



ARE ACADEMIC INVOLVEMENTS OF RADIOLOGY TRAINEES IN PEDIATRICS ENOUGH?

PRELIMINARY RESULTS OF A GLOBAL PERSPECTIVE

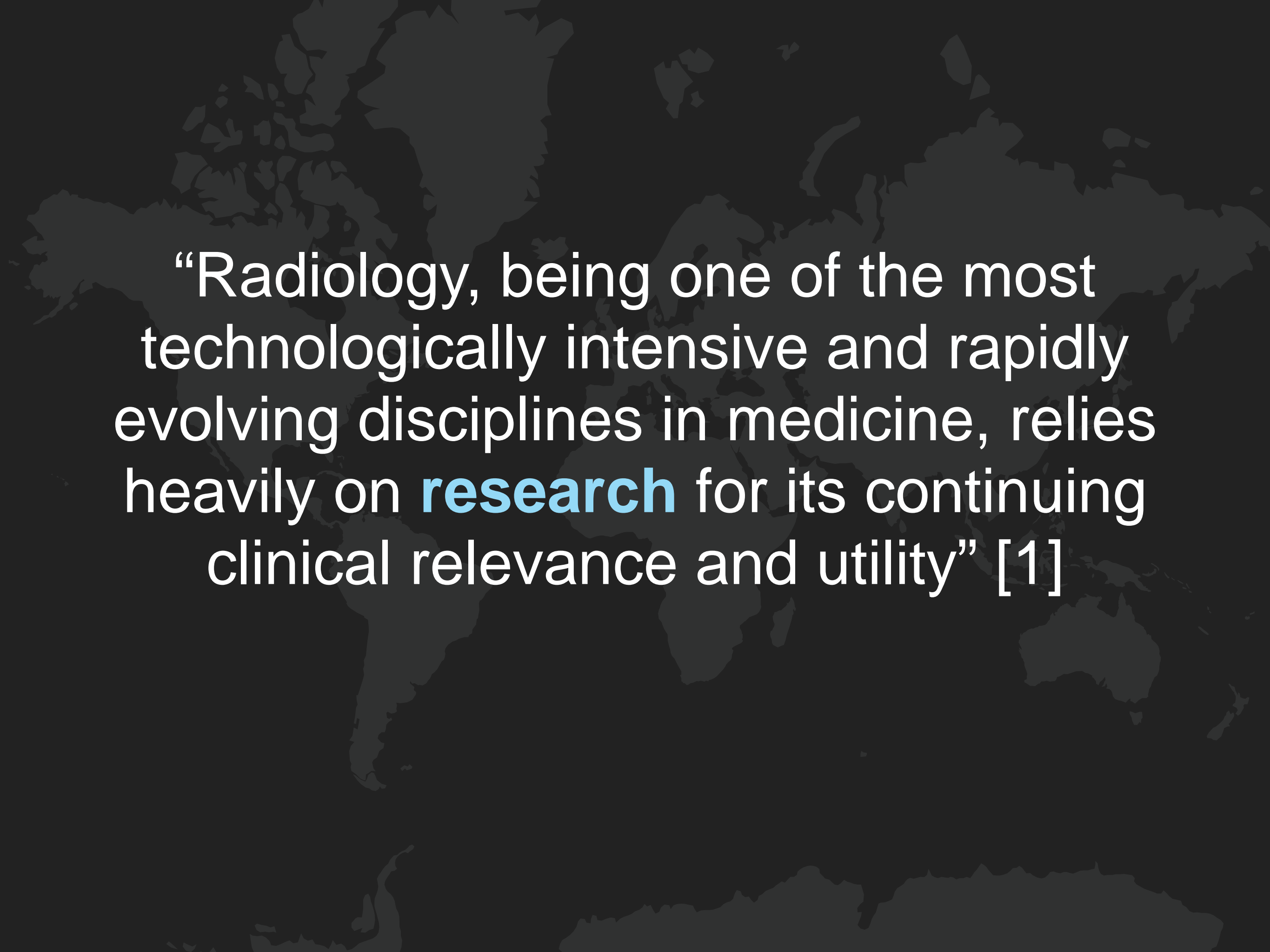
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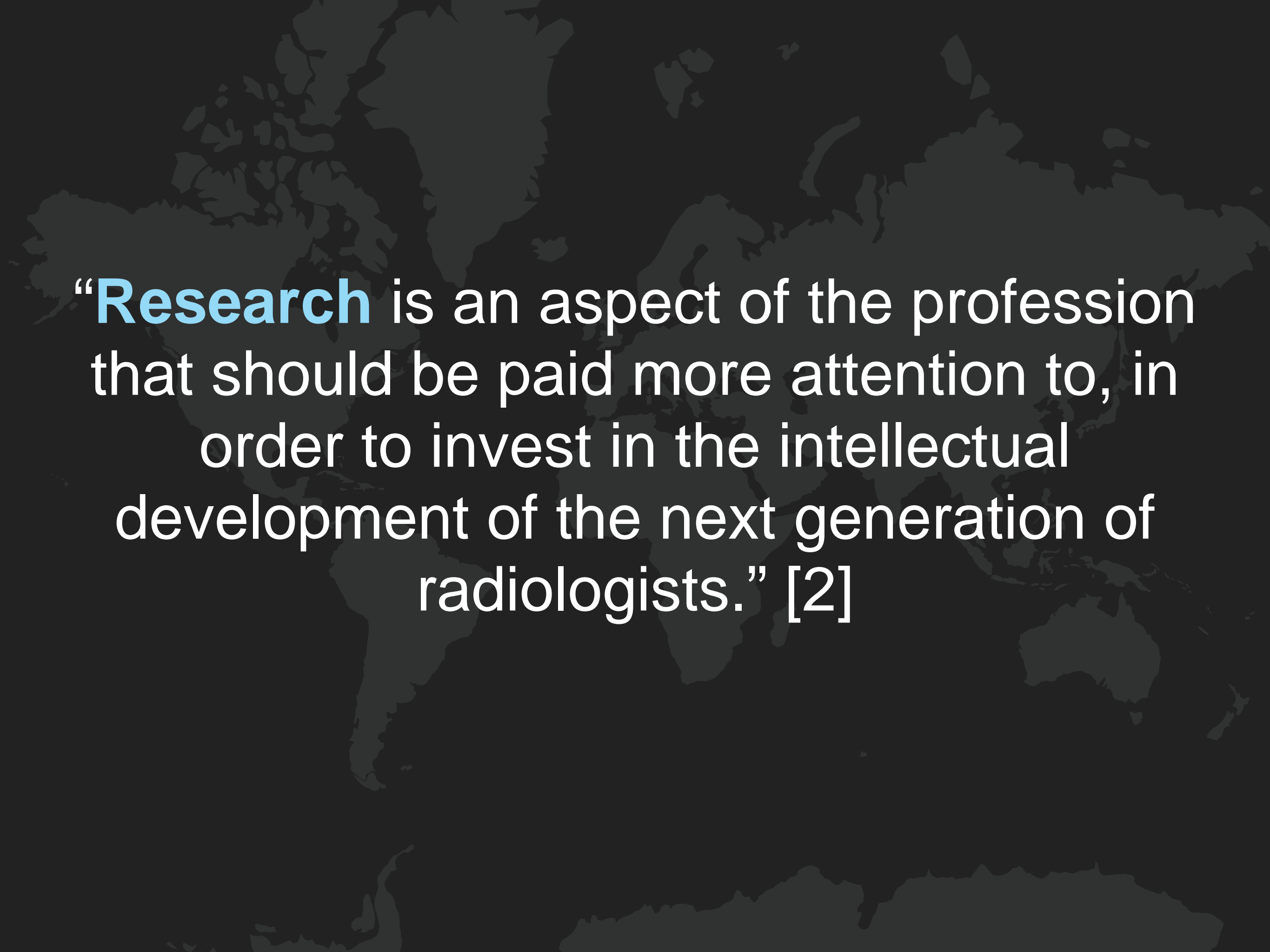


DISCLOSURE

NONE

A dark gray world map is visible in the background, showing the outlines of continents and countries. The map is centered and covers the entire frame.

“Radiology, being one of the most technologically intensive and rapidly evolving disciplines in medicine, relies heavily on **research** for its continuing clinical relevance and utility” [1]

A dark gray world map is visible in the background, showing the outlines of continents and oceans. The map is centered and serves as a subtle backdrop for the text.

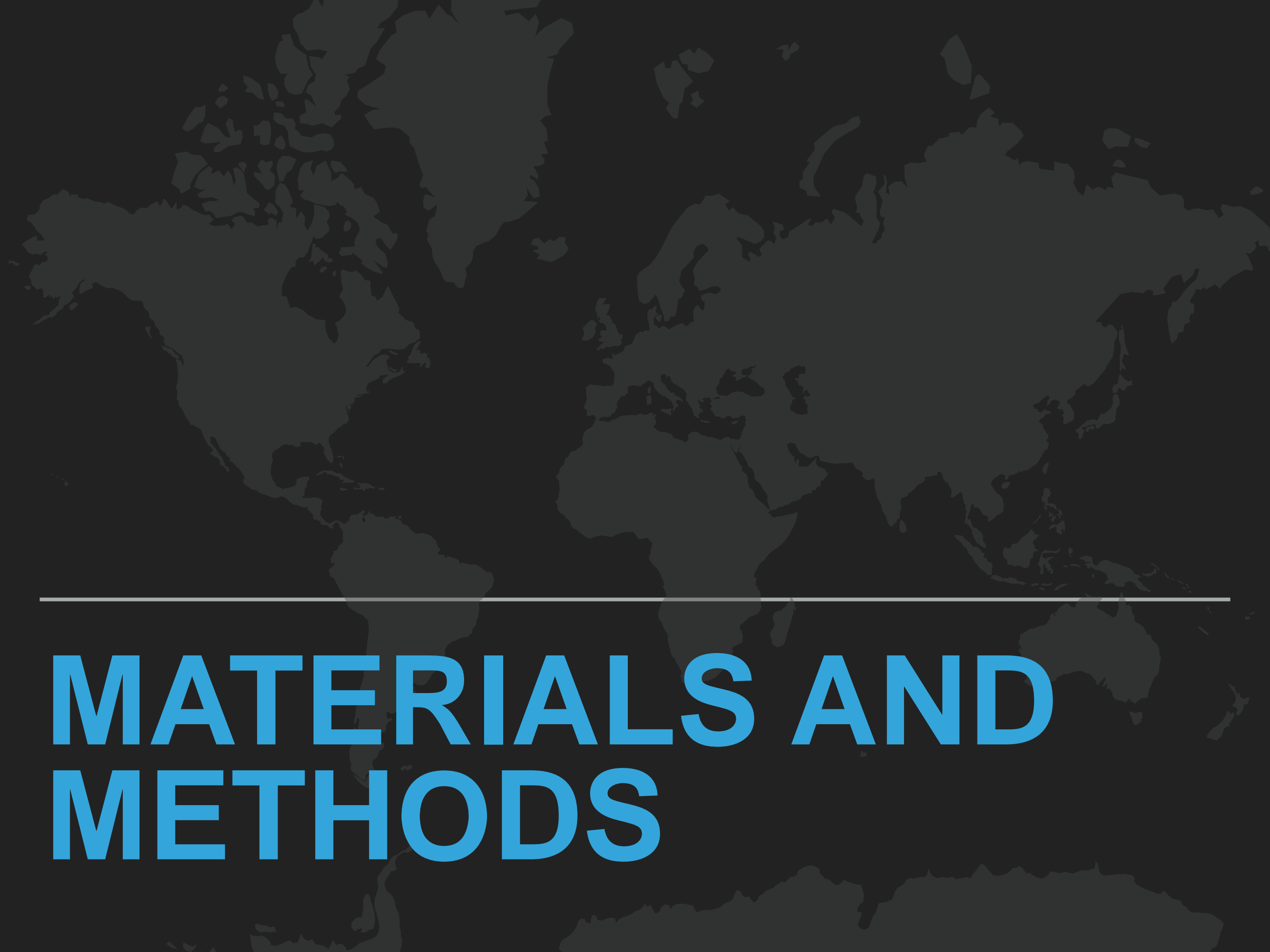
“**Research** is an aspect of the profession that should be paid more attention to, in order to invest in the intellectual development of the next generation of radiologists.” [2]

INTRODUCTION AND BACKGROUND OF THE STUDY

- ▶ “The future of radiology was threatened by the paucity of **competent researchers** who are radiologists” [3]
 - ▶ Only **32% of residents** and **44% of fellows** were engaged in prospective clinical research
- ▶ Almost 30 years after, there is still **inadequate involvement** of radiology residents in research during core training
 - ▶ About **39% of residents** [4] involved, and approximately **41% of radiology residents** are not satisfied with the research opportunities available to them [5].

To assess the involvement in research and teaching of radiology trainees who are interested in pediatric imaging as well as to identify the challenges and difficulties they encounter

PURPOSE



MATERIALS AND METHODS

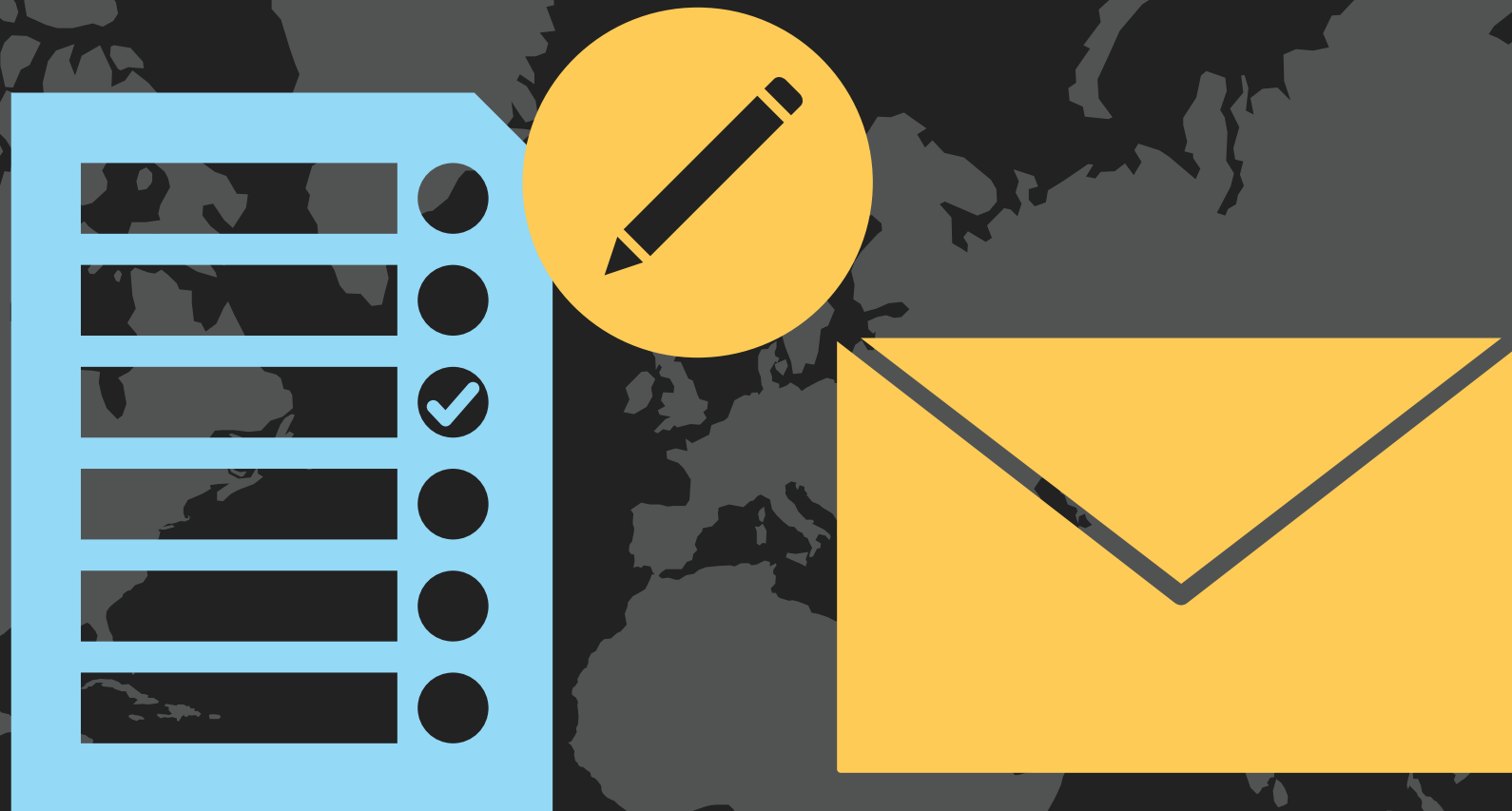


35-item online survey

Distributed through



Components



Composition: introduction of study, voluntary consent to participate, demographics, information on work place, core radiology residency, participation in academic activities during residency

Format: multiple questions (multiple choice tick-box format) and open-ended questions

Participants



Radiology trainees and radiologists
within two years of graduation from
fellowship with interest in

PEDIATRIC IMAGING



Formal request distributed to
almost 30 societies,
wherein 15 of them agreed

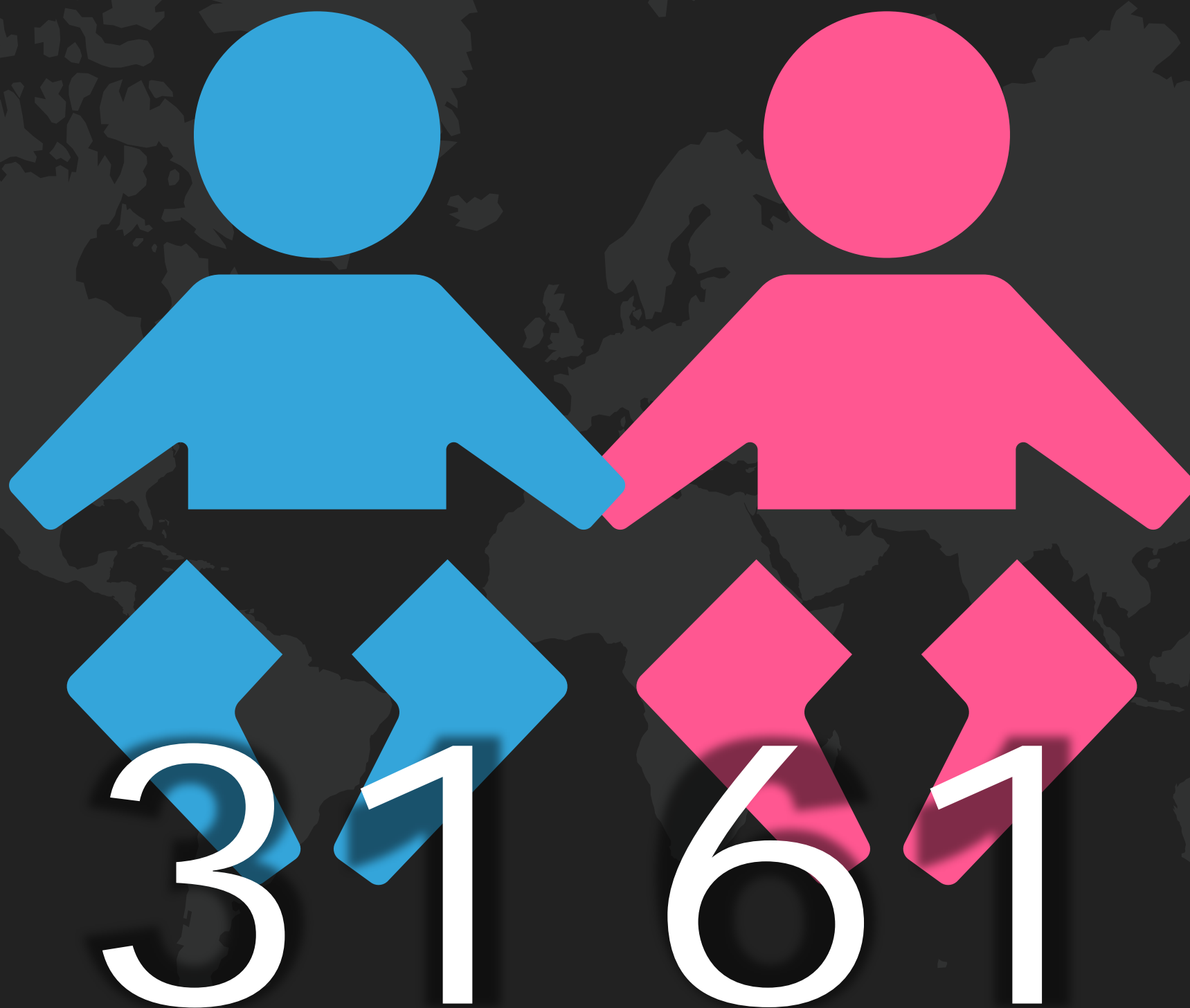


Descriptive Statistics

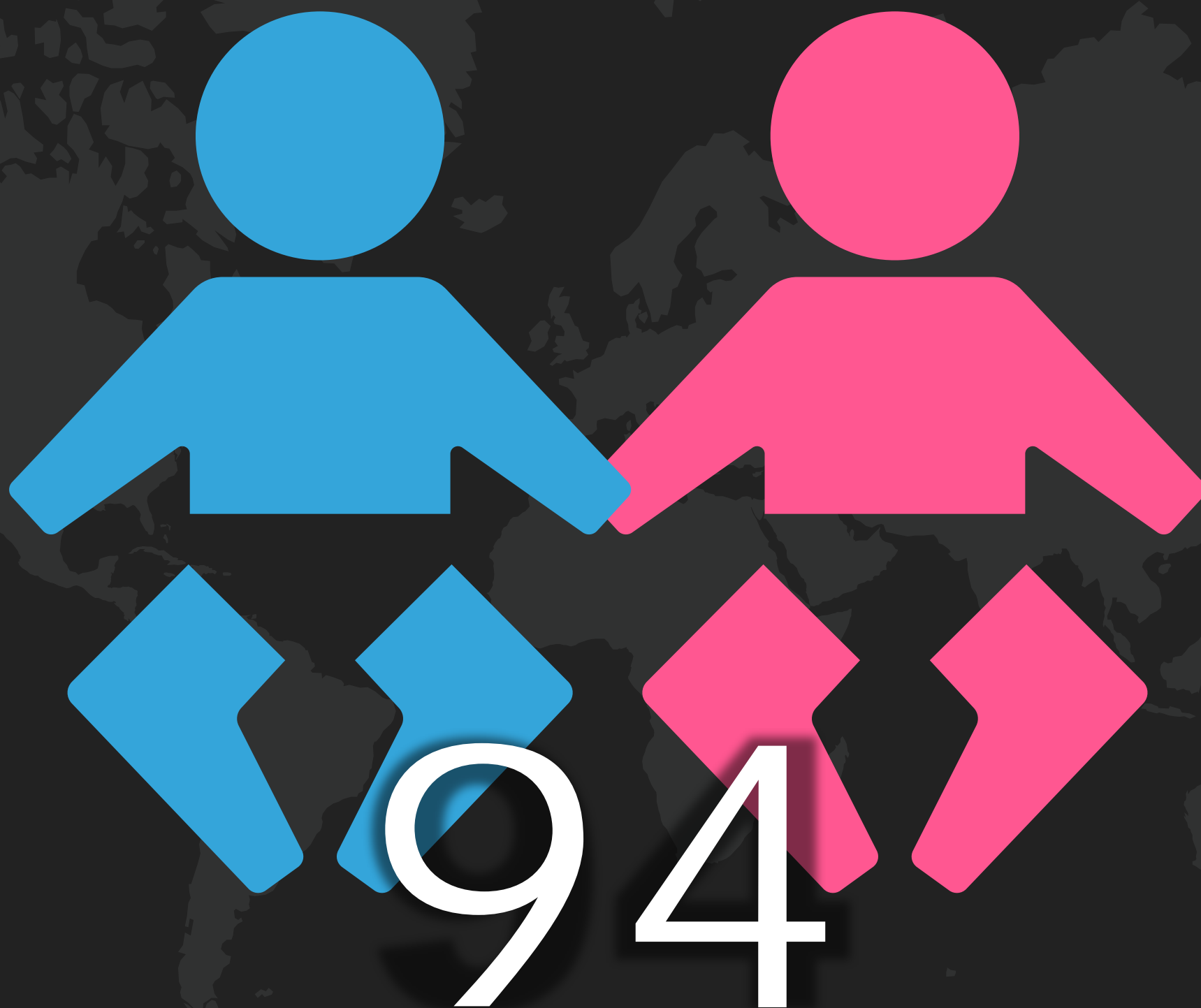
Fisher's Exact test for comparison
with $p < 0.05$ as significant



RESULTS



2 undisclosed



Total participants

A world map with a dark blue background and light blue landmasses. Yellow text labels are placed over different continents to indicate the geographic distribution of research activity. The labels are: 10 (11%) over North America, 53 (56%) over Europe, 1 (1%) over Africa, 28 (30%) over Asia, and 1 (1%) over South America.

10 (11%)

53 (56%)

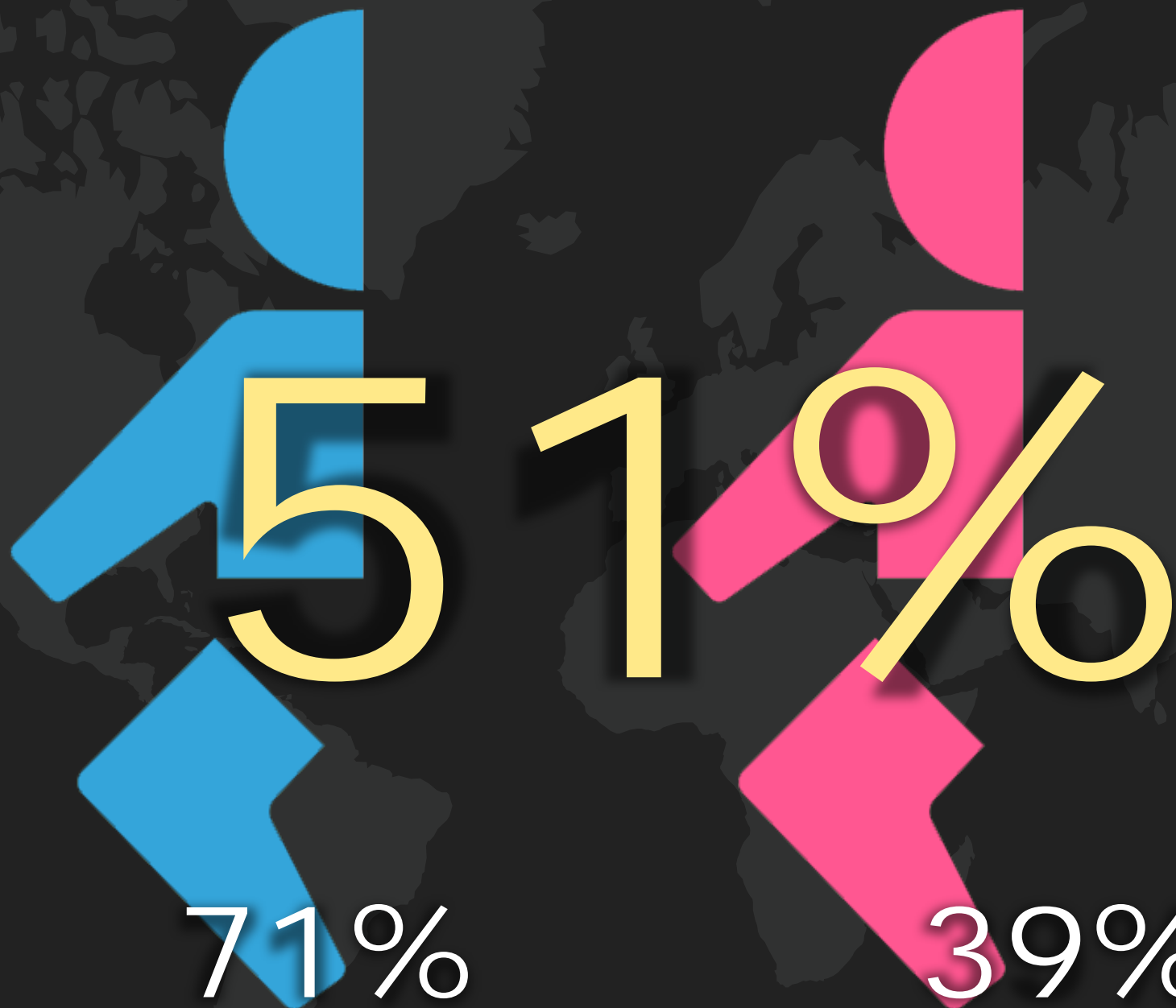
1 (1%)

28 (30%)

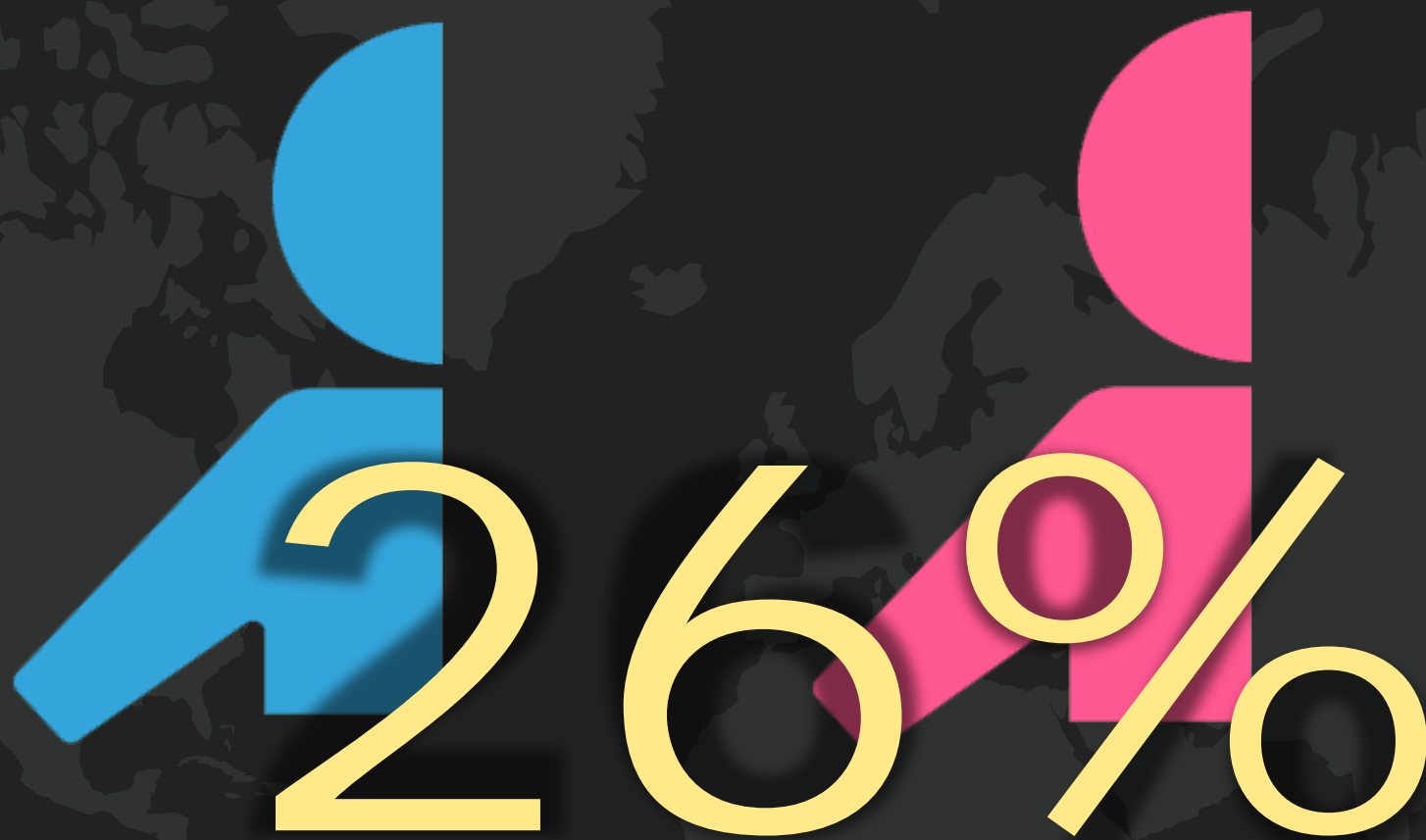
1 (1%)

Geographic distribution

mostly from large academic institutions with
moderate activity in research



Engaged in Research



26%
8/31

28%
17/61

Involved in Teaching

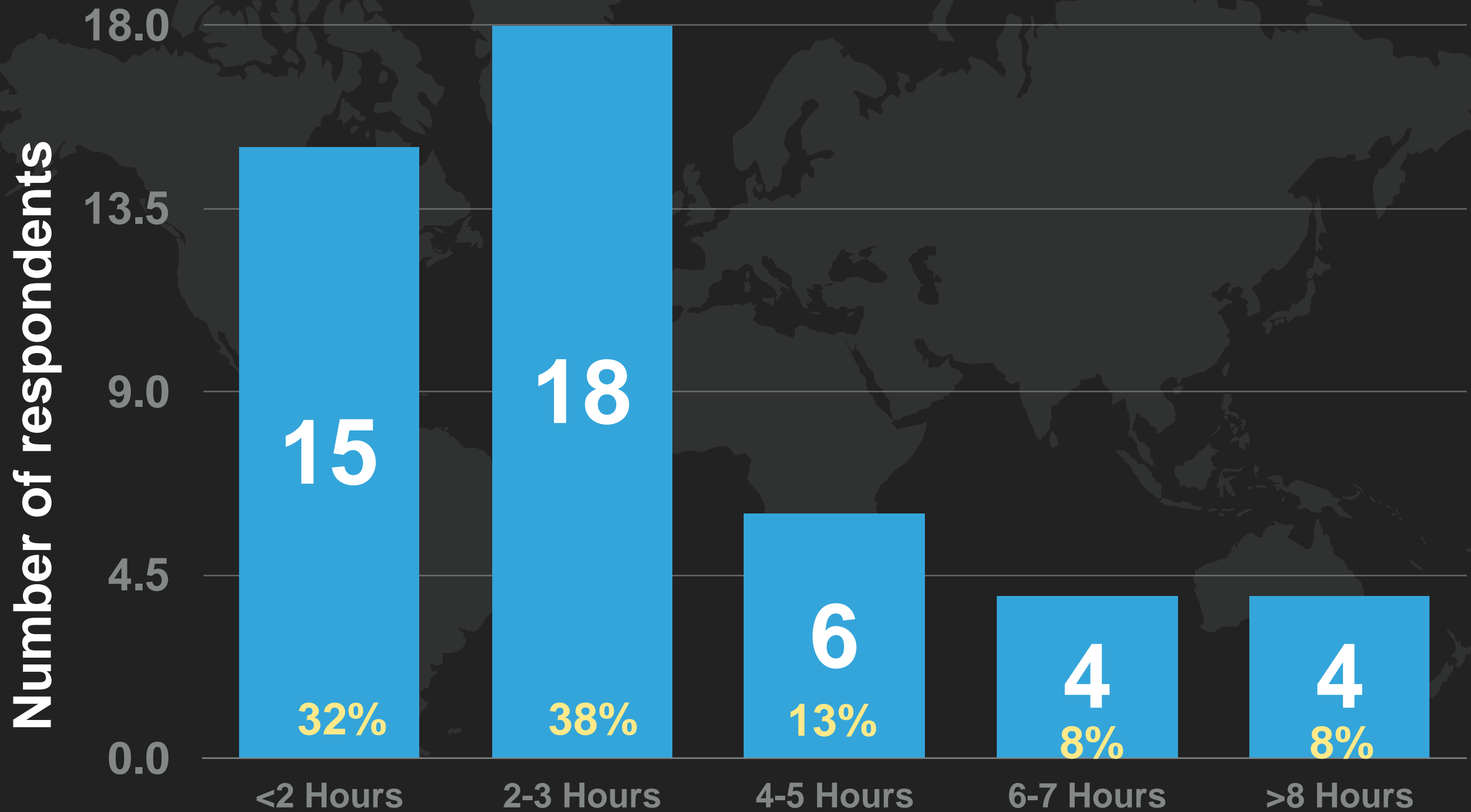
59/94 (63%)



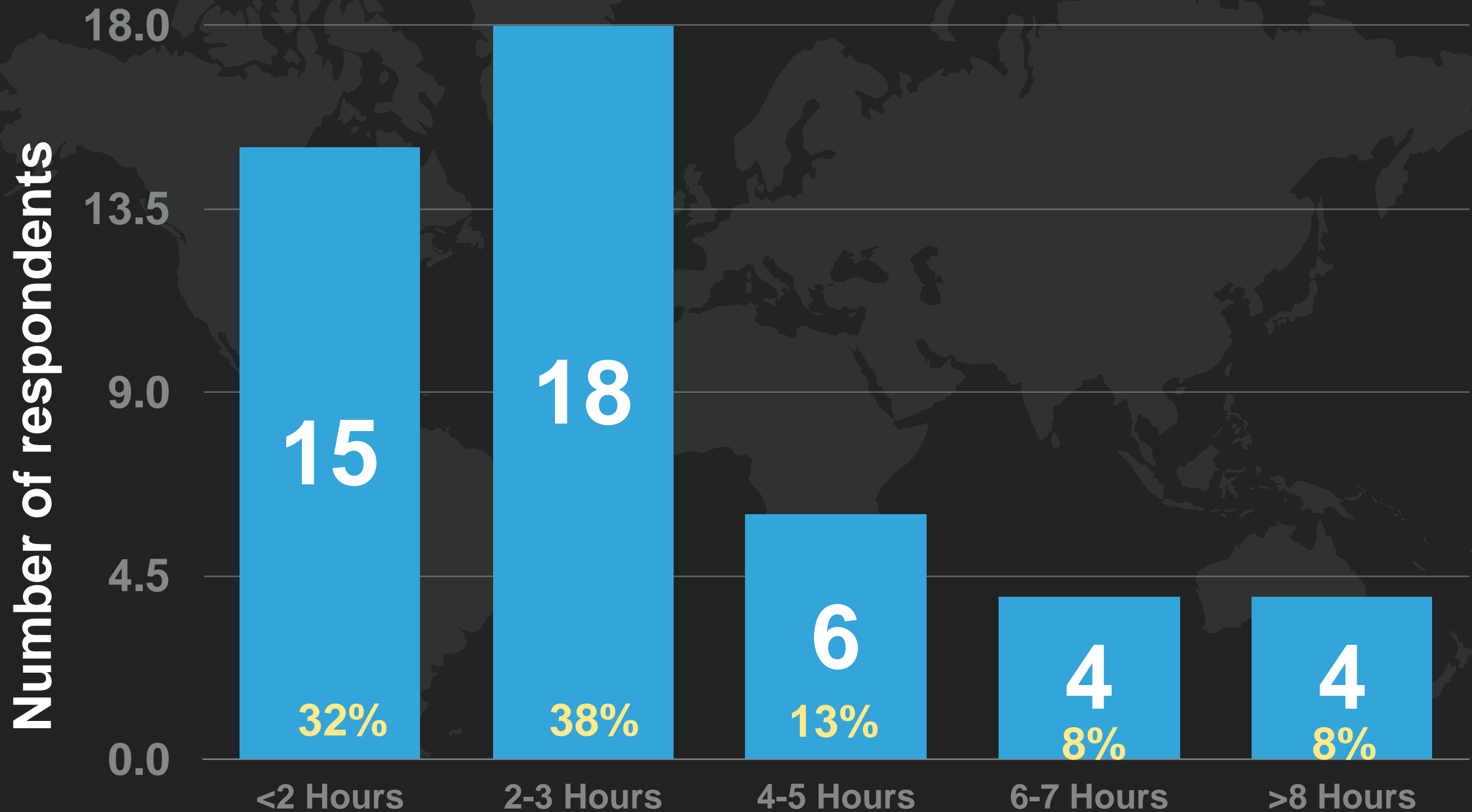
Research and teaching activities
during training

NO ALLOCATED TIME

Allocated hours per week for RESEARCH

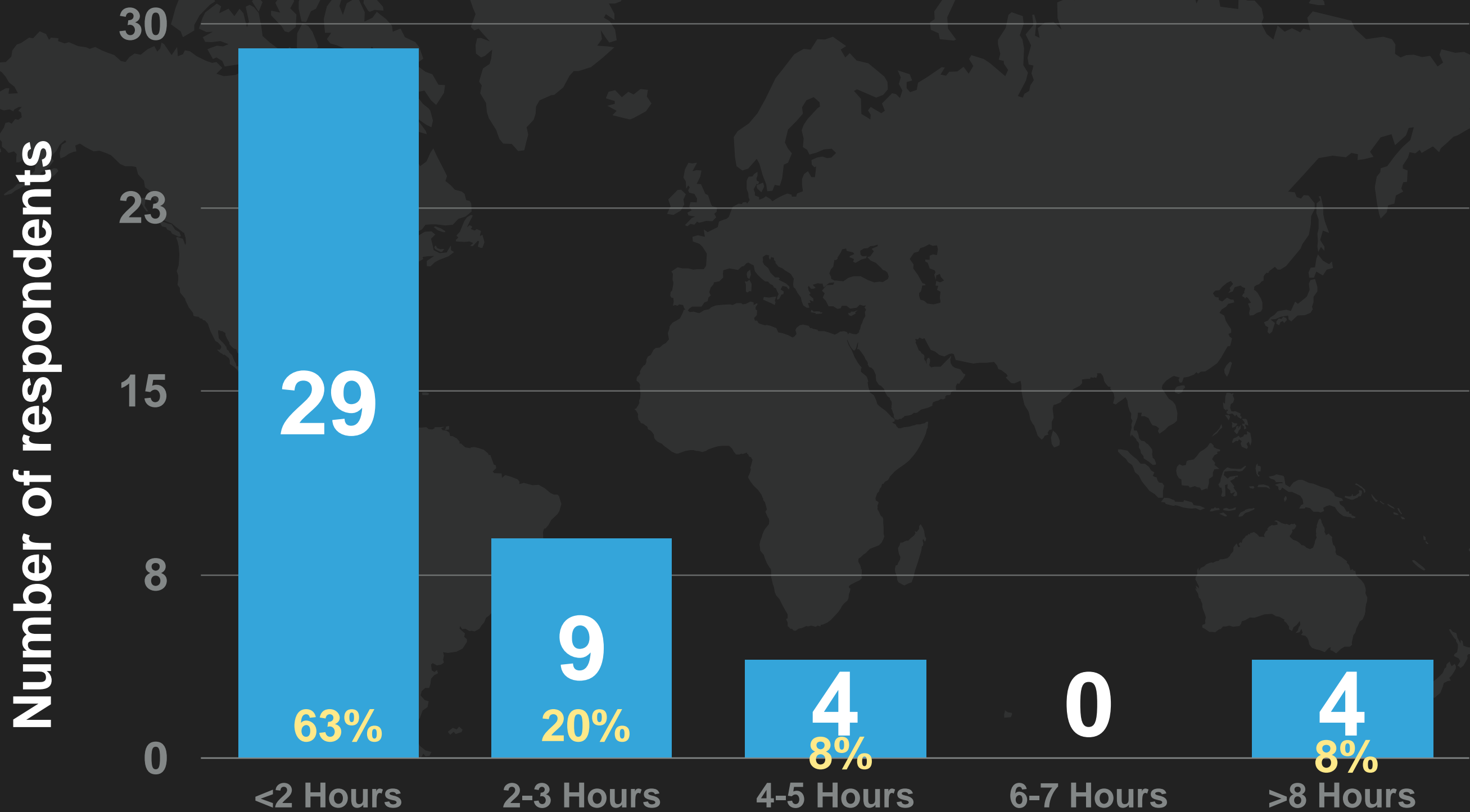


Allocated hours per week for RESEARCH

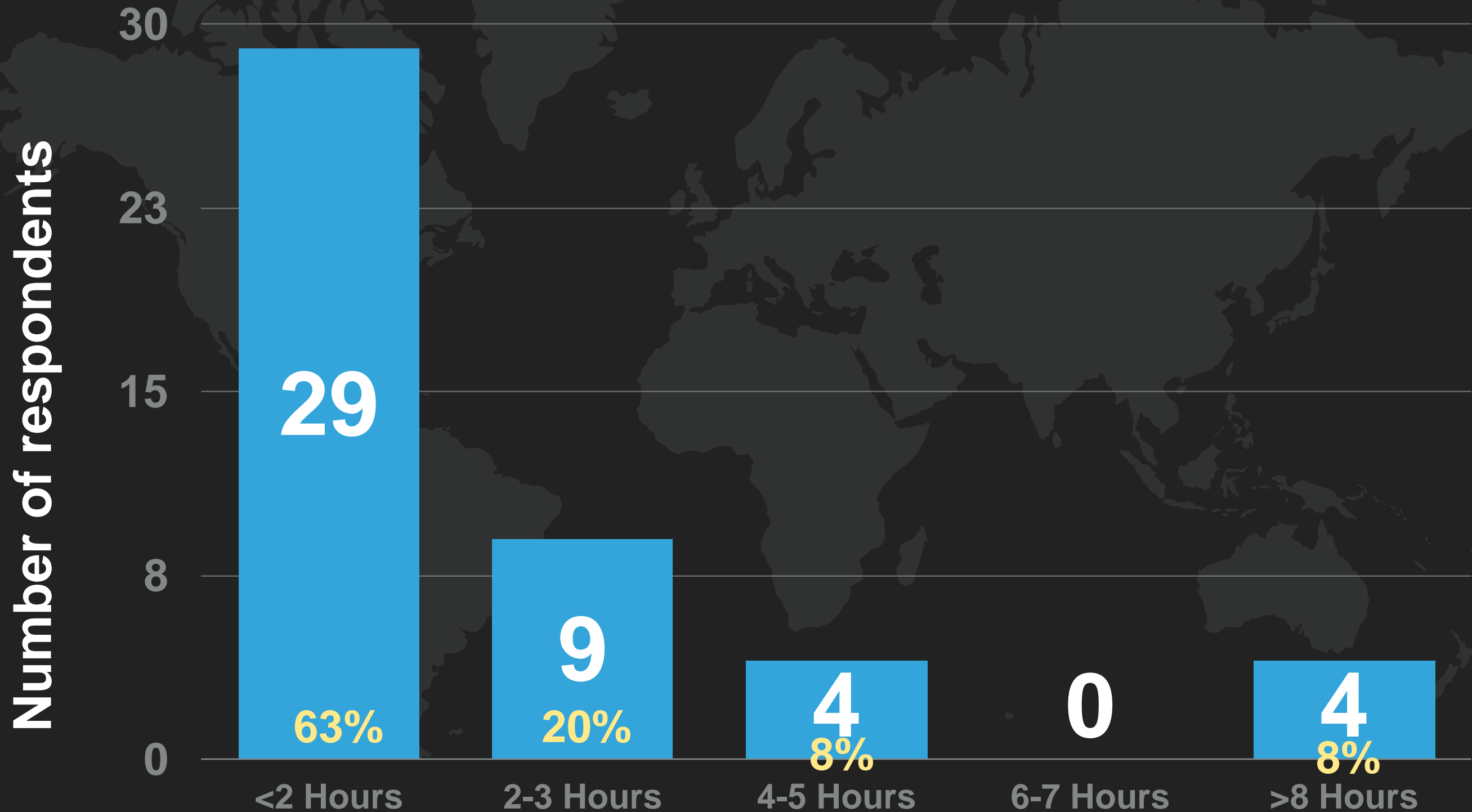


67/72 (86%) willing to have allocated time

Allocated hours per week for TEACHING



Allocated hours per week for TEACHING



59/90 (66%) willing to have allocated time

**Allocated time
for research**



**Amount of research
presented/published**



$p = 0.052$



Research and teaching activities
during training

IMPROVE CLINICAL COMPETENCY

Research: 62/94 (66%) Teaching: 70/94 (74%)



Research and teaching activities
during training

SHOULD BE MANDATORY

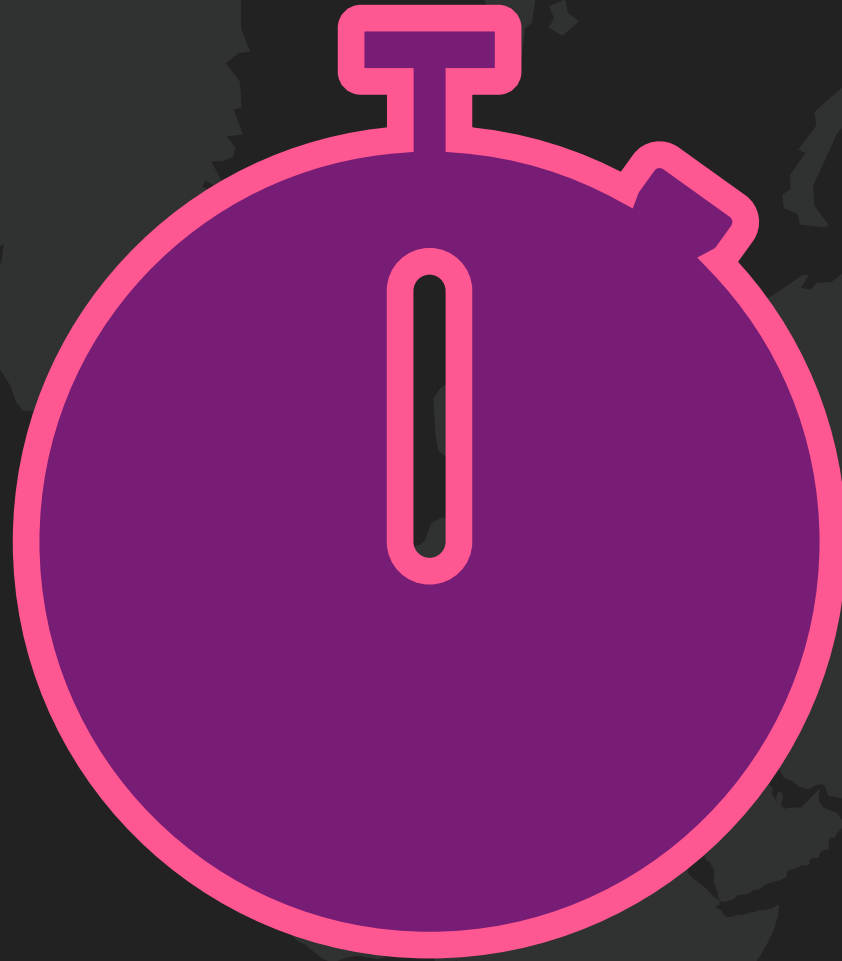
Research: 42/94 (45%) Teaching: 38/94 (40%)



Publications and Poster or Paper presentation in conferences

No publication: 48/94 (51%)

Able to present poster/paper: 55/94 (59%)



lack of TIME

56/94 (60%)

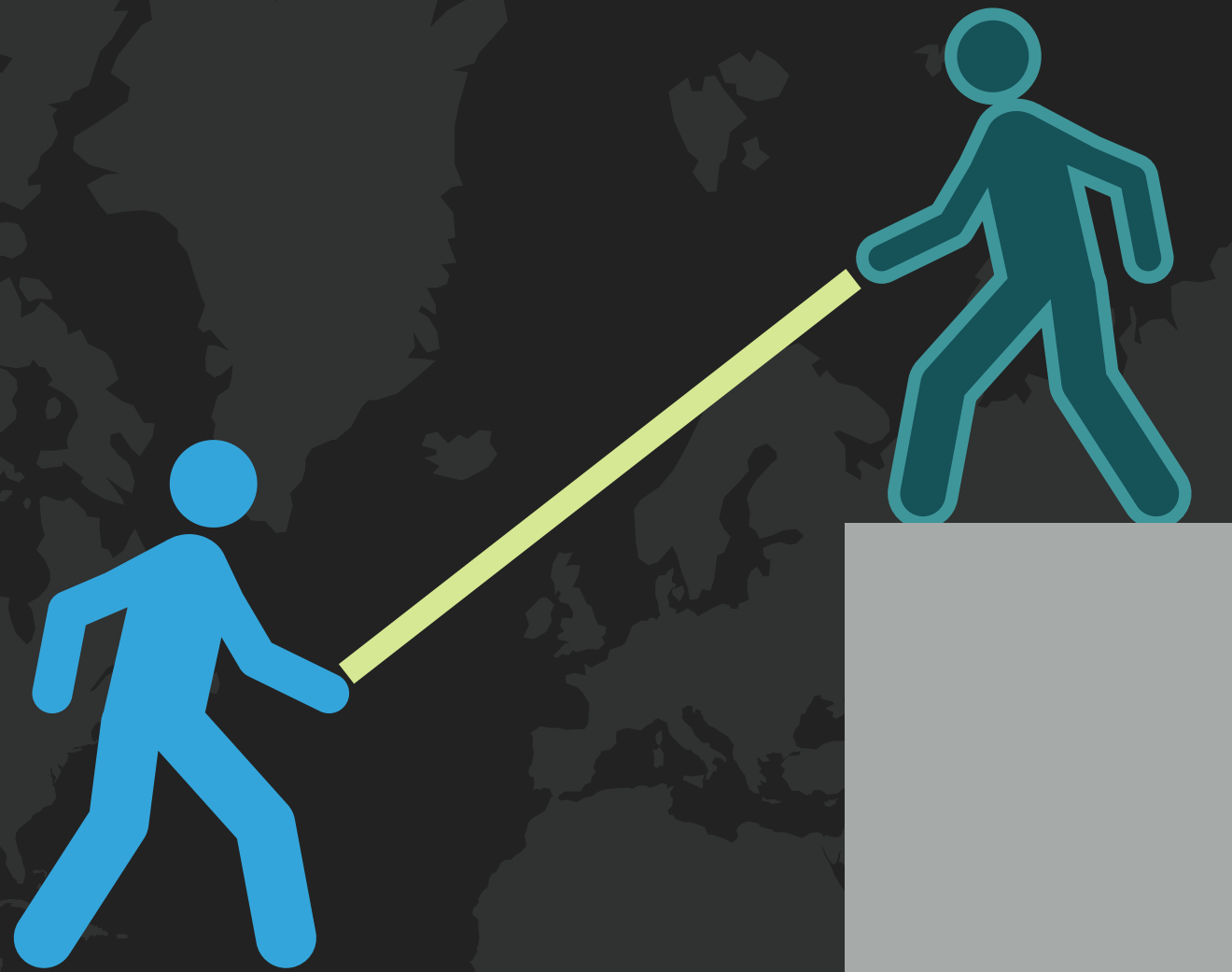
TOP CHALLENGES



lack of MENTORSHIP

41/94 (44%)

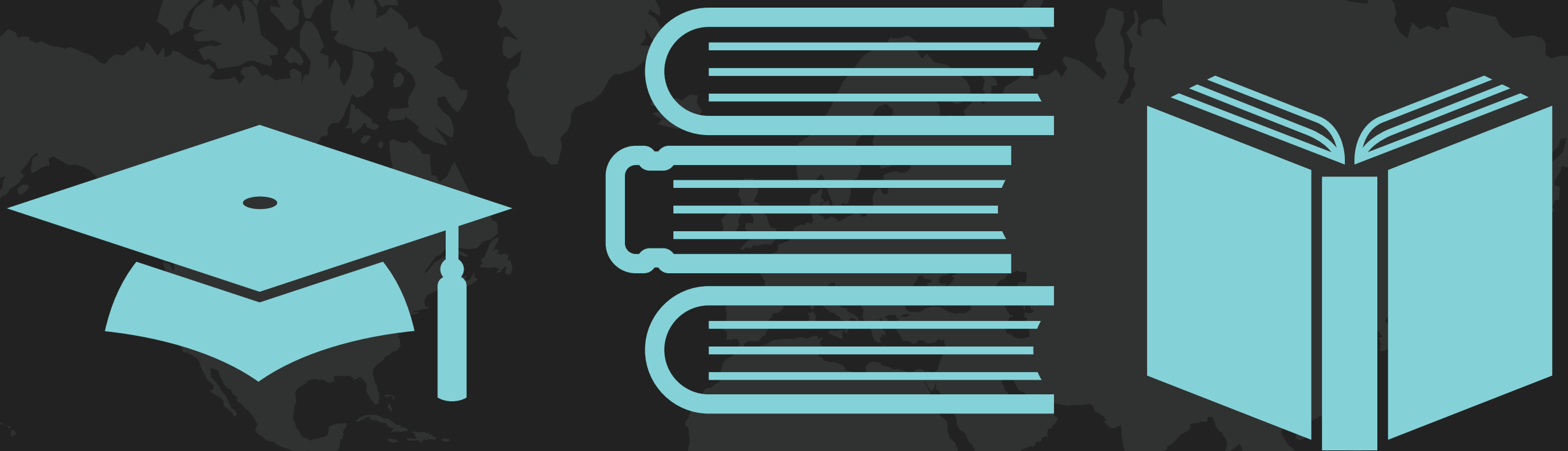
TOP CHALLENGES



lack of SUPPORT from faculty/
senior radiologists

41/94 (44%)

TOP CHALLENGES



lack of teaching EXPERIENCE

32/94 (34%)

TOP CHALLENGES

51%

pediatric radiology trainees
are currently involved in
RESEARCH

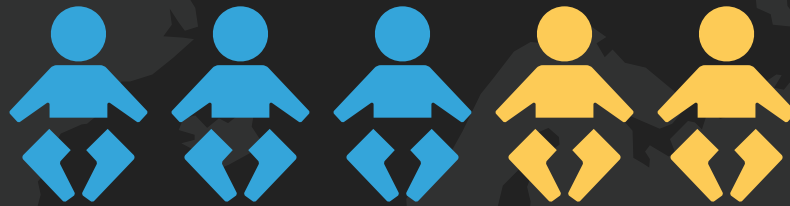
26%

pediatric radi
are curren



3 out of 5

pediatric radiology trainees
have
NO allocated time in
research and teaching



3 out of 5

pediatric radiology trainees
think that academic
activities improve clinical
competency

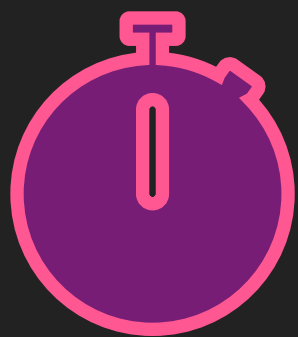


2.5 out of 5

pediatric radiology trainees
agree that academic
activities should be
mandatory in training

TOP CHALLENGES

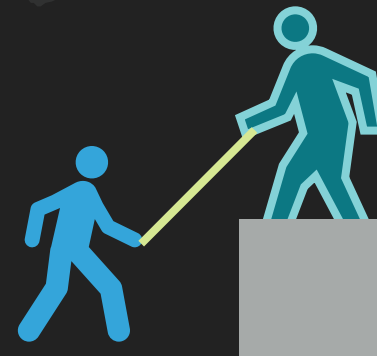
IN RESEARCH AND TEACHING



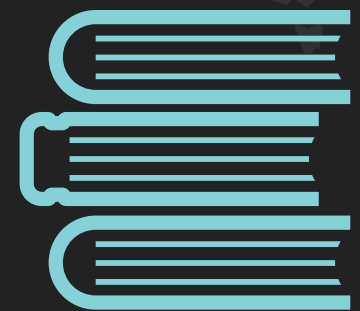
TIME



MENTORSHIP



SUPPORT



EXPERIENCE



CONCLUSION

POINTS

- ▶ **Lack of allocated time, support from faculty, mentorship and teaching experience contribute to the low involvement in academic activities of pediatric imaging trainees.**
- ▶ **Institutions and societies should give additional importance to research and teaching in training programs**
- ▶ **RESEARCH and TEACHING are keys to the continuing development of radiology**

LIMITATIONS

- ▶ **Online distribution of survey** *(cannot assess how many trainees read the advertisement and chose to not participate and how many residents did not receive the call participation)*
- ▶ **Use of Google survey** *(banned in some countries, hence, cohort does not accurately reflect worldwide radiology training; this was countered with the use of other social media platforms such as Facebook and Twitter)*
- ▶ Not linked to local or institutional training programs and did not assess **perceived workload** in clinical and academic parts of training
- ▶ **Limited** respondents, poor geographic distribution

REFERENCES

1. Gunderman RB, Nyce JM and Steele J. Radiologic research: The residents' perspective. *Radiology*. 2002; 223:308-310
2. Gunderman RB. Letter to the Editor: Radiologic research and residency. *Radiology*. 2003; 226(2):593
3. Hillman BJ, Fajardo LL, Witzke DB, Cardenas D, Irion M, Fulginiti JV. Factors influencing radiologists to choose research careers. *Invest Radiol*. 1989;24(11):842-8.
4. European Society of Radiology (ESR). Radiology trainees forum survey report on workplace satisfaction, ESR education, mobility and stress level. *Insights Imaging*. 2018;9(5):755-759.
5. Lam CZ, Nguyen HN, Ferguson EC. Radiology residents' satisfaction with their training and education in the United States: Effect of program directors, teaching faculty, and other factors on program success. *AJR Am J Roentgenol*. 2016;206(5):907-16.



ACKNOWLEDGMENT

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Thank you!