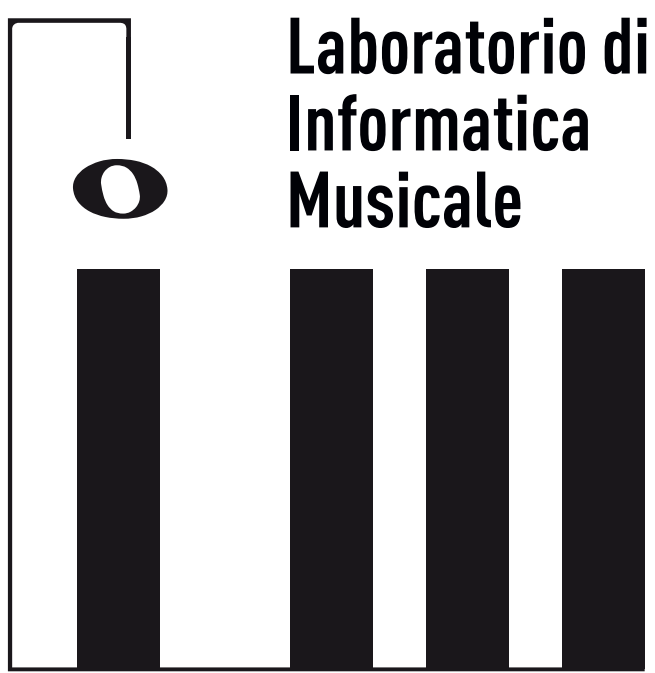
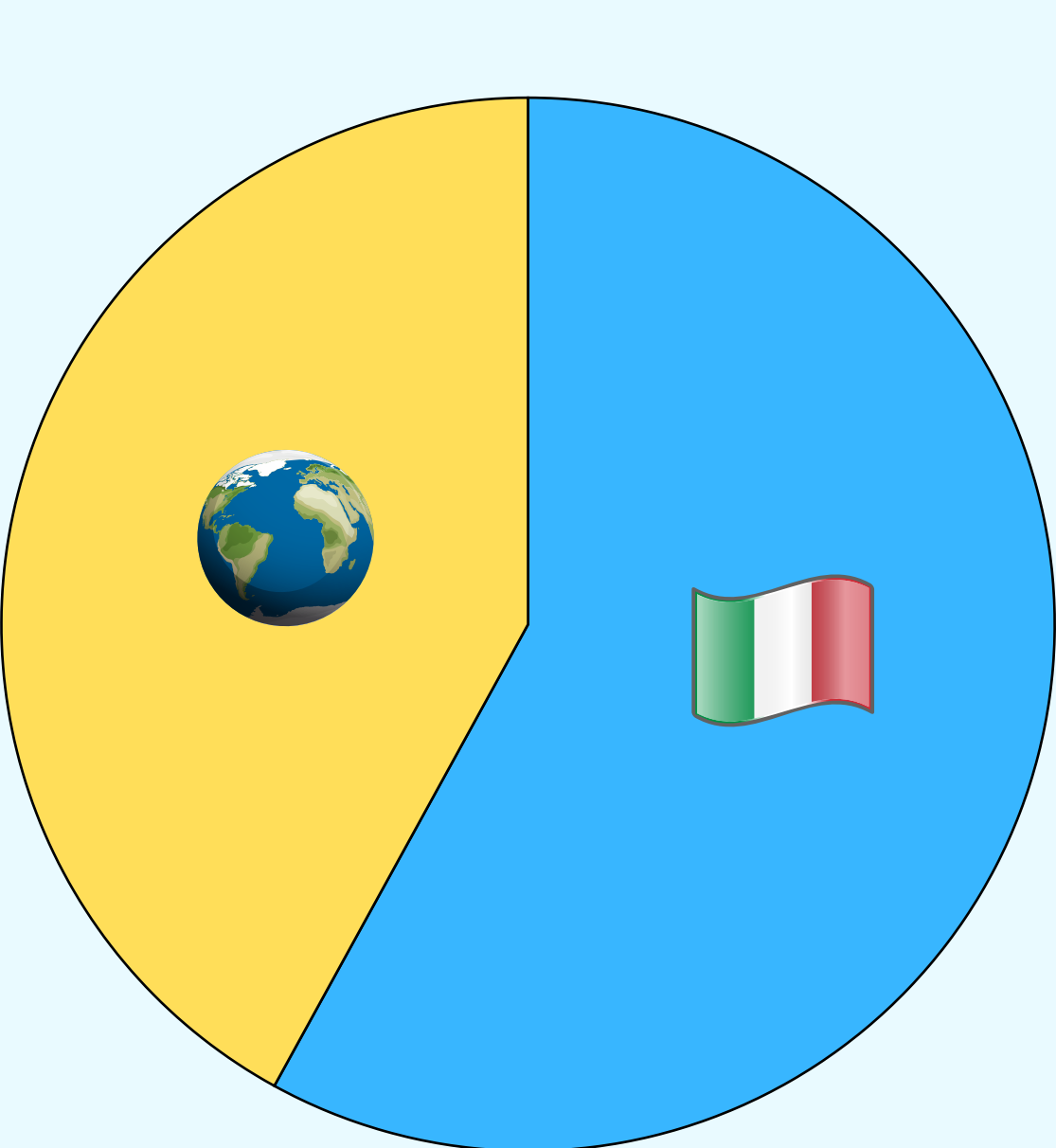


A STUDY ON THE ADOPTION AND USAGE OF DIGITAL AUDIO WORKSTATIONS

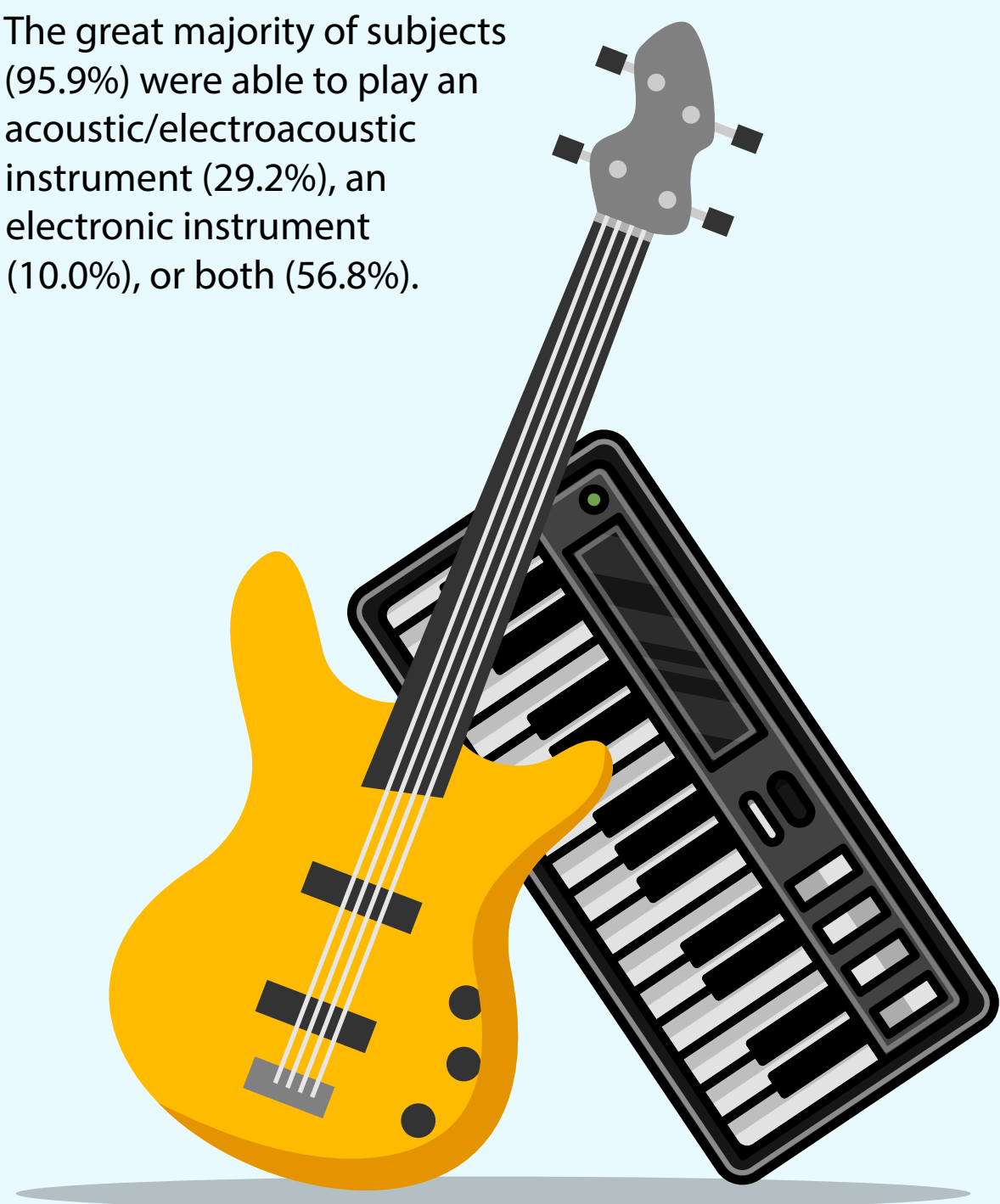
Federico Avanzini, Riccardo Della Longa, Davide Fantini, Luca A. Ludovico, Giorgio Presti
Laboratory of Music Informatics (LIM) - Department of Computer Science - University of Milan



Corresponding author: giorgio.presti@unimi.it



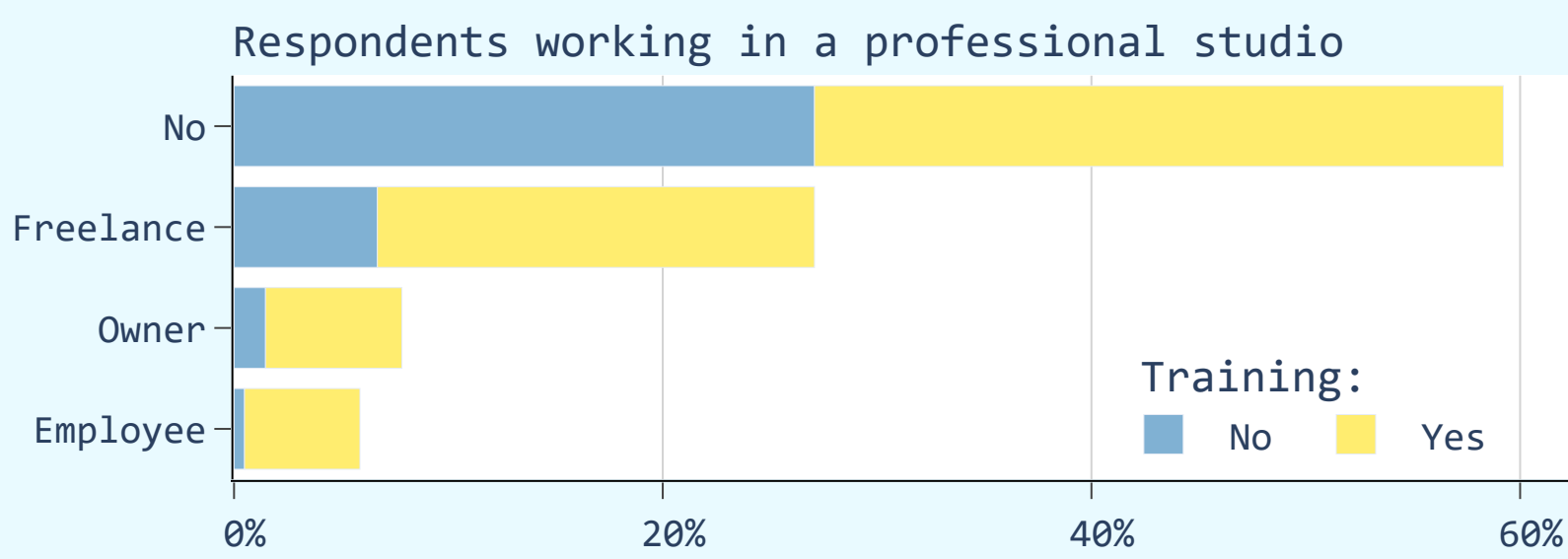
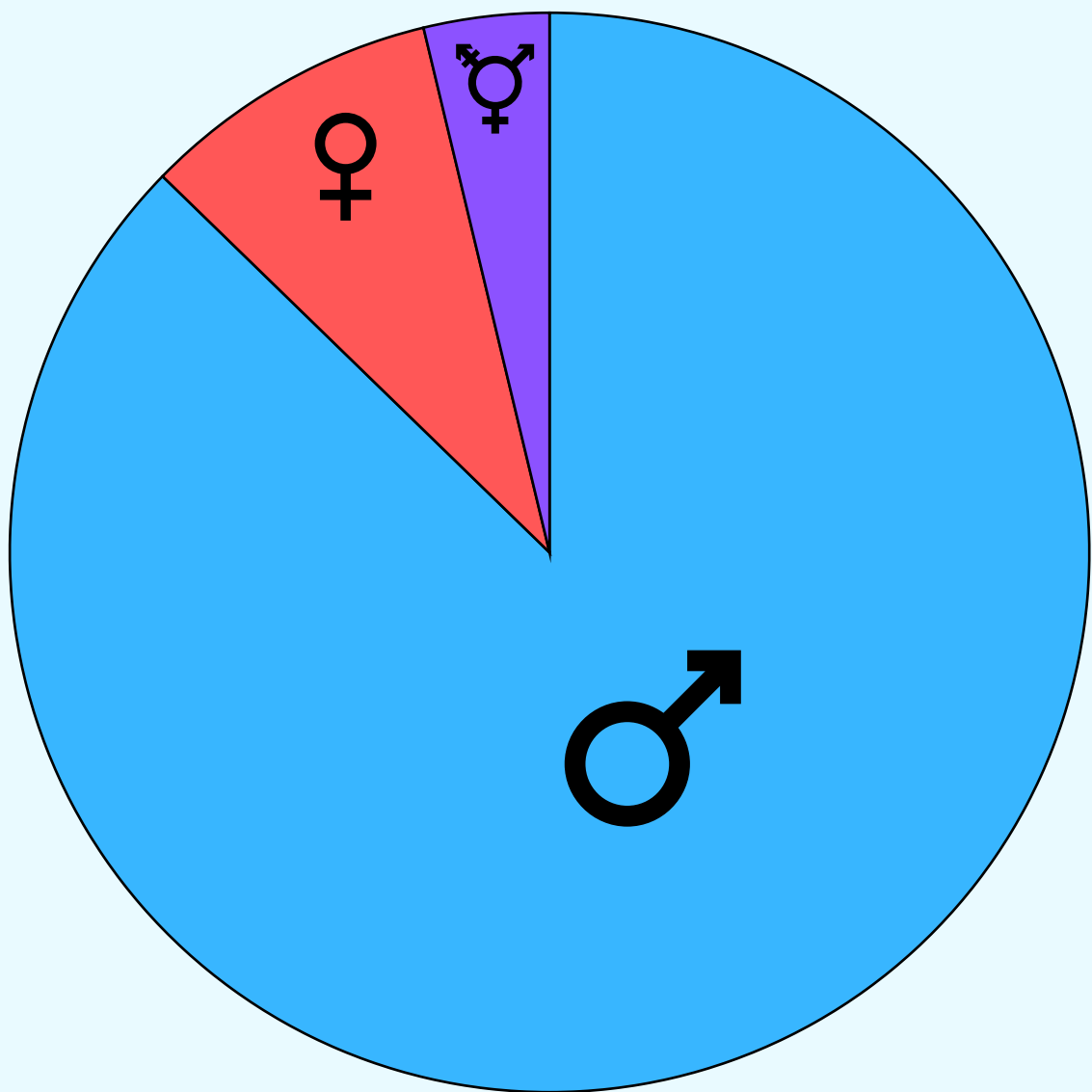
Ardour and **Bitwig** are underrepresented in Italy compared with the rest of the world, while **FL Studio** is far more adopted in Italy, especially by young amateurs.



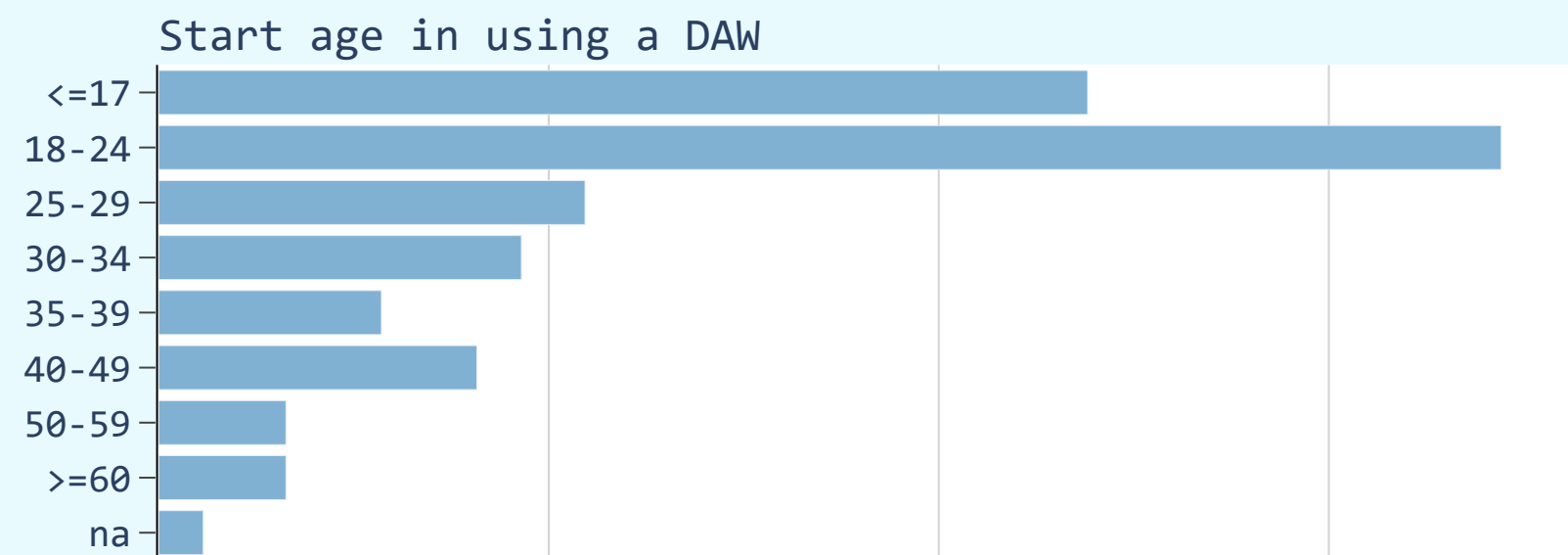
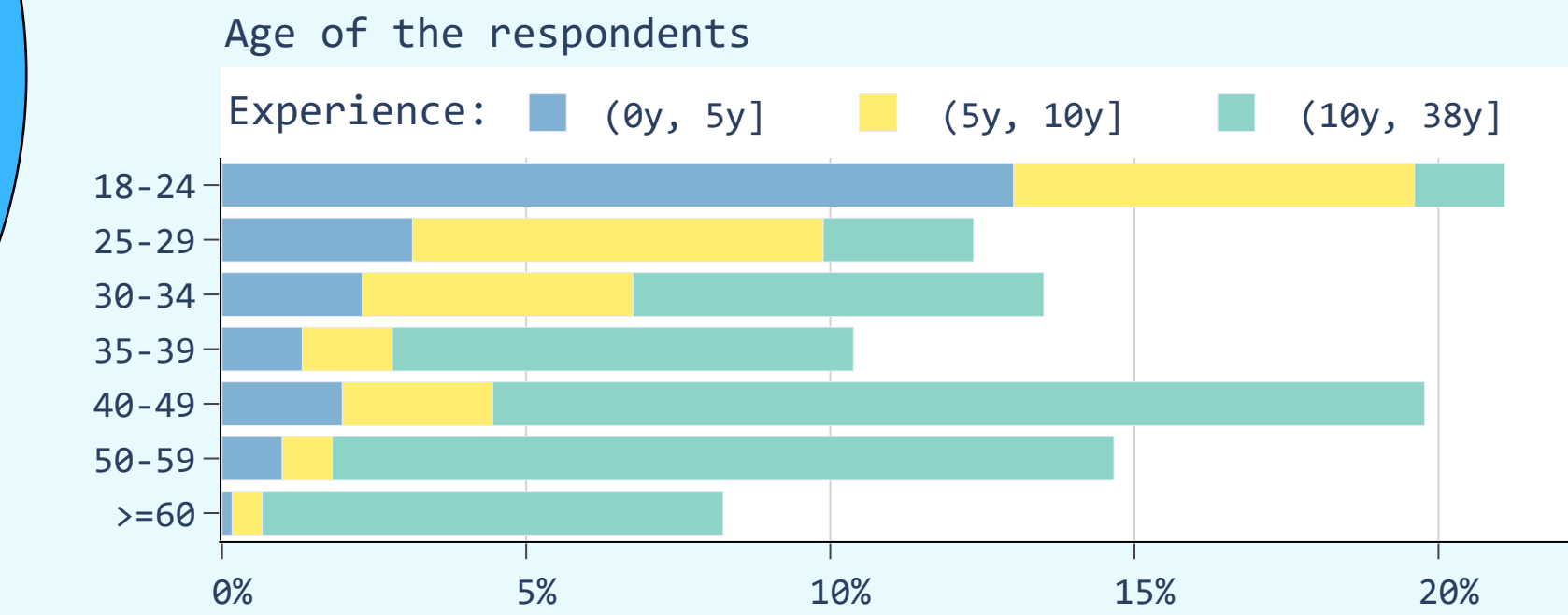
The great majority of subjects (95.9%) were able to play an acoustic/electroacoustic instrument (29.2%), an electronic instrument (10.0%), or both (56.8%).

613
Respondents

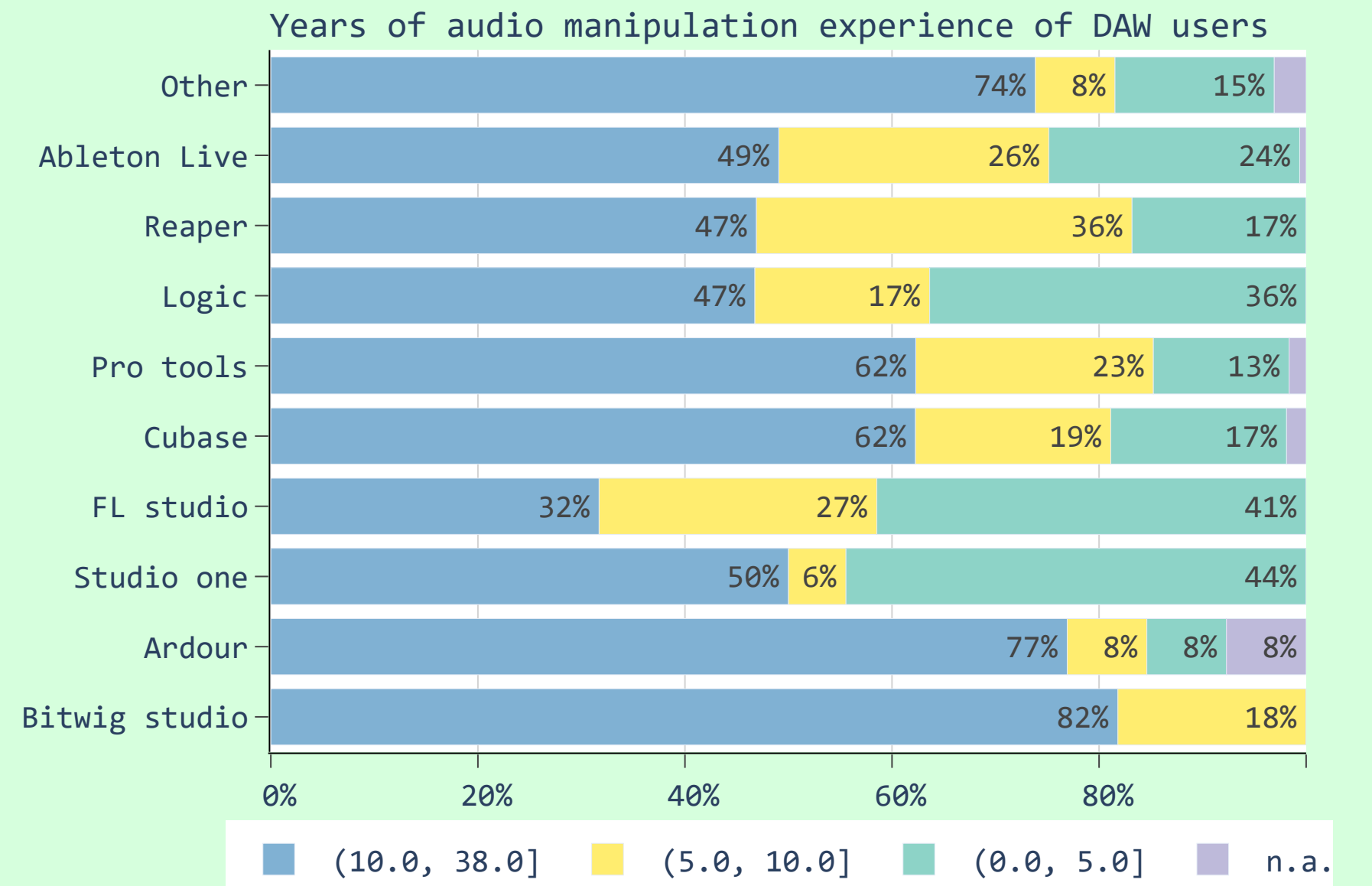
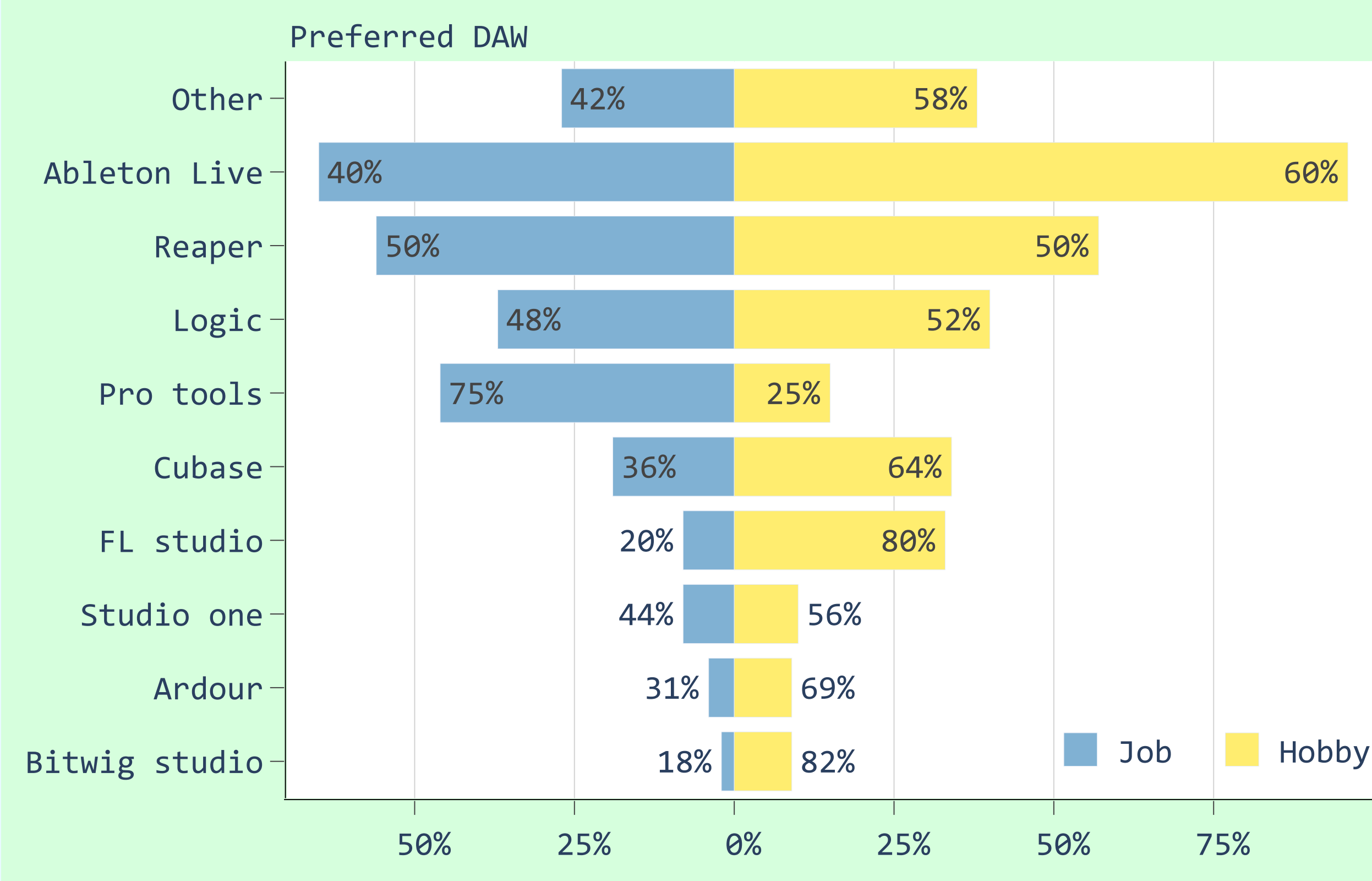
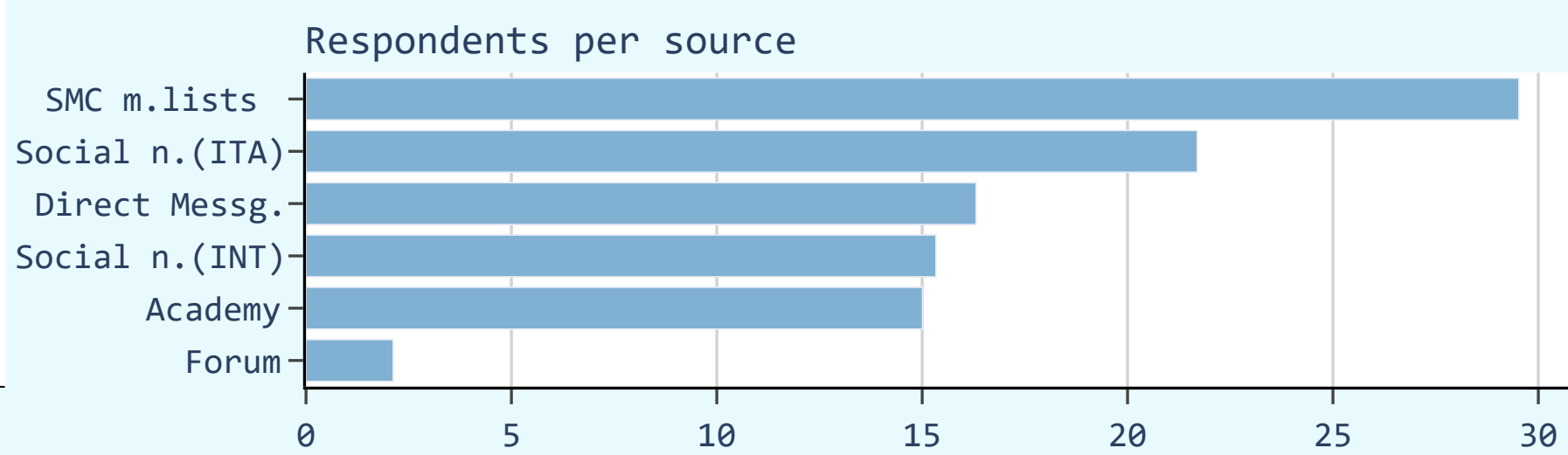
Interviewed at the end of 2023; asked about DAW usage habits.



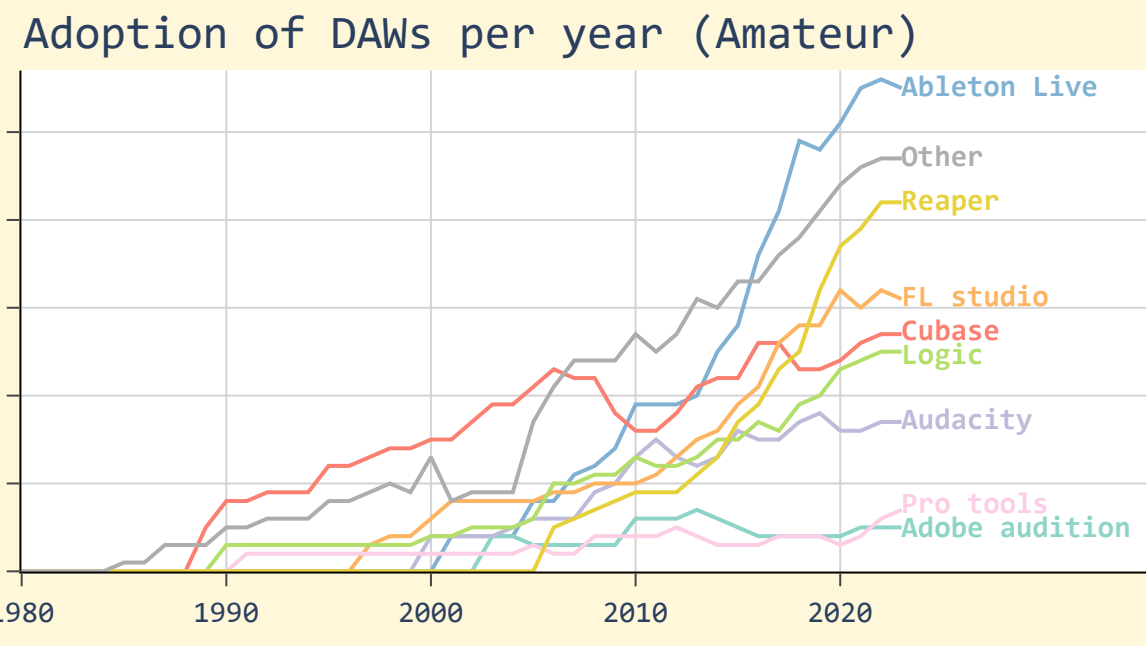
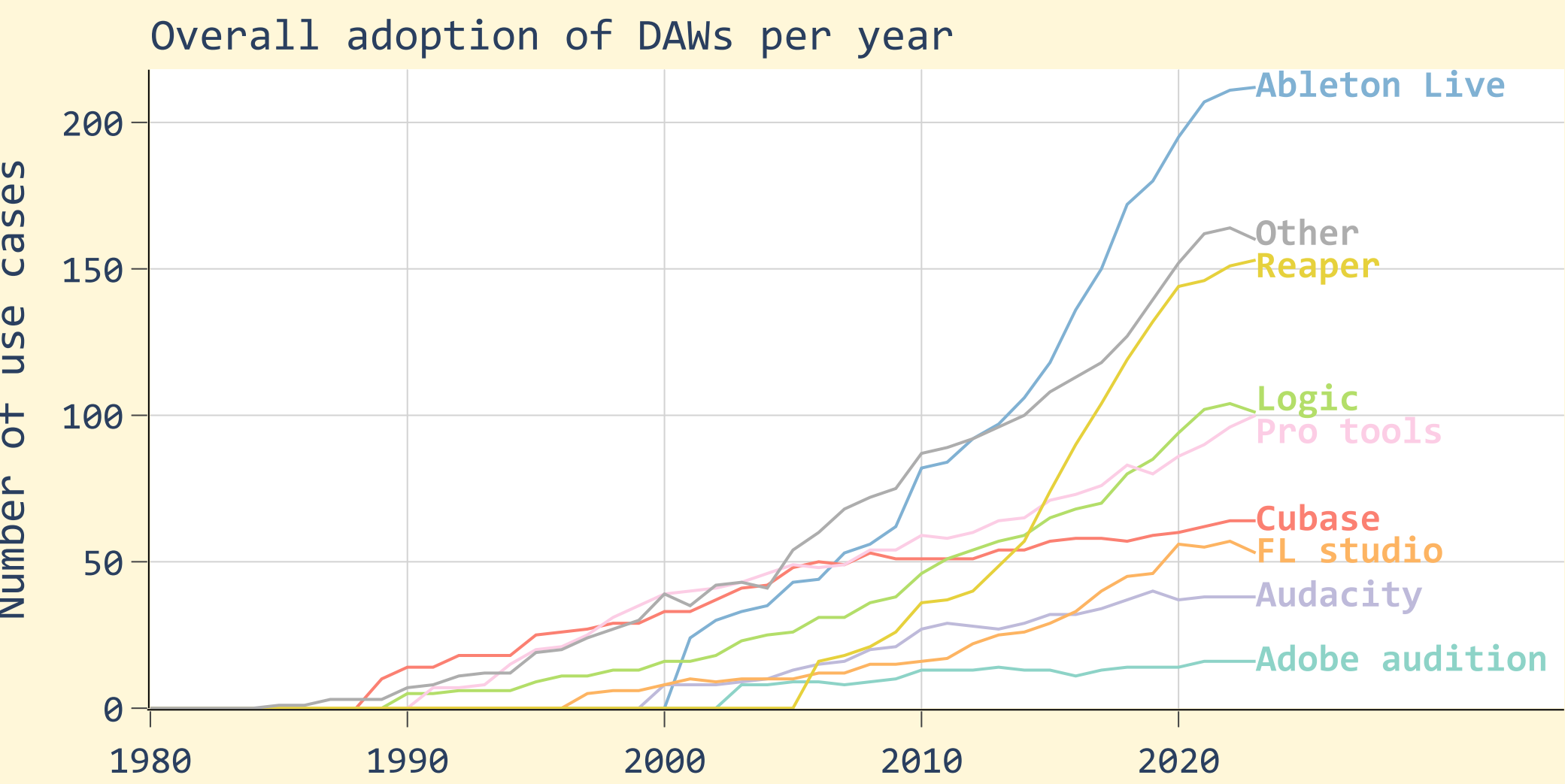
64.3% of participants had received formal training in audio manipulation. A noticeable number of users of **Bitwig**, **Pro Tools** and **Studio One** were trained (72-82%), but also for other DAWs the percentage was above 50%. Only in the case of **FL Studio**, formally trained users were a minority (34%).



51% of **FL Studio** users adopted it before 18 (and 90% before 24), and 41% had less than 6 years of experience with DAWs. Conversely, only 10% of **Pro Tools** users started before 18. In general, more than 50% of the responders started using DAWs before being 30.

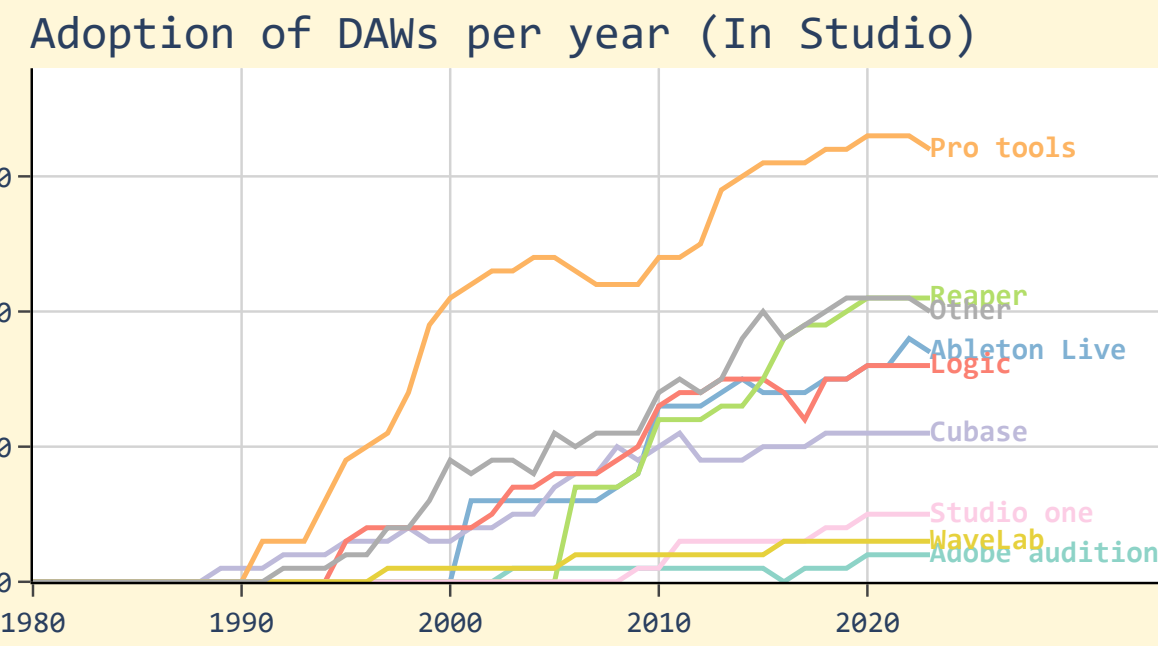
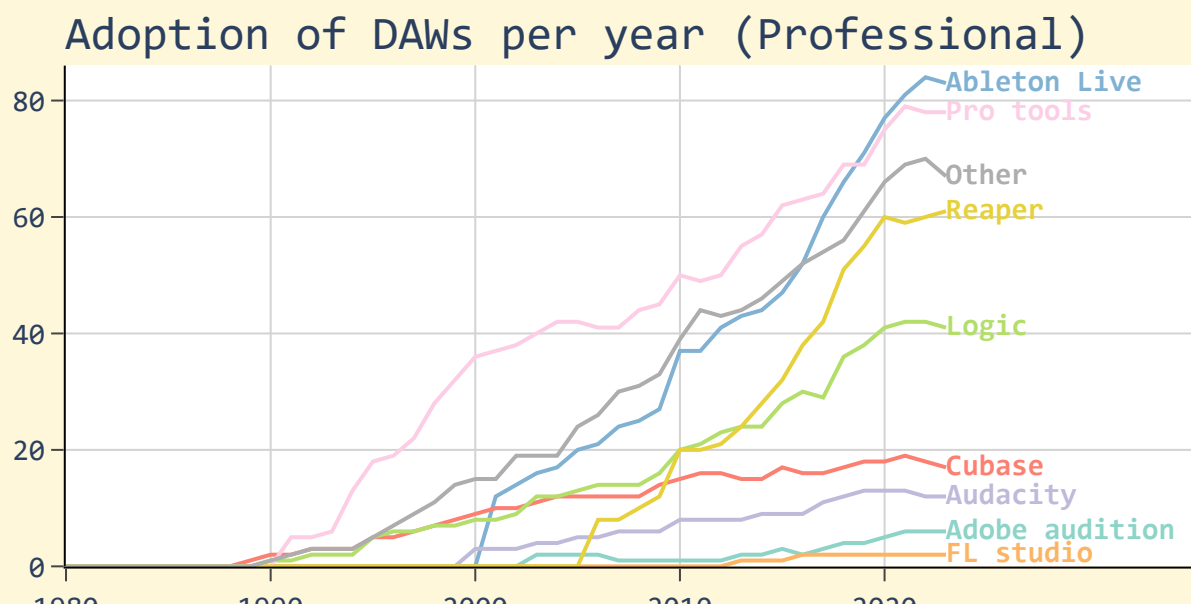


Ableton Live emerged as the most preferred DAW among respondents, followed by **Reaper** and **Logic Pro**. Nevertheless, the study highlights a divide between professional and amateur DAW users. **Pro Tools** remains the industry standard for professional audio engineers, while **Ableton Live** is gaining traction among hobbyists and independent producers, and **Reaper** appears to be well balanced between professionals and hobbyists.

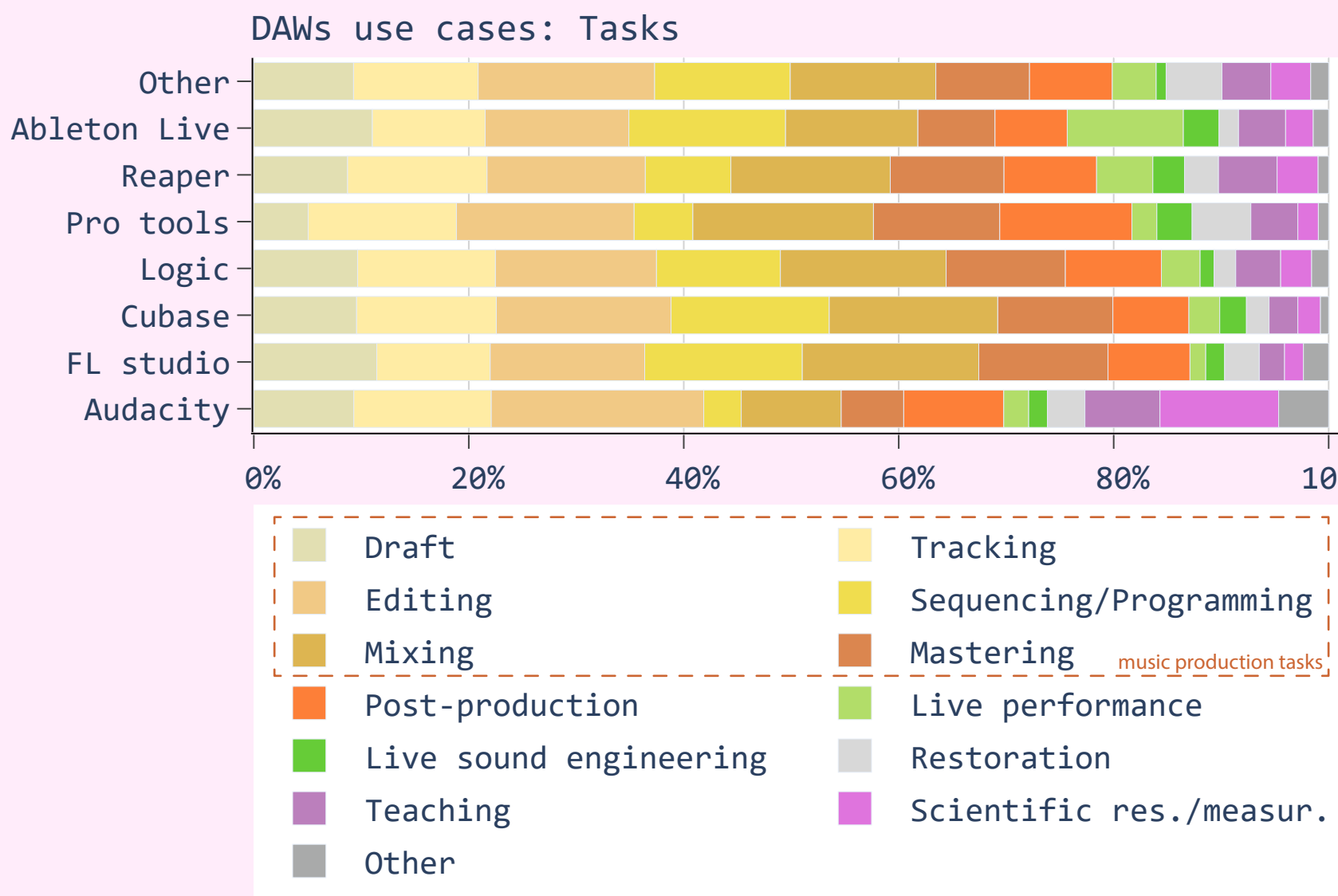
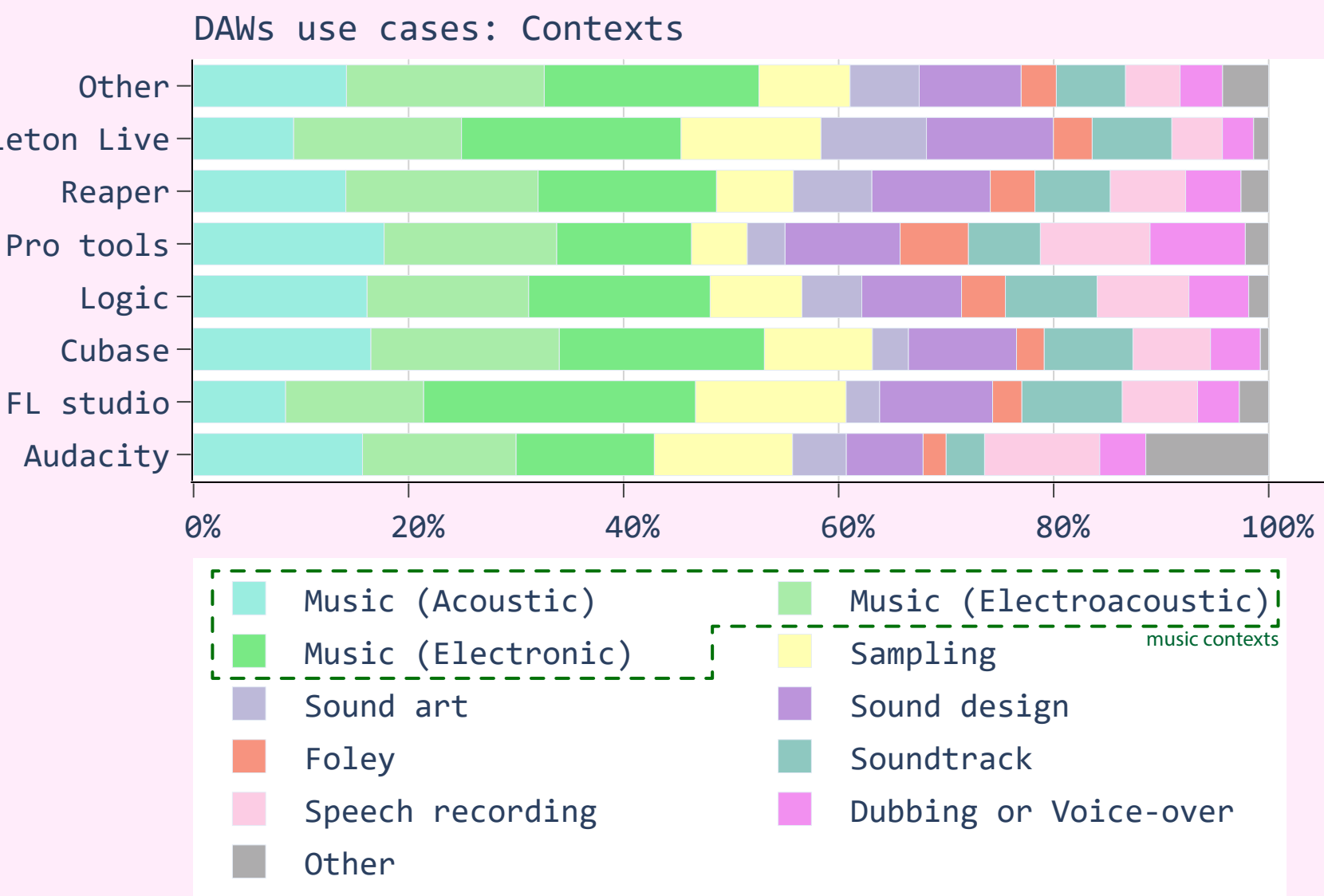


The fact that the "Other" category (including 44 more DAWs) ranked second in the general diagram suggests a constellation of DAWs that make the market diverse and dynamic.

A historical analysis of DAW adoption revealed an increasing shift towards **Reaper** and **Ableton Live** among newer users. **Pro Tools** remains dominant among seasoned professionals.



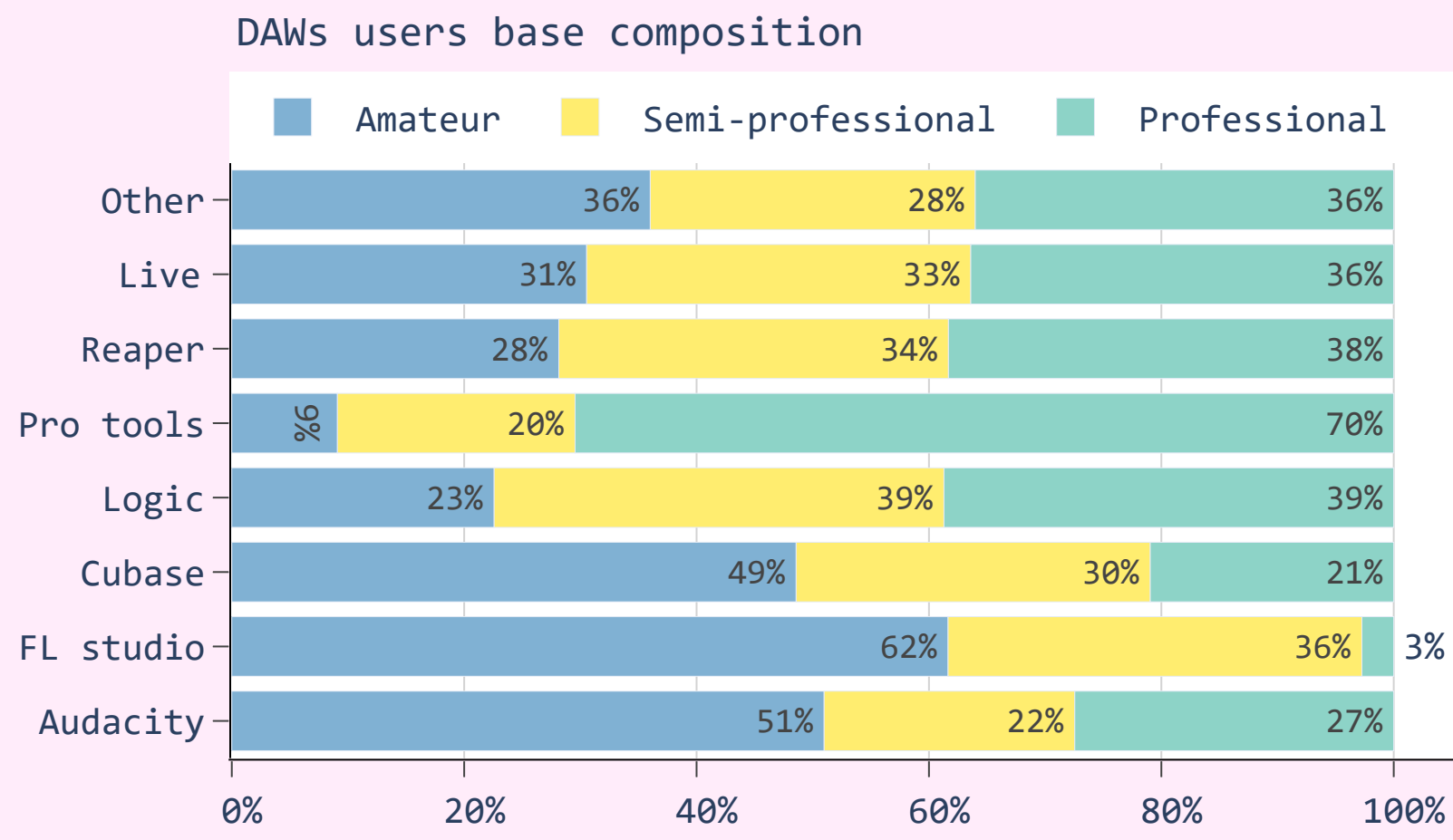
Further analyzing the historical data dividing company workers/owners from freelance/amateurs, it emerges that, in the first case, **Pro Tools** is widely more used than **Ableton Live** and **FL Studio** is almost absent, while, in the latter case, **RX** appears in the charts (not shown here).



In terms of Task versatility, **Reaper** stands out, with an even distribution of usage across various audio tasks. **Pro Tools** is instead the most versatile in terms of Use Contexts.

Cubase's user base is primarily focused on music production, with a significant relevance across virtually all musical genres. By contrast, **Audacity** is adopted more widely for non-musical purposes, such as research and education.

Although **Pro Tools** is versatile in terms of Contexts, its users don't use it as much for drafting, sequencing and programming.



As one may expect, many **Ableton Live** users employ the software for live performances.

Ableton Live

- Most preferred overall, gaining traction with hobbyists & independent producers.
- Main Use: Electronic Music (Amateur) for Semi-professional Sequencing & Programming. Also one of the top two for many tasks and contexts.

Ardour

- Underrepresented in Italy; common among SMC mailing list respondents.
- Most adopted DAW on Linux due to its open-source nature.
- Main Use: Amateur Music (Electroacoustic) for Amateur Mixing.

Audacity

- Primarily for non-musical uses like research & education.
- Free, open-source, and user-friendly audio editor.
- Approximately 19% of users are on Linux.

Bitwig Studio

- Significant portion of users with formal training.
- Underrepresented in Italy.
- Main Use: Amateur Music (Electronic) for Amateur Drafting.

Cubase

- Primarily Windows users.
- Strong in music production across genres; less so for other audio tasks (likely due to **Nuendo**).
- Main Use: Amateur Music (Electronic) for Amateur Editing.

FL Studio

- Highly adopted in Italy by young amateurs.
- Many users start before 18 (almost all before 24); formally trained users are a minority.
- Exclusion: Almost absent among company workers/owners.
- Main Use: Amateur Music (Electronic) for Amateur Mixing.

Logic Pro

- Among the most preferred DAWs.
- MacOS only since 2002.
- Main Use: Professional Music (Electroacoustic) for Semi-professional Editing.

Pro Tools

- The go-to for professional audio engineers.
- High percentage with formal training; few start before 18.
- Small minority on Windows.
- Widely used "in the studio".
- Most versatile in use contexts.
- Main Use: Professional Music (Acoustic) for Professional Mixing.

Reaper

- Well-balanced between professionals and hobbyists; highly preferred overall.
- Increasing shift among newer users.
- Stands out for Task versatility.
- Main Use: Professional Music (Electroacoustic) for Professional Editing.

Studio One

- Noticeable majority of users with formal training.
- Main Use: Amateur Music (Acoustic) for Amateur Editing.



Further analysis and details about the survey can be found in the paper. You can access the raw data in JSON format and the Python script used to generate the plots at https://doi.org/10.13130/RD_UNIMI/YNQHKI



See more plots, download the poster or access further details at <https://www.lim.di.unimi.it/dawsurvey/results/2023/>



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With only 613 responses, we risk over-generalizing findings. The fact that the majority of responses came from Italy introduces a national bias. The imbalance in the sources – like the heavy reliance on SMC mailing lists – might not represent the diversity of DAW users. These data do not reflect recommendations or quality assessments of DAWs. Instead, they report how surveyed users utilize them. We discourage interpreting DAW usage as a reflection of its strengths, as cultural and marketing factors can distort this correlation. Evaluating the features offered by each DAW is beyond the scope of this work.