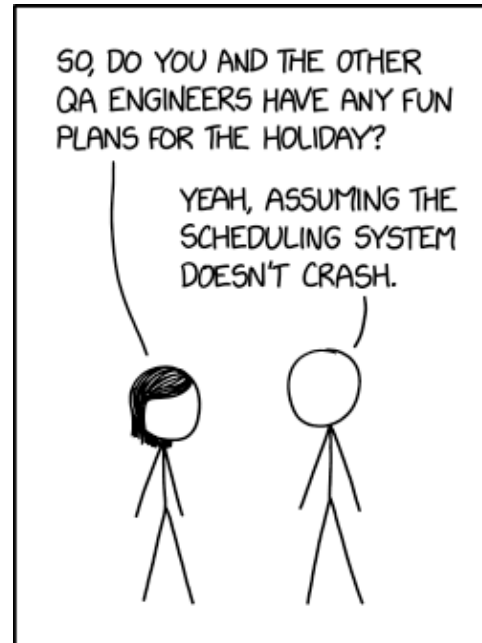


# Breaking Tester Stereotypes: who is testing and why it matters



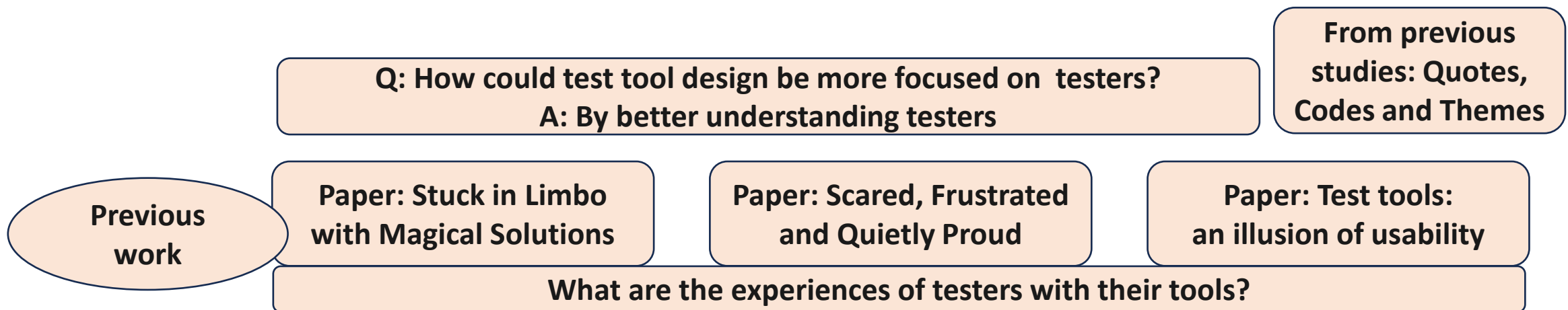
SOFTWARE TESTING DAY IS A HOLIDAY  
CELEBRATED EVERY -1 YEARS ON  
JANUARY 0<sup>TH</sup> AT 25:71 PM.

[https://imgs.xkcd.com/comics/software\\_testing\\_day.png](https://imgs.xkcd.com/comics/software_testing_day.png)

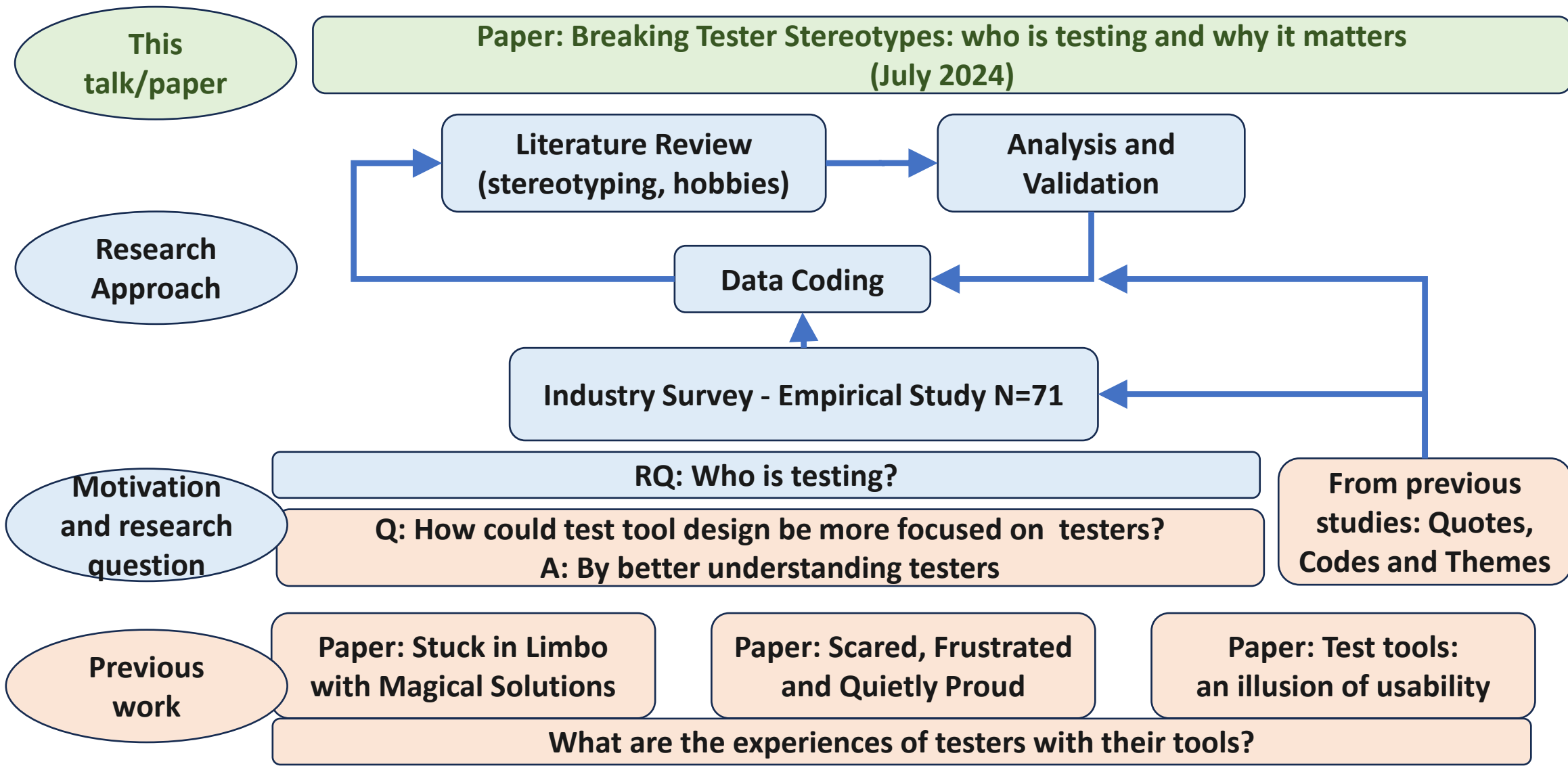
Isabel Evans, Chris Porter, Mark Micallef (University of Malta)

Paper presented at BCS HCI 2024 - Presentation HUSTEF preconference meetup October 2024

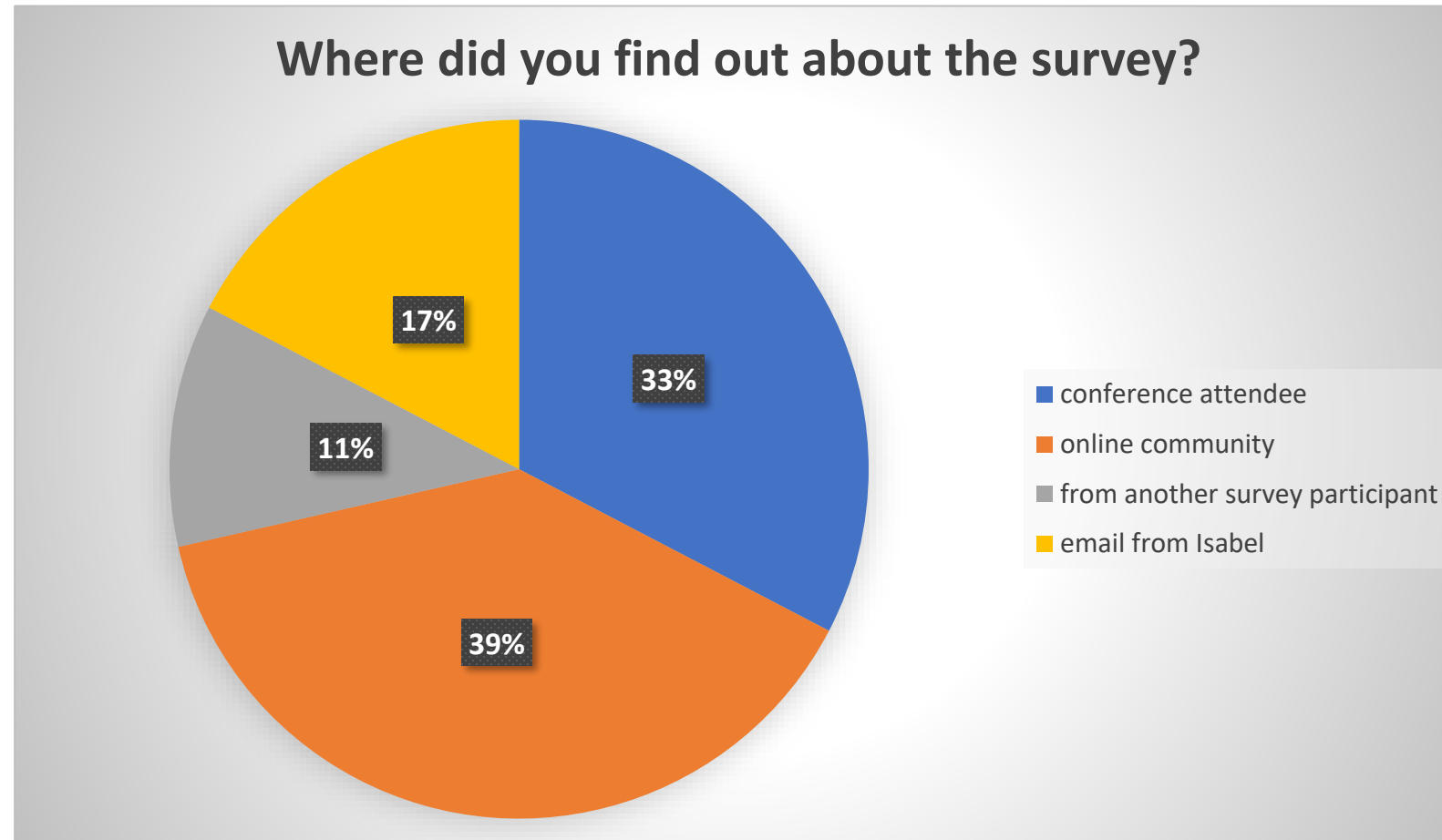
# Research journey so far (1)



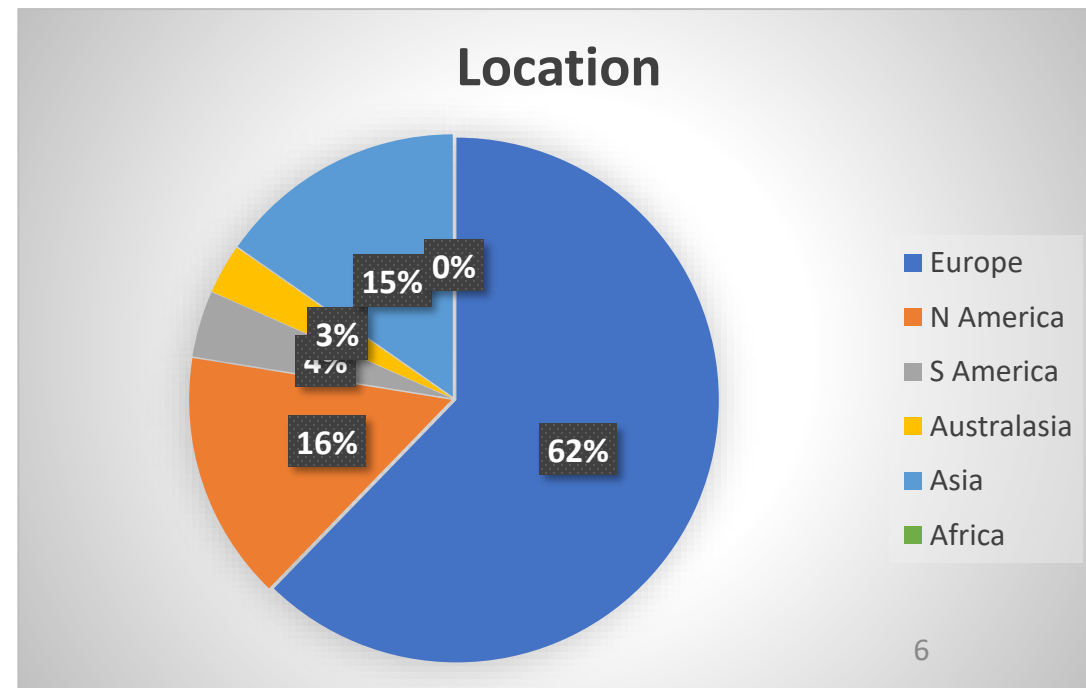
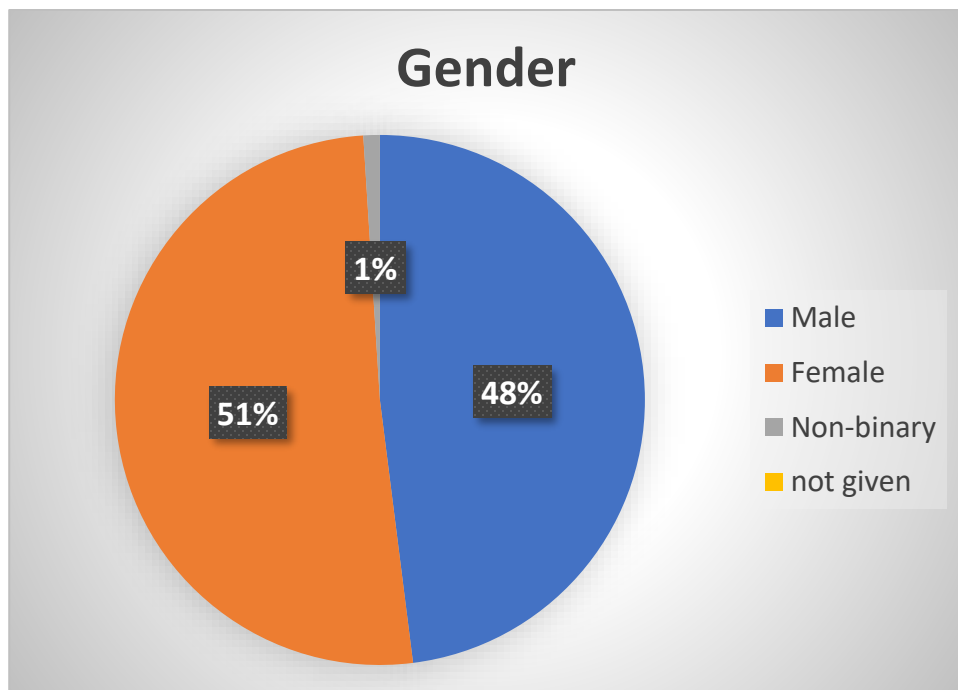
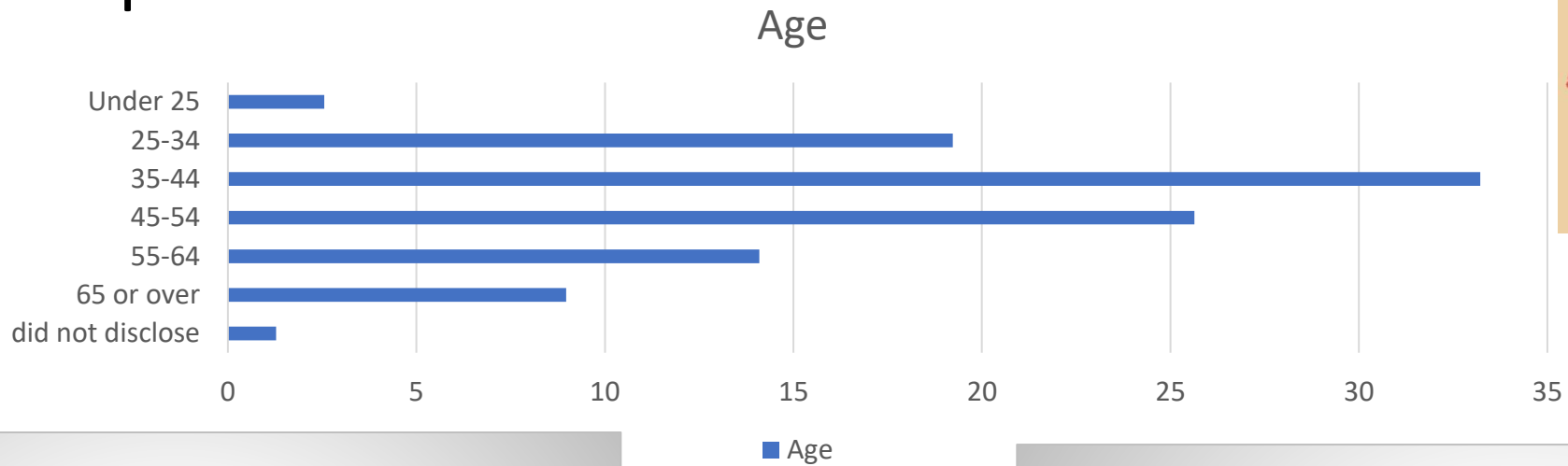
# Research journey so far (2)



# Recruitment – open invitation to take part



# Participants



# Coding

“coding” here means assigning a tag to a phrase, sentence, or paragraph in a survey response

**Table 1:** Survey Topics - Qualitative Analysis from Open Questions

Question topic	How categorised and coded
Hobbies	e.g. How active? Arts or STEM? Sociable or not?
Academic qualification	e.g. level (Bachelor? Master? etc) and subject (Arts?, STEM? Etc)
Training in testing	e.g. expert-led, syllabus-led, self-taught, etc
Role Description	e.g. responsibilities, approaches, techniques
Aspirations	e.g. low, medium, high
All open questions	e.g. terse, conversational, etc

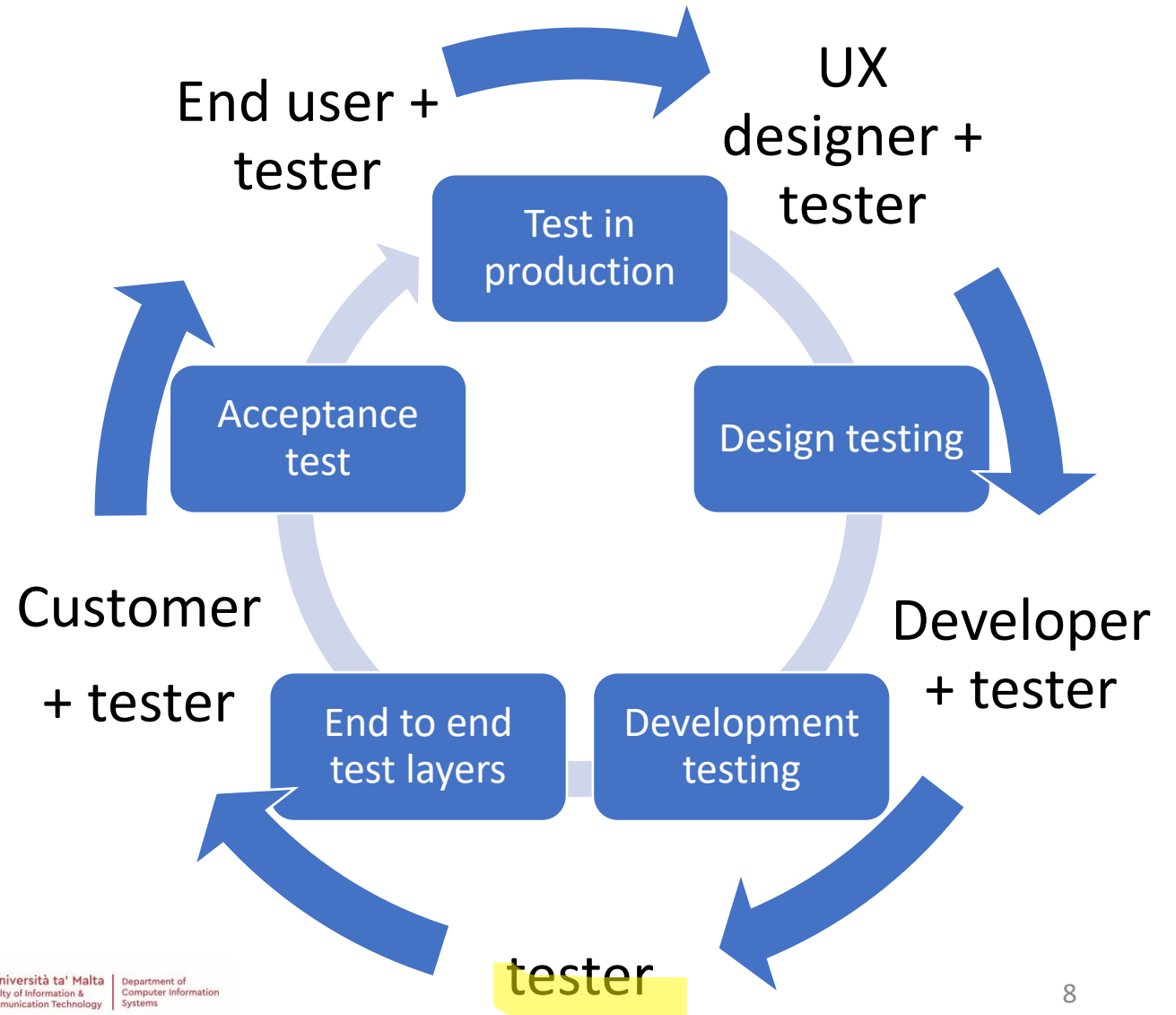
# Testing is ... not always performed by SWE's

Tester....?

Computer Scientist?  
SWE degree?

We found artists, boat  
builders, scientists, and  
urban planners...

Even here...



# Does degree predict role?

**Table 2:** Academic Subjects, Roles and Approaches

Subject Area	% of Participants	Roles and Approaches
Arts	9.9%	<p>42% of Arts graduates in technical roles 40% of Social Science graduates in technical roles 44% of Science graduates in technical roles</p> <p>41% of IT graduates were NOT in technical roles</p>
Social Science	14.1%	
Sciences	25.4%	
IT	16.9%	
Not stated or Pre-Bachelors	42.3%	



# Backgrounds and previous roles in IT

Prior to becoming a software tester I was a science communicator



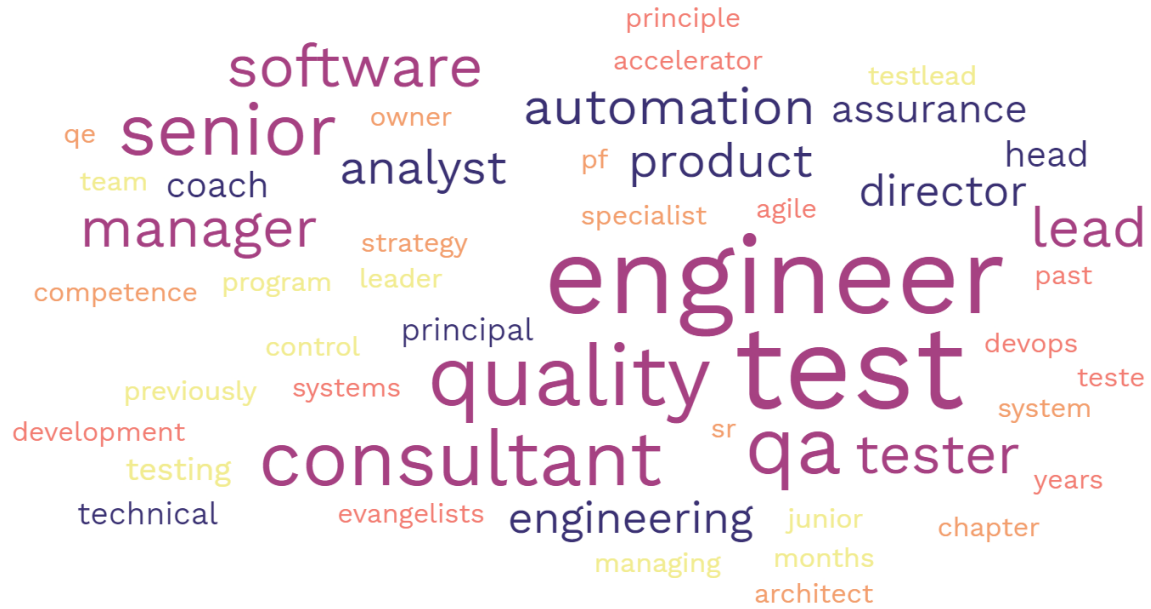
**Table 3: Experience in IT Roles**

## IT Roles

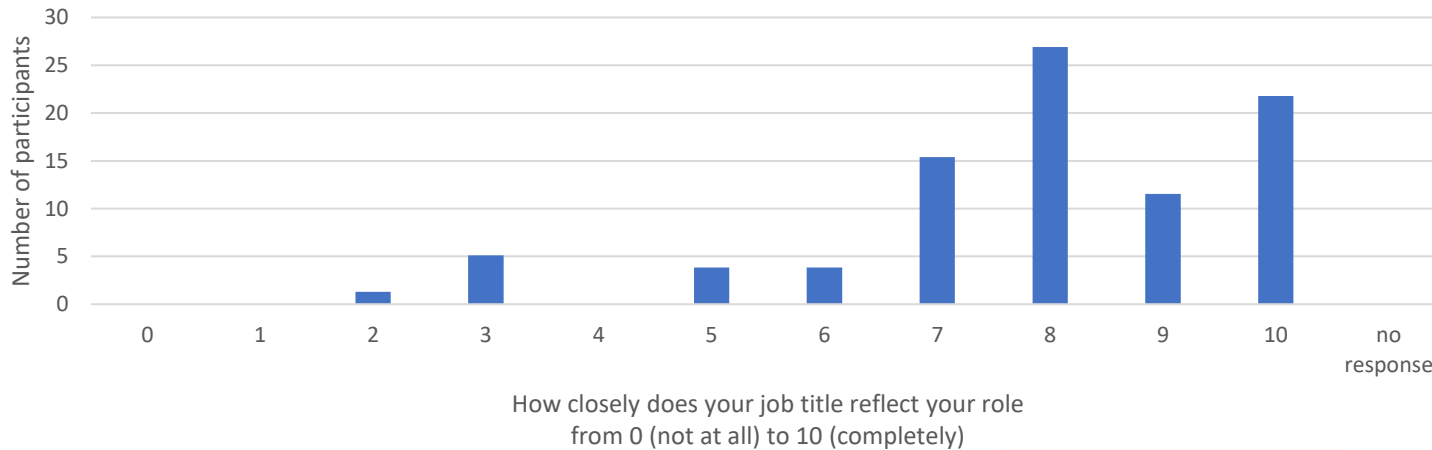
Requirements, analysis and design
Development and test automation
Testing, test management
Release, operations and support
Leadership, risk, coaching, other

People had experience across IT roles as well as having diverse backgrounds

# Job Titles



## Do participants feel their job title reflects their role?



Test Lead is a title which I should certainly have, but ...

The word “engineer”  
makes me wonder...

My employer had trouble coming up with an accurate [job title]

I am constantly wondering why  
... coordination, management  
and teambuilding is not  
appearing in any of the newer  
models of working...

I'm called a test analyst  
but actually what I do is...

# Communication styles

*Table 2: Academic Subjects, Roles and Approaches*

Arts graduates : conversational style, teamwork, diagrams  
Social Science graduates: conversational style, “big picture”

Science graduates: terse responses in ordered lists

IT graduates: full of technical detail

# Role complexity

‘My roles have required me to communicate a lot within my team, but have also involved speaking with the business, getting their feedback.’

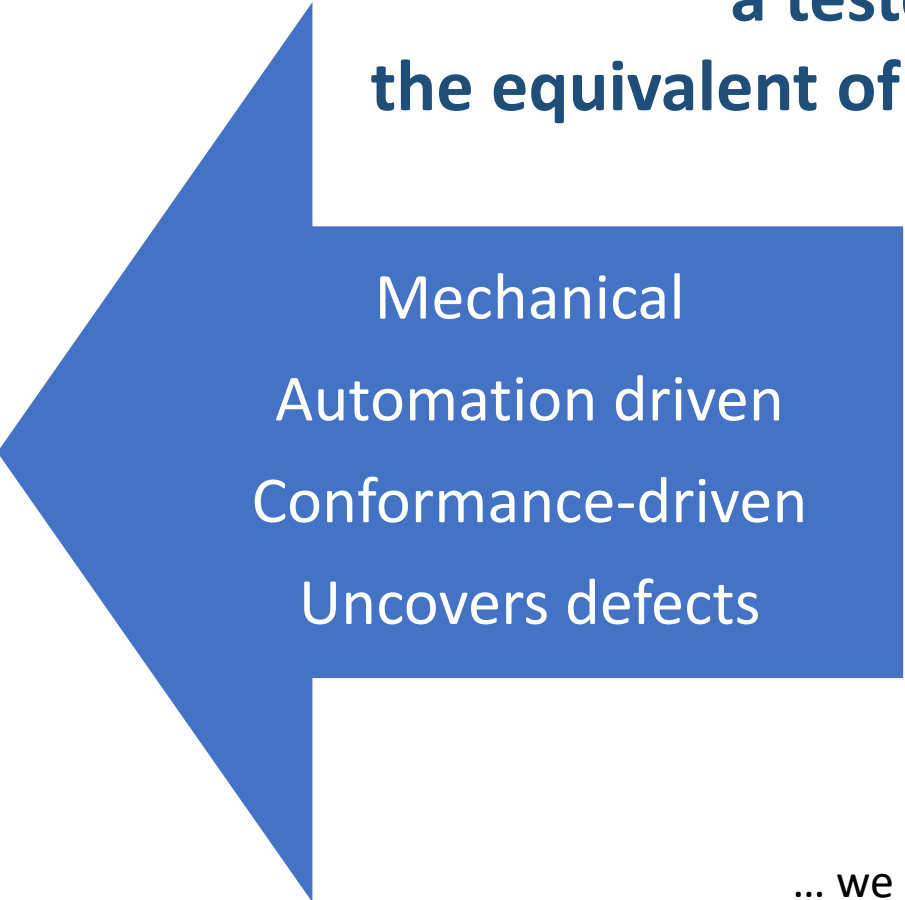
I guess the only thing is that I have often had to wear a lot of hats

... on two occasions I have combined my testing work with a scrum master role ...  
I am picking up ops tasks ...

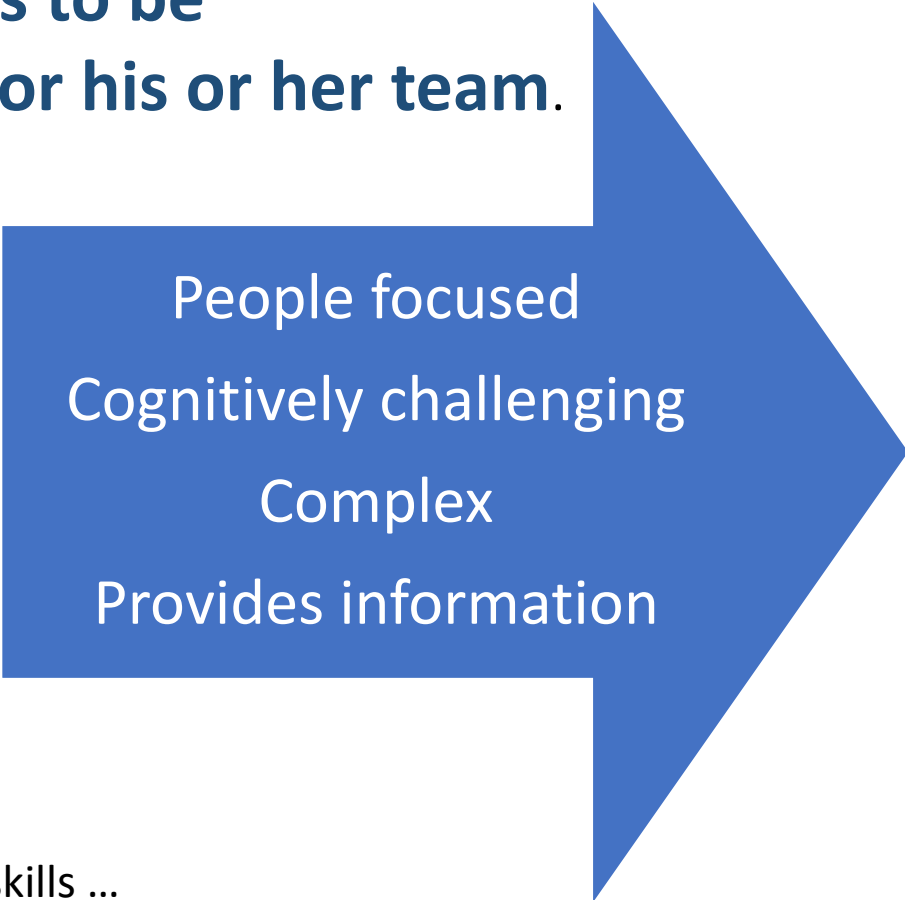
# Testing is complex...

‘Either unfortunately or fortunately, depending how you see it,

**a tester was and continues to be  
the equivalent of a Swiss army knife for his or her team.**



Mechanical  
Automation driven  
Conformance-driven  
Uncovers defects



People focused  
Cognitively challenging  
Complex  
Provides information

... we need to have a combination of skills ...  
flexibility, critical thinking, and the ability to learn all the time are the most necessary tools  
any tester needs to have to succeed in our trade.’ (Practitest 2022, page 22)

# Stereotyping and interests



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Stereotypical IT worker (O\*NET) scores low on social, low on arts, and low on diversity of interests...

# What hobbies and interests did participants have?

Watch  
netflix

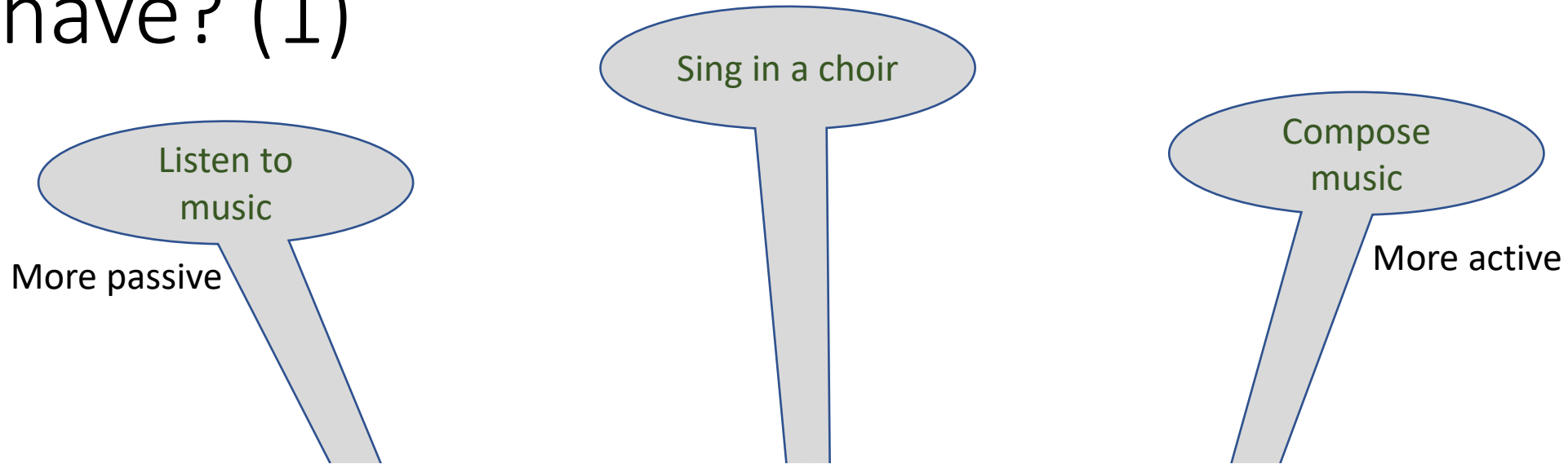
Painting, kickboxing,  
feminism,  
reading, dancing,  
volunteering, making  
costumes,  
creating in general

i love music and nonmainstream  
cinema; i travel a lot and go to music festival;  
i'm passionate about people and love  
to spend time with my friends; i'm very active,  
always doing stuff and planning new  
adventures

Photography, forensic  
anthropology and medical  
books, word games, escape  
rooms, travel



# What hobbies and interests did participants have? (1)



**Table 5: Range of Hobbies Mentioned - Heatmap\***

Min	1	2	3	4	5	6	7	8	9	10	Max
Passive	1	2	2	4	13	19	15	13	3	0	Active
Indoor	2	10	6	10	7	22	10	3	0	0	Outdoor
Art	2	4	20	27	13	2	1	2	0	0	STEM
Individual	4	14	13	7	15	6	10	2	0	0	Team

\* Darker color indicates greater number of participants scoring on scale point.



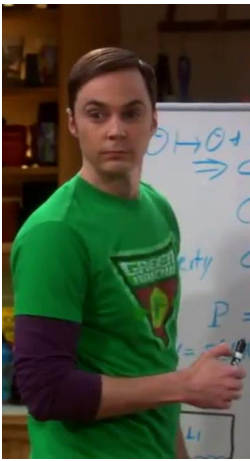
# What hobbies and interests did participants have? (2)

**Table 5: Range of Hobbies Mentioned - Heatmap\***

Min	1	2	3	4	5	6	7	8	9	10	Max
Passive	1	2	2	4	13	19	15	13	3	0	Active
Indoor	2	10	6	10	7	22	10	3	0	0	Outdoor
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\* Darker color indicates greater number of participants scoring on scale point.

**Stereotypical IT worker (O\*NET) scores  
low on social, low on arts, and low on diversity of interests...**



# Stereotyping and interests (1)



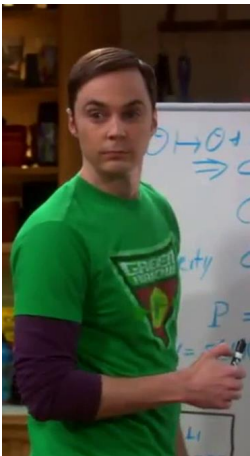
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Predicted stereotype  
of people in software  
roles (O\*NET)

Diversity of people using software

Stereotypical IT worker (O\*NET) scores low on social, low on arts, and low on diversity of interests...

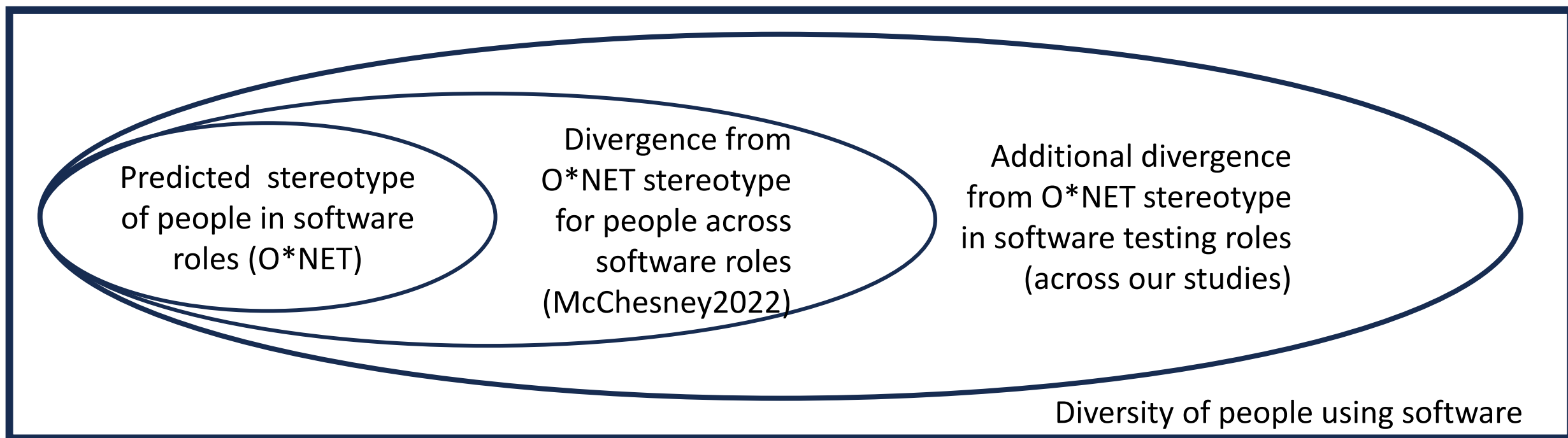


# Stereotyping and interests (2)



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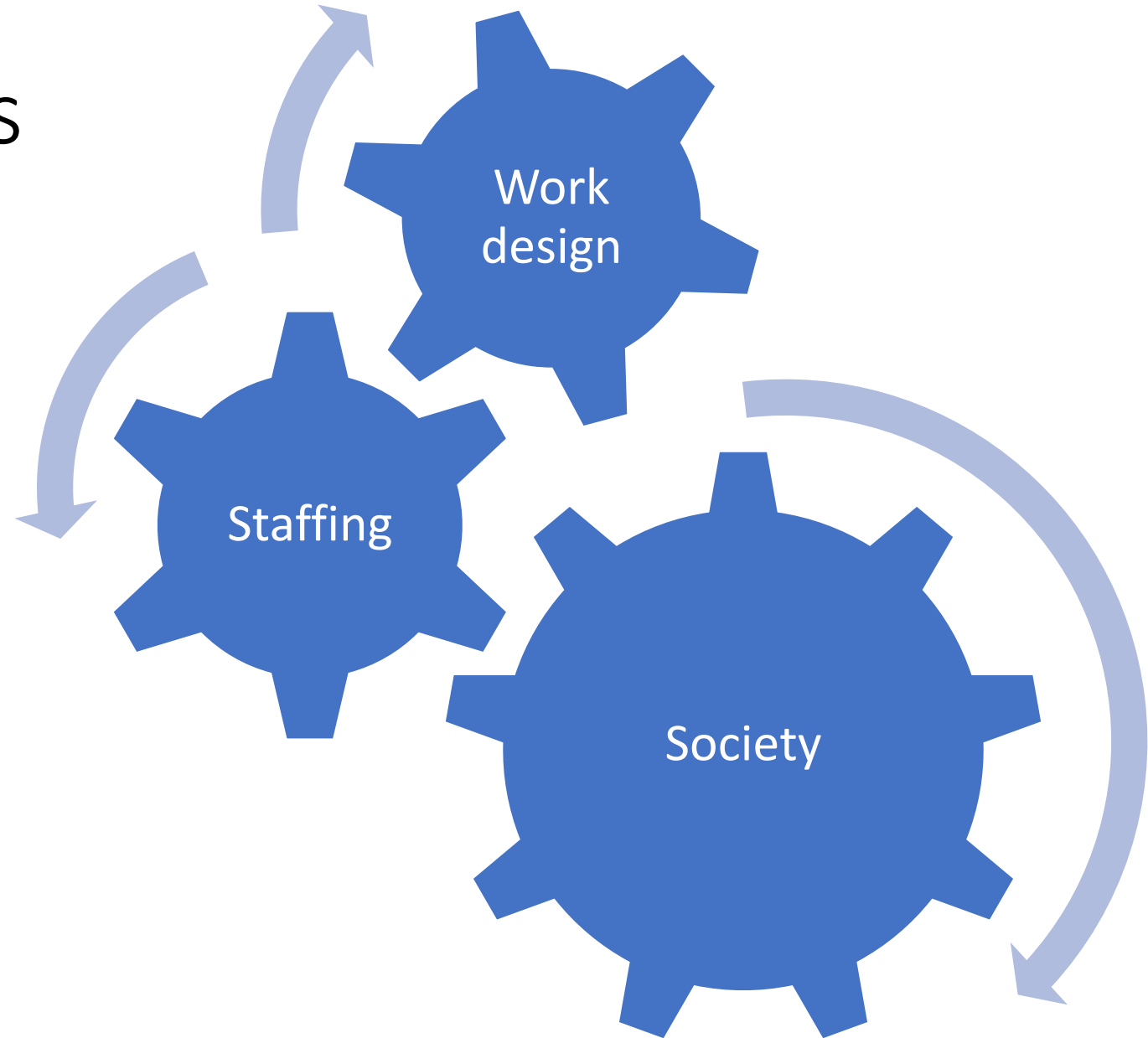
Stereotypical IT worker (O\*NET) scores low on social, low on arts, and low on diversity of interests...

# Results comparing O\*NET, McChesney and our participants

**Table 6:** Tester Hobby Types Not Stereotypical (after McChesney et al. (2022))

Sample Size:	<b>36% of aspirant IT people stereotypical to IT</b>
CS/IT role:	
Artistic	
Practical	
Analytic	
Social	
Multi-interested	
Few interests	<b>30% actual IT people stereotypical to IT</b>
Stereotypical IT	
* Of which are female/n	<b>6% testers stereotypical to IT</b>

# Why this matters



# Research journey – as a result...

## **Heuristics for the Design of Test Tools (work in progress – case studies and expert reviews)**

**Paper: Breaking Tester Stereotypes: who is testing and why it matters (July 2024)**

**How could test tool design be more focused on testers?**

**Paper: Stuck in Limbo with  
Magical Solutions**

**Paper: Scared, Frustrated  
and Quietly Proud**

**Paper: Test tools:  
an illusion of usability**

**What are the experiences of testers with their tools?**

# Next steps

**\*\* HUSTEF October 2024: Heuristics to help you design, build and choose test tools \*\***

**\* Paper: How do we communicate heuristics? (Nov 2024) \***

*Complete the Repository of Heuristics*

*Complete Case Studies, Final Expert Reviews*

*Write up Thesis, Submit, Viva... and then, I hope.... Graduation...*

*Infographic? Book? Website? Podcasts?....*

What's  
next?

# Conclusions

Testers are from a wide range of backgrounds, with differing needs, characteristics, and problem-solving preferences.

Their roles in software projects are multi-faceted, requiring a high cognitive skill level.

Breaking stereotyping supports diversity in testers' backgrounds and characteristics, which is beneficial to projects and society.

Software testers are different in some respects from other software practitioners.

Understanding tester personas helps support of testers and testing.

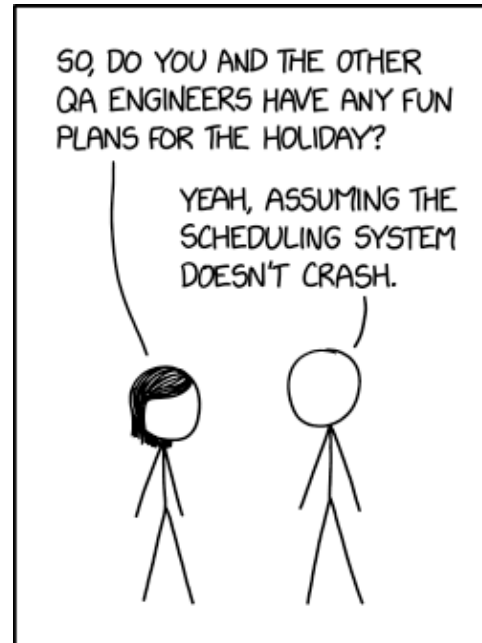


# Thank you for listening!

## Questions?



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