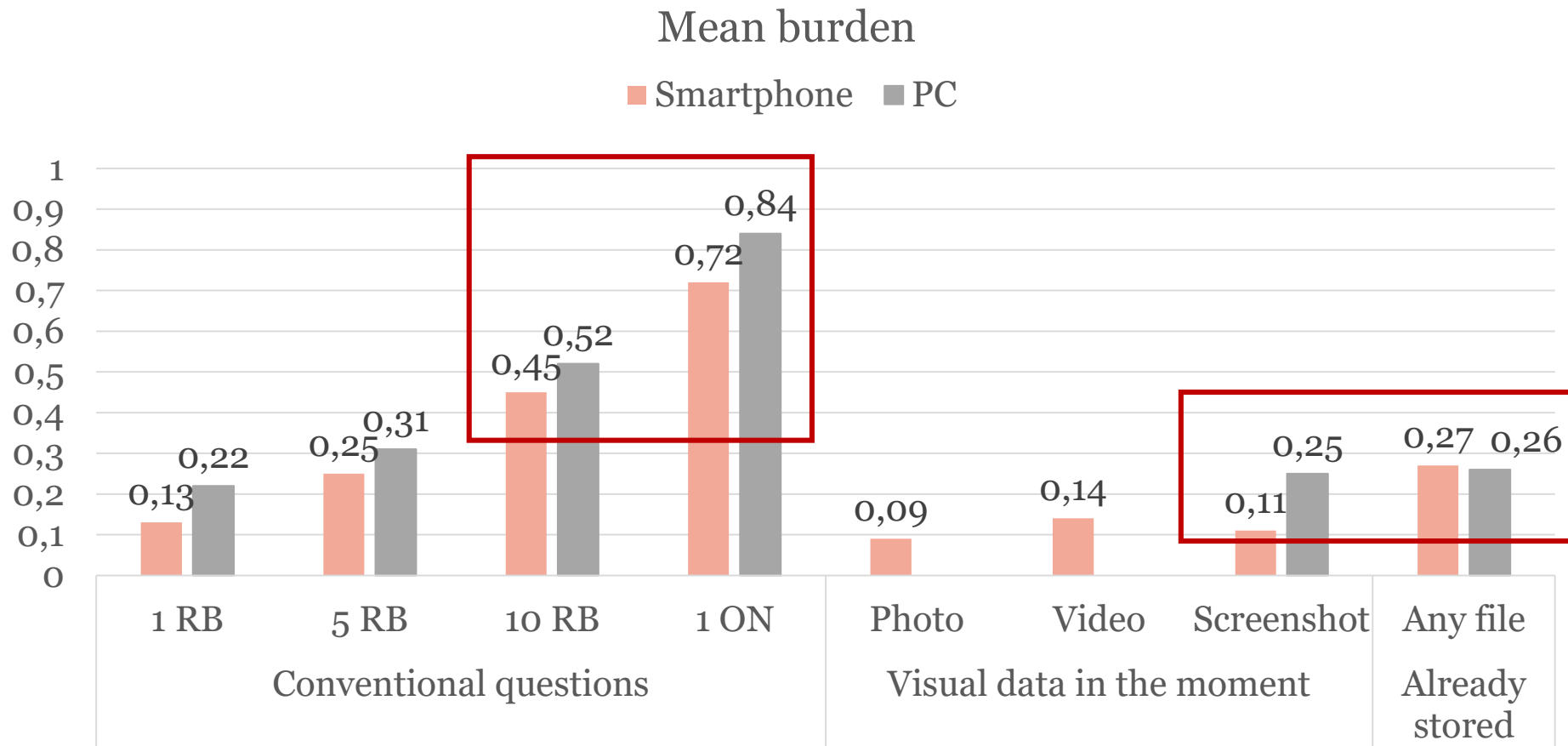
# Perception of burden regarding survey questions

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# Perception of burden regarding survey questions

- Screenshots in the PC and already saved data would decrease the burden if **they replace 10 radio button questions or open narrative ones.**



# Conclusions

- **Skills are high** for almost every task, regardless of the device.
- The **availability** to create visual data during the survey is **high**, particularly for things inside the house.
- The **availability** of already stored visual data is higher for **images and smartphones**.
- At least **8 in 10 participants** would eventually be **willing** to share visual data.
- The **three dimensions together** work better for **visual data produced during the survey**. These types of data also result in a lower perception of burden.

# Conclusions

- Actual participation goes **beyond the willingness**.
- Practical implications:
  - Given the lack of skills in specific tasks, it would be useful to **explain how to perform them**, e.g., how to send a file from both devices, or taking a screenshot from the PC.
  - A **prior notification** to the respondents could provide better results when asking for already stored visual data, e.g., photos and/or videos of food and products.
  - It is more feasible to request visual data to **smartphone** respondents, especially if it is produced **during** the survey.
- Limitations of our study: opt-in panel in one single country.
- Future research should consider aspects such as **data quality, coding of the visual data** and **assessment of the participation** in these types of surveys.



# Thanks!

## *Questions?*

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<https://www.upf.edu/web/webdataopp>

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