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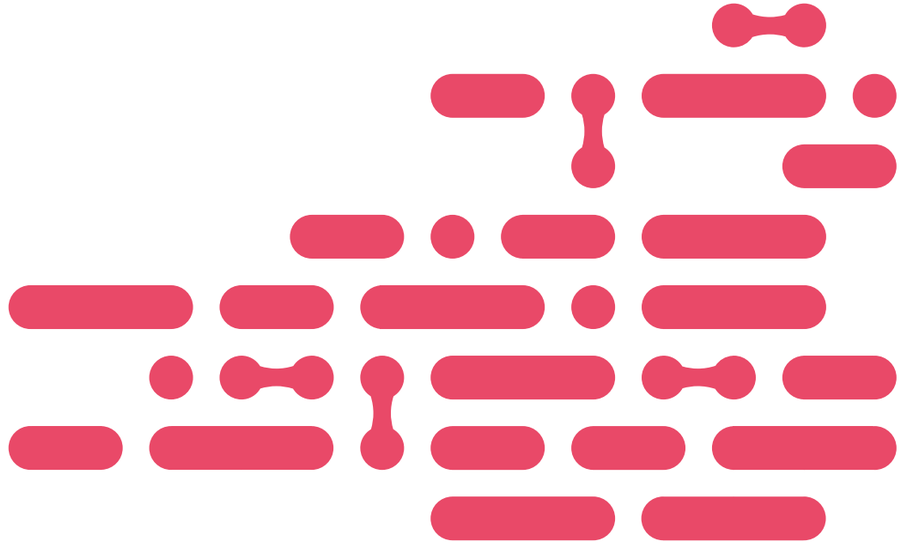
Swiss 3R Competence Centre



Non-Aversive Handling Methods in Switzerland

Results and analysis of a survey in fall 2020

Respondent Demographics

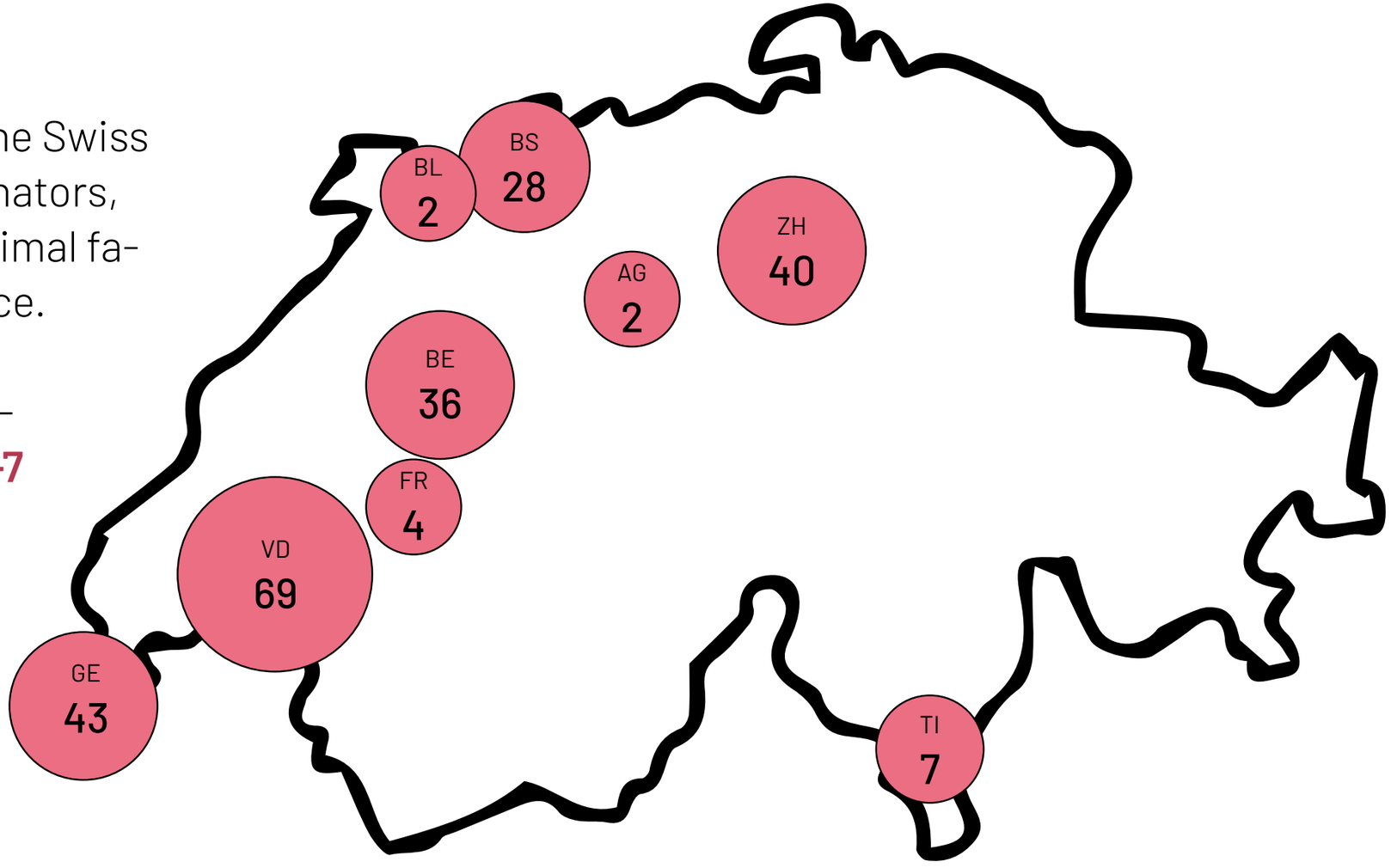
Demographics

Geography

Between **August and October 2020**, the Swiss 3RCC, via its institutional node coordinators, sent out a survey to people in swiss animal facilities and scientists working with mice.

A total of **231 people** answered our survey from all across Switzerland. The **5-7 questions** were answered in a median completion time of under **4 minutes**.

Most answered the **English version** (148), with 23 answering in German and 60 in French.



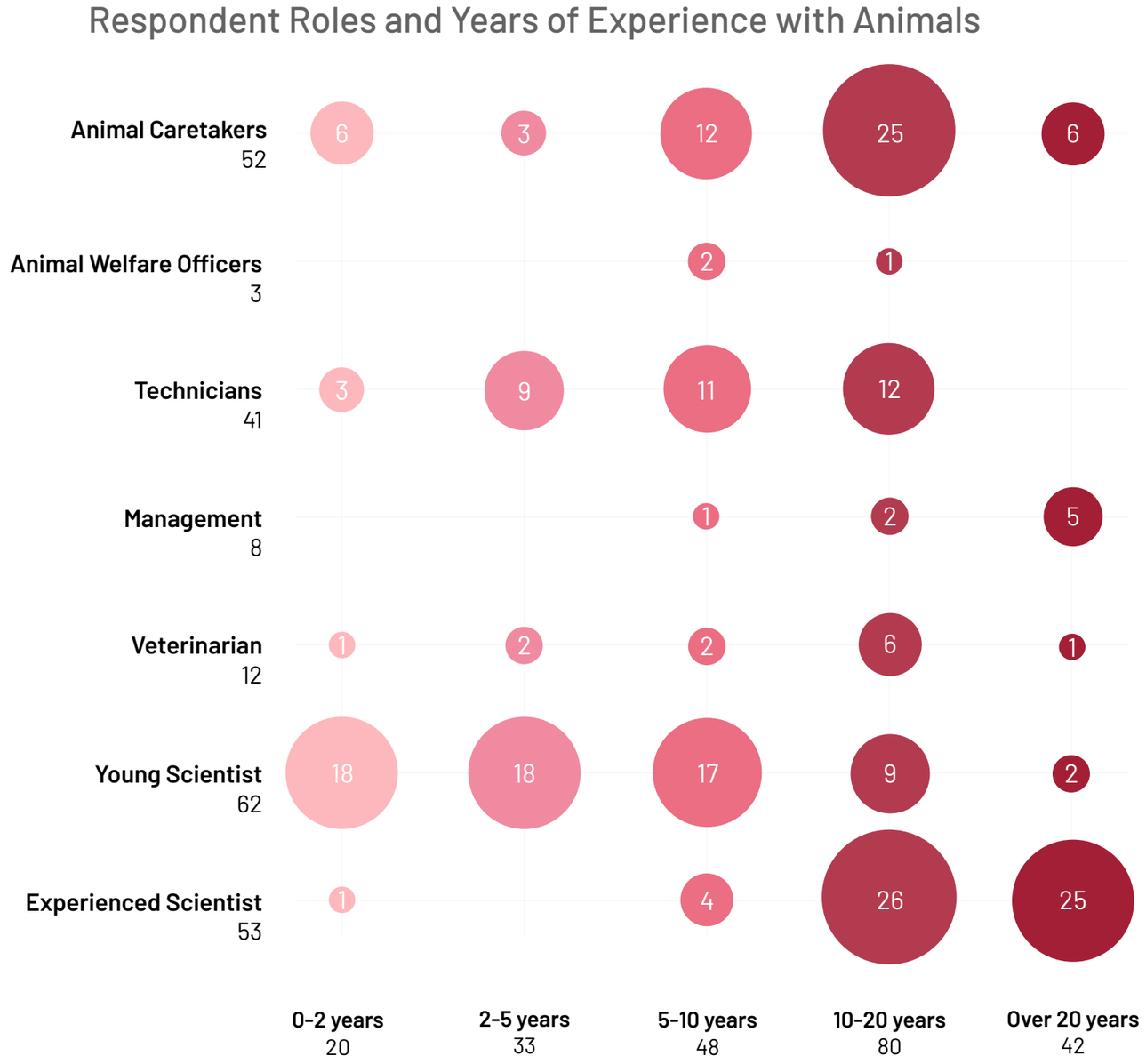
Demographics

Roles and Experience

Young scientists, postdoctoral level or earlier, were the largest single group of respondents (27%).

The majority of respondents reported **over 10 years of experience** in working with animals, with 18% reporting over 20 years. A further 21% between 5 and 10 years.

Animal caretakers tended to have more experience working with animals than **technicians**.



** roles with fewer than 10 respondents are not shown in subsequent splits*

Survey Question: Are you aware of gentle handling techniques for mice (like cup or tunnel handling)?

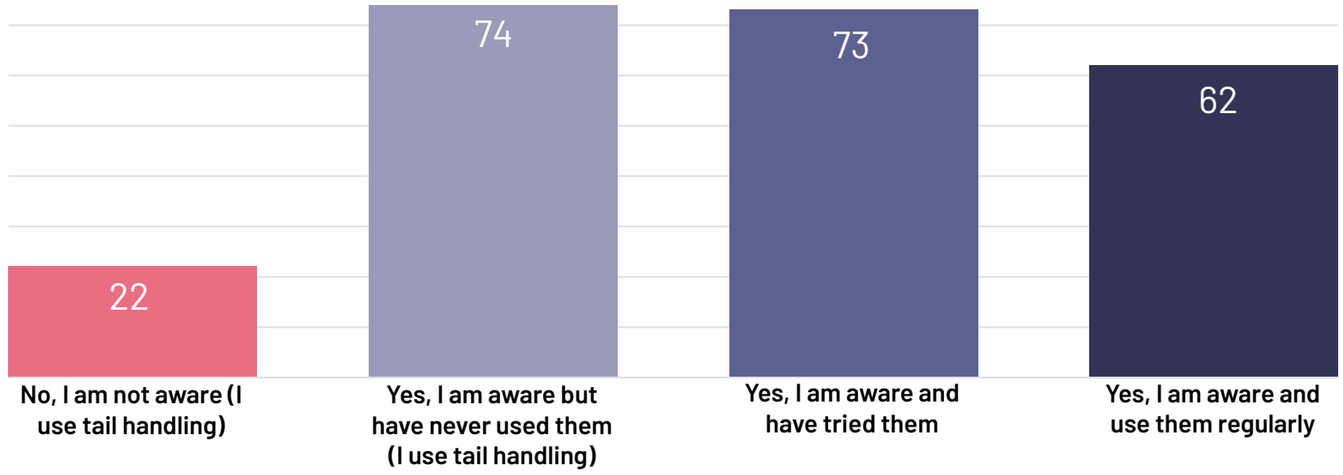
Experience

Most of the survey respondents were aware of non-aversive methods of handling mice (90%), including a majority that had actually used the methods (58%).

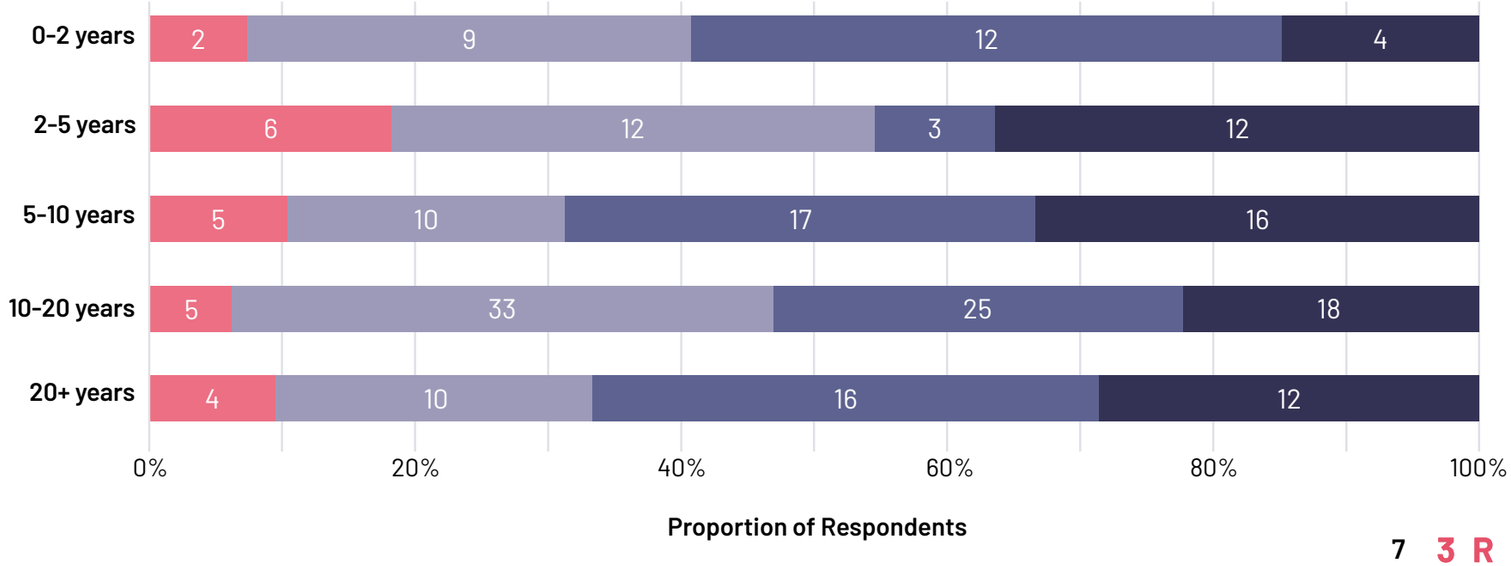
Years of experience working with animals were not a strong indicator of their awareness of non-aversive handling methods.

Some individuals with over 10 years of experience were **unaware** of alternatives.

Respondents' Awareness of Non-Aversive Methods



Awareness of non-aversive methods split by years of experience



Awareness

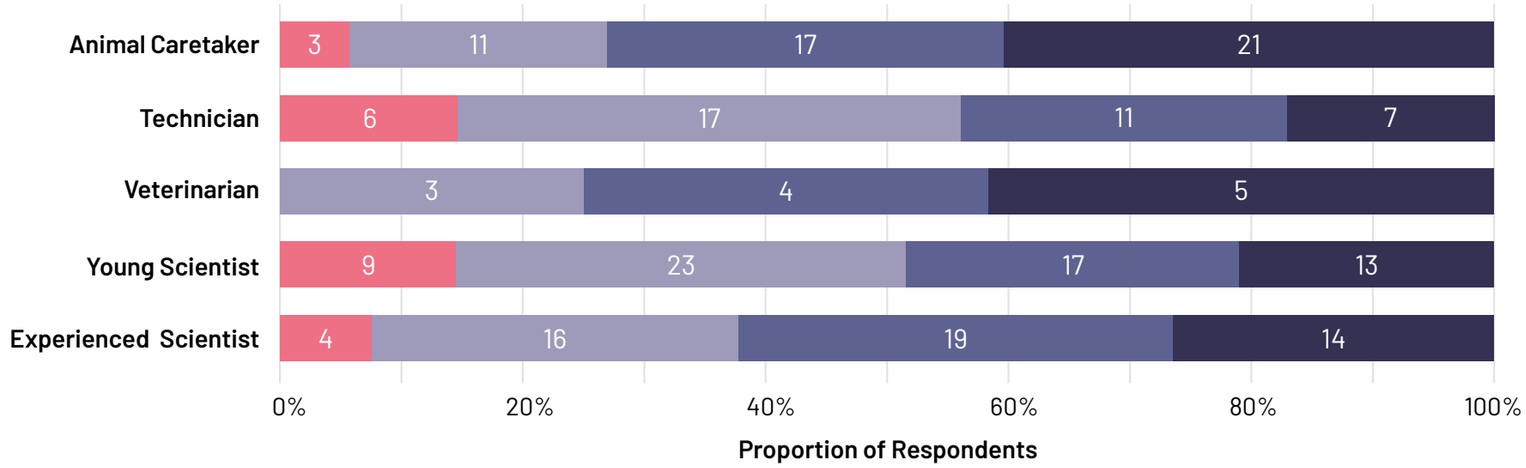
Role & Location

Animal caretakers tended to be more familiar than technicians with non-aversive methods and had used them more regularly.

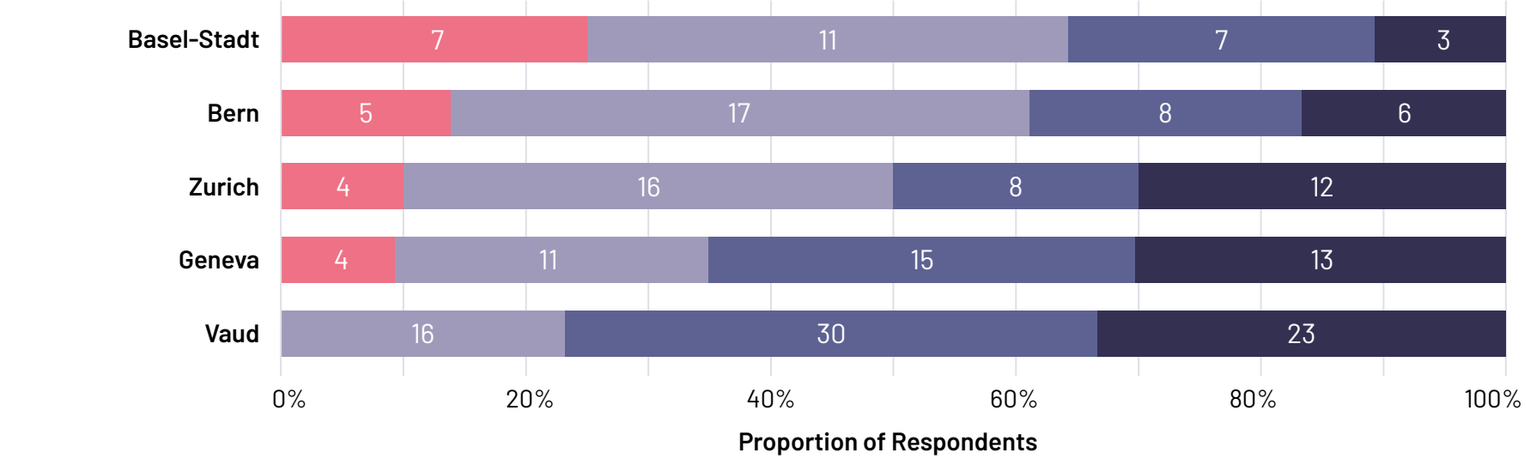
Although the sample is limited, **all veterinarians** that responded were aware of non-aversive methods.

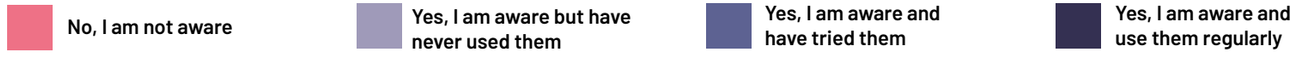
Although possibly due to some sampling bias, respondents working in the **French-speaking area** of Switzerland were generally more familiar than those from the German-speaking areas.

Awareness of non-aversive methods split by Role



Awareness of non-aversive methods split by Canton





Survey Question: Please indicate which of the following gentle hand-ling techniques you have used...

Techniques

Methods

135 of the 231 respondents had tried either **tunnel or cup handling** techniques as alternatives to tail handling. Many respondents had **tried both** (48).

About half of these respondents were using at least one of the two alternative techniques **regularly**. The other half had simply tried them at some point.

An array of **other techniqes** were also reported.

Tunnel and cup handling approaches

tunnel handling

107/135

cup handling

76/135

Other approaches indicated in the survey

towel

combination of tail and cup

by the neck

a little red house

tupperware box

cardboard tube

lid of a butter tray

gentle back grip

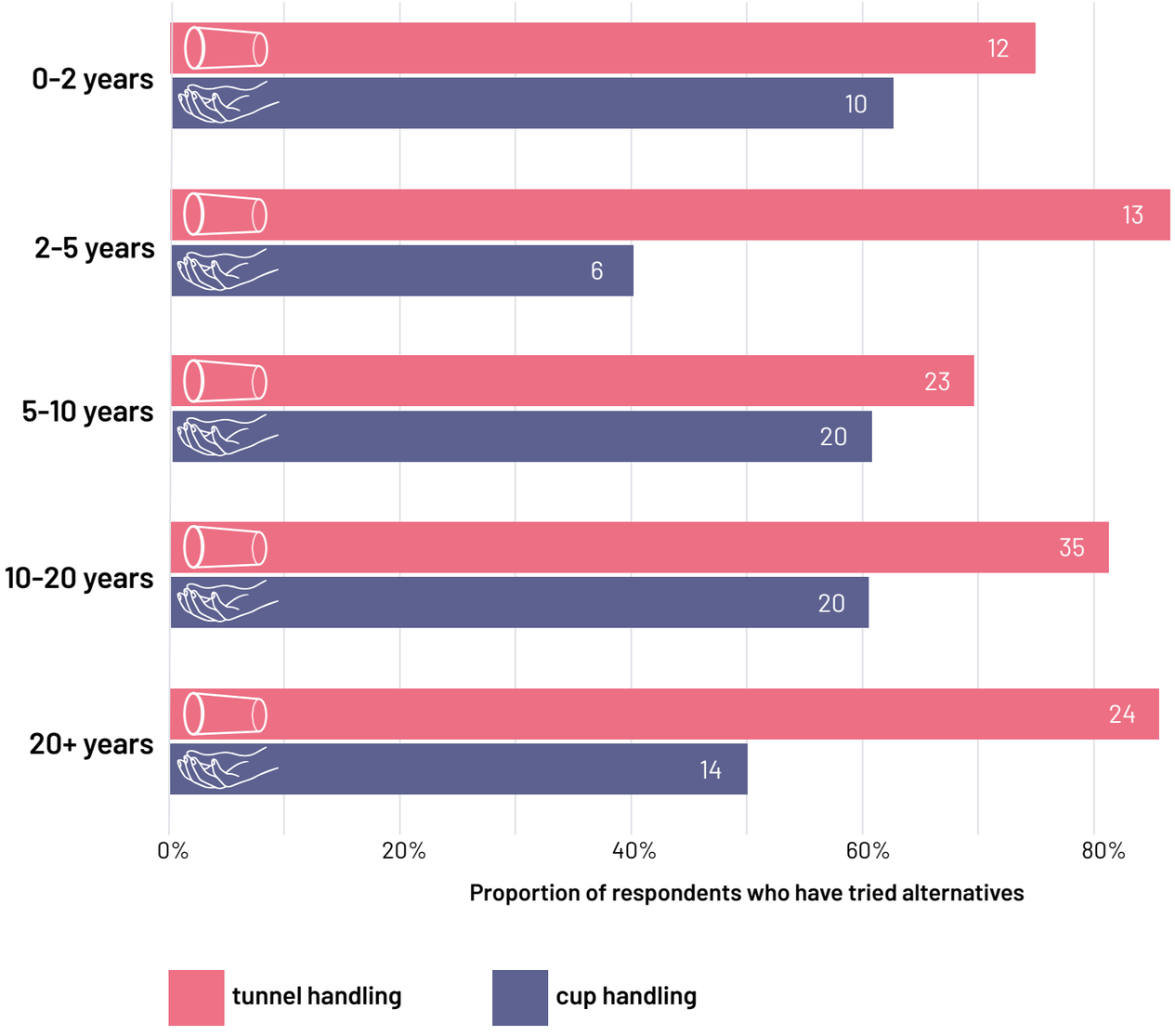
Techniques

Experience

Tunnel handling is the most popular alternative across the years of experience categories of our respondents.

More than twice as many respondents with **2-5 years of experience** had tried tunnel handling compared to cup handling.

Tunnel and cup handling methods split by years of experience with animals



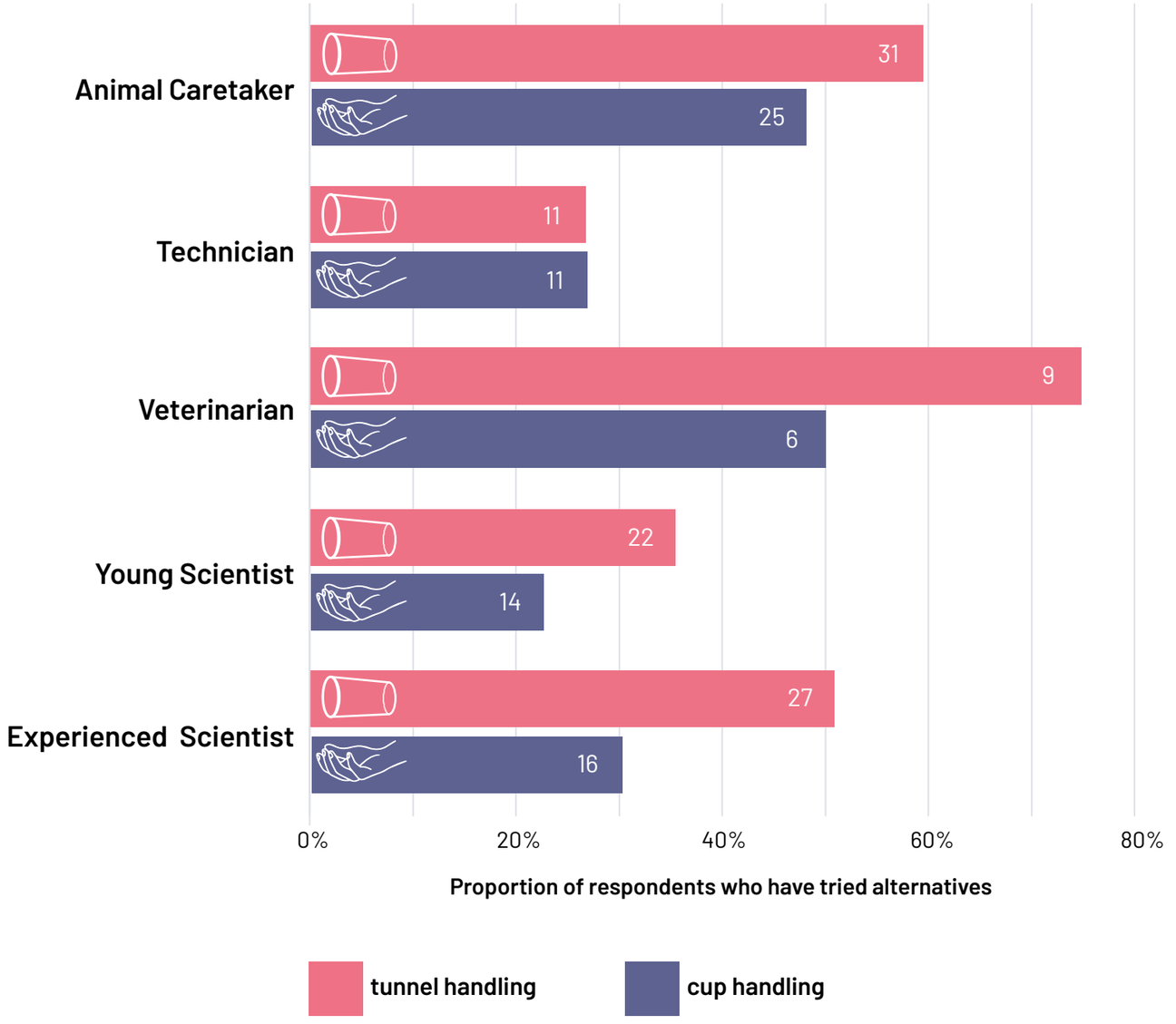
Role

For most roles, **more respondents had experience with tunnel handling** than cup handling.

However, the **technicians** as a group reported using both methods equally.

These trends were similar whether respondents had only tried them or were using them regularly (~50/50 for all roles, *not shown*)

Tunnel and cup handling methods split by role



Survey Question: Why did you decide to use the non-aversive techniques?

Rationale

Overall

The overwhelming majority of respondents who reported having at least tried to alternative techniques, said they did so (at least partly), because of the **animal's welfare**.

A relatively large percentage also reported using non-aversive handling due to the increased **quality of science**.

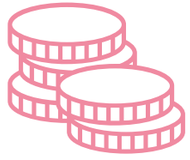
Other reasons included: practicality; reduced stress for the handler; as a test; or as the best technique for more aggressive mice.

Vote counts for reasons to use a non-aversive handling method

animal welfare
110/135
81%

quality of science
50/135
37%

internal policy
26/135
19%



cost
5/135
4%

Rationale

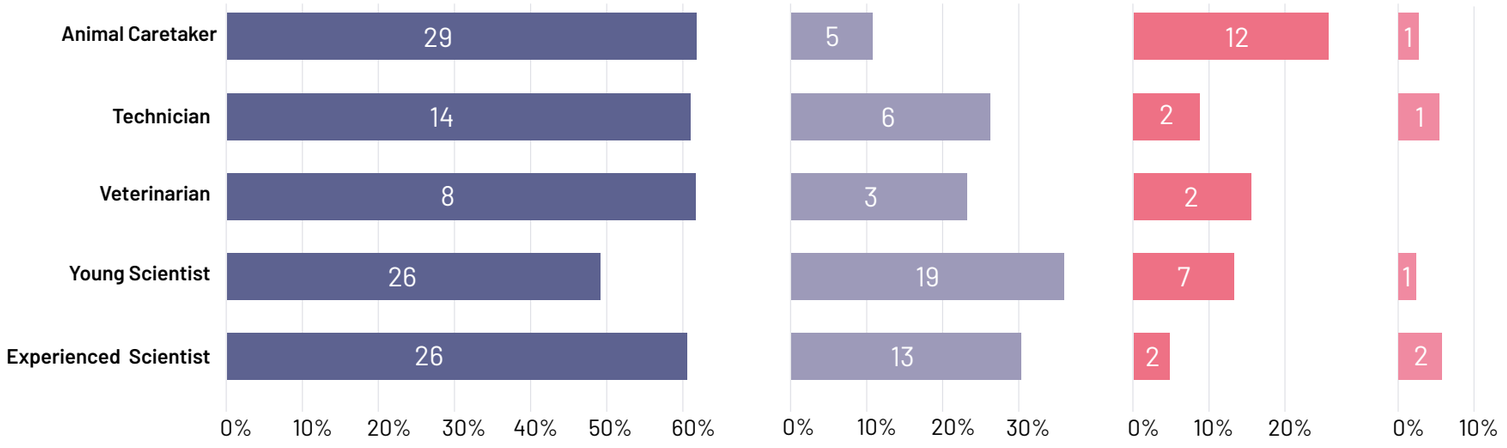
Overall

Respondents' motivation based on animal **welfare** remained the dominant reason **regardless of role and years** of lab animal experience.

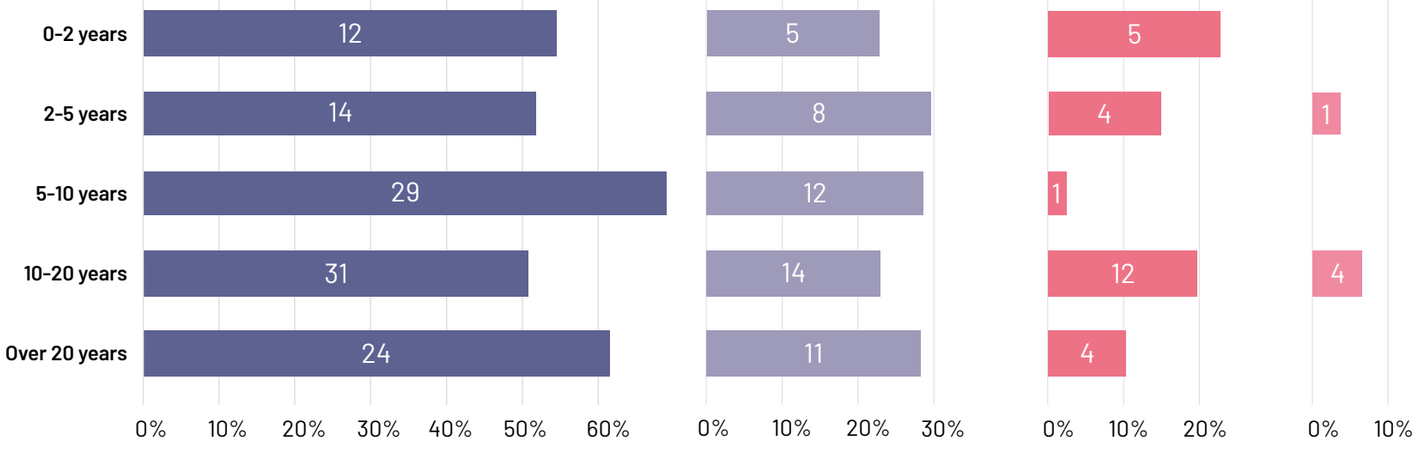
Quality of science tended to be more motivating for scientists than caretakers or technicians.

Internal policy was proportionally more important for animal caretakers and also those with fewer years of experience

Vote counts for reasons to use a non-aversive handling method, split by role...



and years of experience working with animals



Proportion of respondents in each category who have tried alternatives

animal welfare | quality of science | internal policy | cost

Survey Question: How satisfied were you when using the non-aversive techniques compared to the traditional ones?

Satisfaction

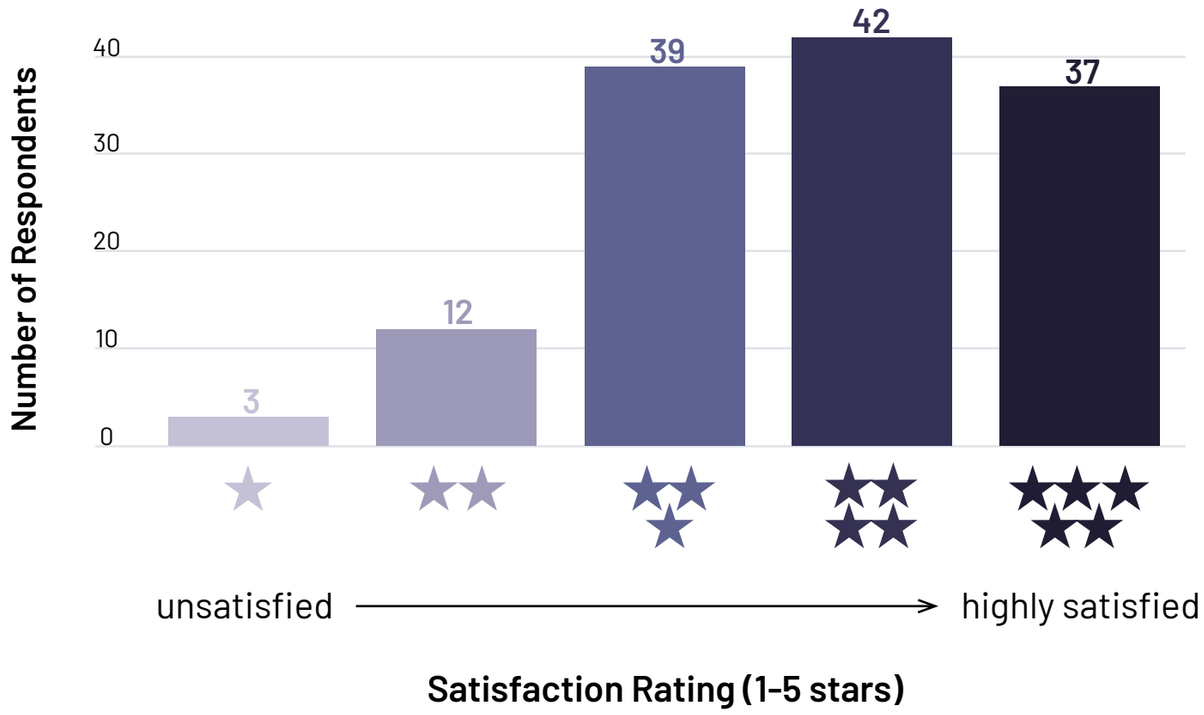
Overview

Overall, respondents indicated a **high level of satisfaction** when using non-adversive handling methods (mean rating of 3.7 stars).

The 3 respondents that gave a single star rating had only used the **cup handling** technique.

Multiple **justifications** were given for these ratings in a later open comments section (see slide 19-20).

Respondents' satifaction ratings when using non-adversive approaches



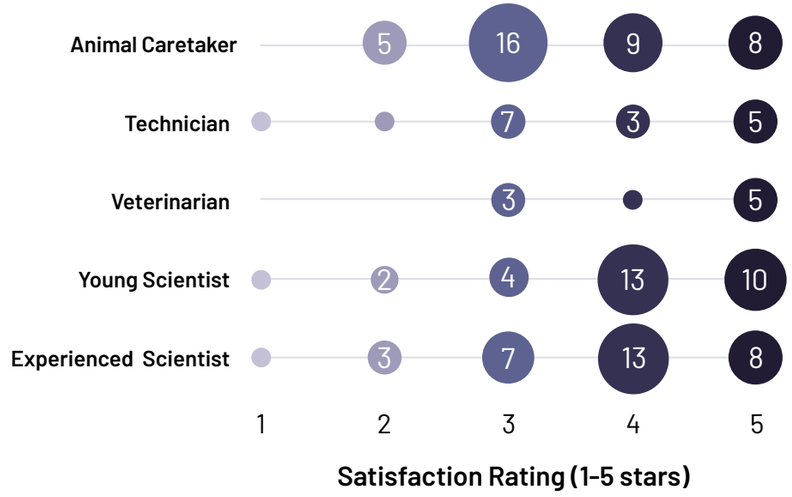
Satisfaction

Role and Experience

Caretaker and technicians were **slighly less satisfied** with a mean of 3.6 stars, compared to academic scientists who had a mean of 3.9 stars.

Respondents with the fewest years of experience working with animals were the least satisfied with non-aversive handling methods (mean of 3.2 stars). However, those with **2-5 years of experience were the most** (mean of 4.1 stars).

Satifaction ratings split by role...



... and years of experience

Open Comments

Limitations

Many of the open comments referred to concerns about the possible additional **time**, both in training and the daily handling of the animals.

Related to this were concerns about the added **financial** commitment that might be required, especially for purchasing tunnels.

Individual respondents also raised concerns about the **generalisability** of success, and **applicability** to their specific area.

Their only limitation is the **time** you have to do it.
young scientist | 2-5 years | tunnel handling

evident limitations: **sterilization** capacity, limited habituation at 2-3 weeks cage change/handling interval, potentially aversive **disinfectant smell** of tunnels
veterinarian | 20+ years | tunnel handling

limiting for mice in research when they have to be injected daily and restrain is needed
young scientist | 0-2 years | tunnel and cup handling

animal is more free to move and **takes more time** to grab it, sometimes **bites the hand**.
young scientist | 0-2 years | aware but not tried

more **costly**
experienced scientist | 20+ years | cup handling

when you have a lot, it is a **huge waste of time**.
technician | 20+ years | cup handling

Hygiene restrictions (material)
experienced scientist | 20+ years | tunnel handling

may **depend a lot** on the strain, gender, habituation and other yet **unknown factors**
veterinarian | 10-20 years | aware but not tried

For the experimental side, especially with sampling at close time points, it was **not manageable**.
experienced scientist | 10-20 years | tunnel and cup handling

in breeding the **transfer of pups** is not possible with tunnel handling
veterinarian | 10-20 years | tunnel and cup handling

paper
management | 20+ years | tunnel and cup handling

Open Comments

Advantages

Despite limitations, the survey indicated overwhelming **support** for non-aversive handling methods.

Many respondents observed reduced signs of stress and more natural behaviour. Leading to better **human-mouse interactions**.

Respondents remarked that **after successful training** and habituation, the non-aversive approaches were **worked well** for scientific goals and animal care.

improved animal **welfare**, **better interactions** between handlers and mice, **reduced stress** levels.
animal welfare officer | 5-10 years | tunnel handling

...make mice temperaments better, cause less stress, and result in more **stable behavior** during experiments.
young scientist | 10-20 years

when mice are trained it is **very quick** and quicker than classical tail or back skin methods
veterinarian | 10-20 years

Once learned, it is as **fast and effective** as tail handling. The mice seem much calmer, and exhibit more **natural and investigative behaviour**.
veterinarian | 10-20 years

Good for **animal welfare** and might **reduce impact of animal stress** on scientific results.
young scientist | 0-2 years

less stressed in general and the **pregnant mothers** in particular
animal caretaker | 10-20 years | cup handling

the tunnel that serves as **enrichment**
animal caretaker | 0-2 years | tunnel and cup handling

humane way of treatment of the animals
veterinarian | 2-5 years | tunnel handling

We have implemented nonaversive handling techniques in our lab and consider it **feasible for all our purposes** (housing and research).
experienced scientist | 20+ years | tunnel and cup handling

Swiss 3R Competence Centre

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