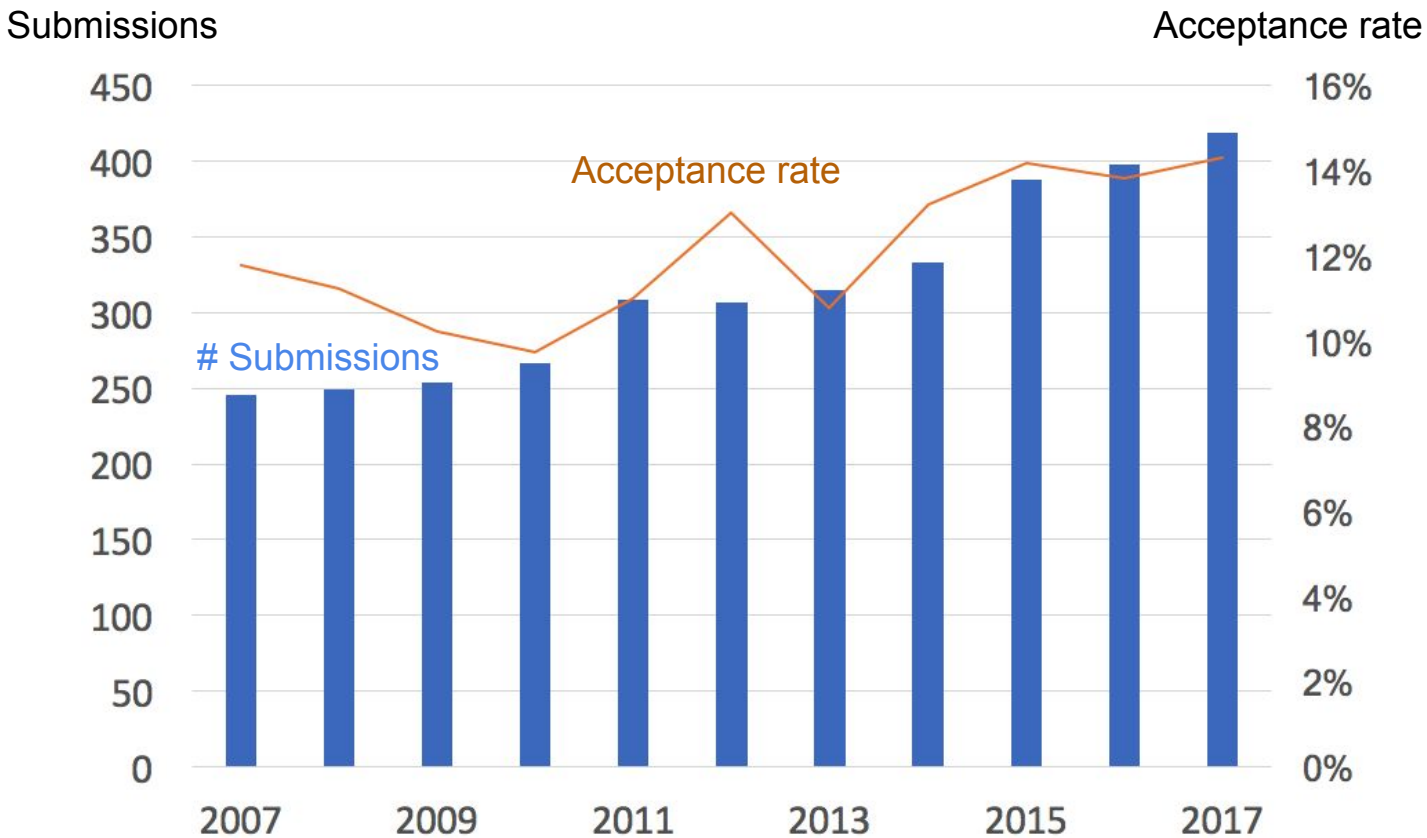# Report on the IEEE S&P 2017 submission and review process and its experiments

Bryan Parno, *junior PC chair*
Úlfar Erlingsson, *senior PC chair*
Will Enck*, student PC chair*

Historical trends

Abstract Registration

- Caused some confusion
- Only 1 case of authors asking (unsuccessfully) to register paper after abstract deadline
- Added ~5 days to Round 1 reviewing

Round 0

- Rejected 38 papers in Round 0 as malformed
- Most common causes
  - Anonymization failures (many authors seemed surprised)
  - Failure to submit a PDF (probable mistake/oversight resulting from abstract registration)

Bulk submissions

Some submissions specially-marked with previous reviews in appendix
- only when authors had >3 non-SoK submissions
- **controversial**

41 bulk out of 419 submitted, with 7/60 accepted; rate of 7/41 or 17%

Not successful: policy has only a limited effect, is controversial & annoying
- Will **NOT** be continued

Appeals process (only for early-reject papers)

9 out of 188 appealed --- to have reviews adjudicated by a leading expert

1 adjudicated for further reviewing

0 made it to PC meeting

0 accepted

Successful: Useful quality check & low-overhead alternative to rebuttals

Surveys

- To assess the current review process, we distributed surveys to PC members, all submission authors, and we expanded the survey of attendees

- Surveys took longer to prepare than expected, so went out relatively late

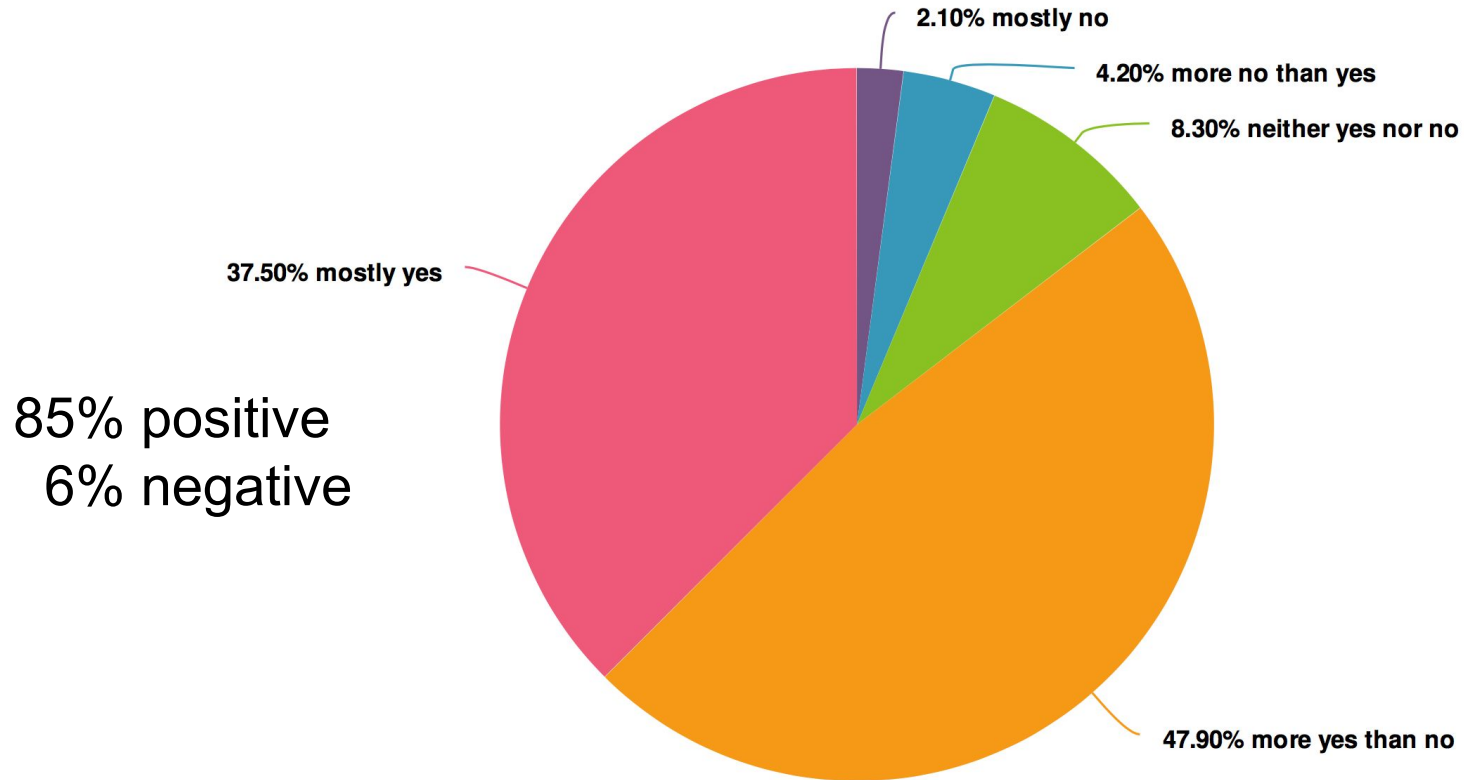- Quick summary today, more details and analysis later

PC Survey

Response Counts

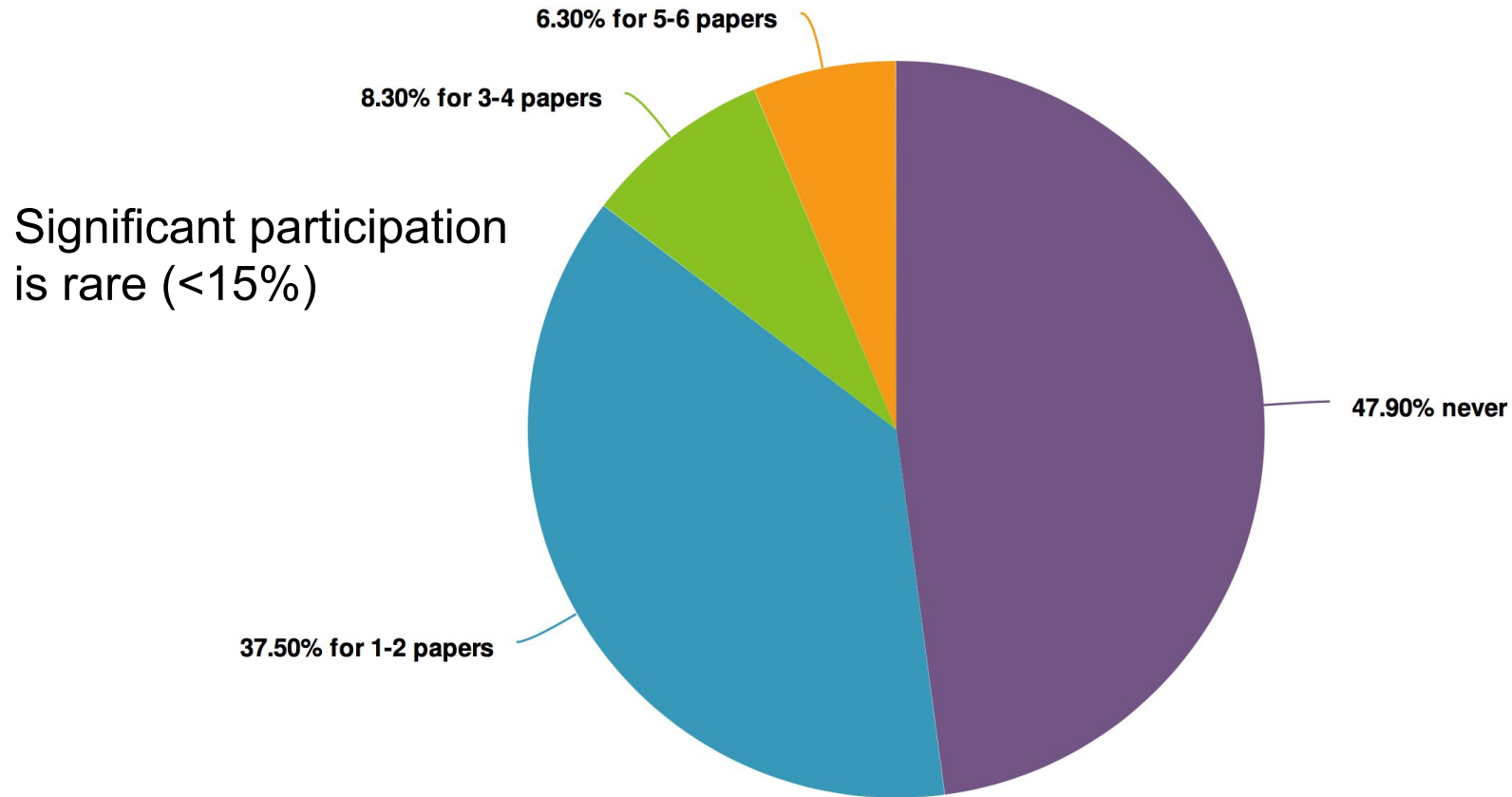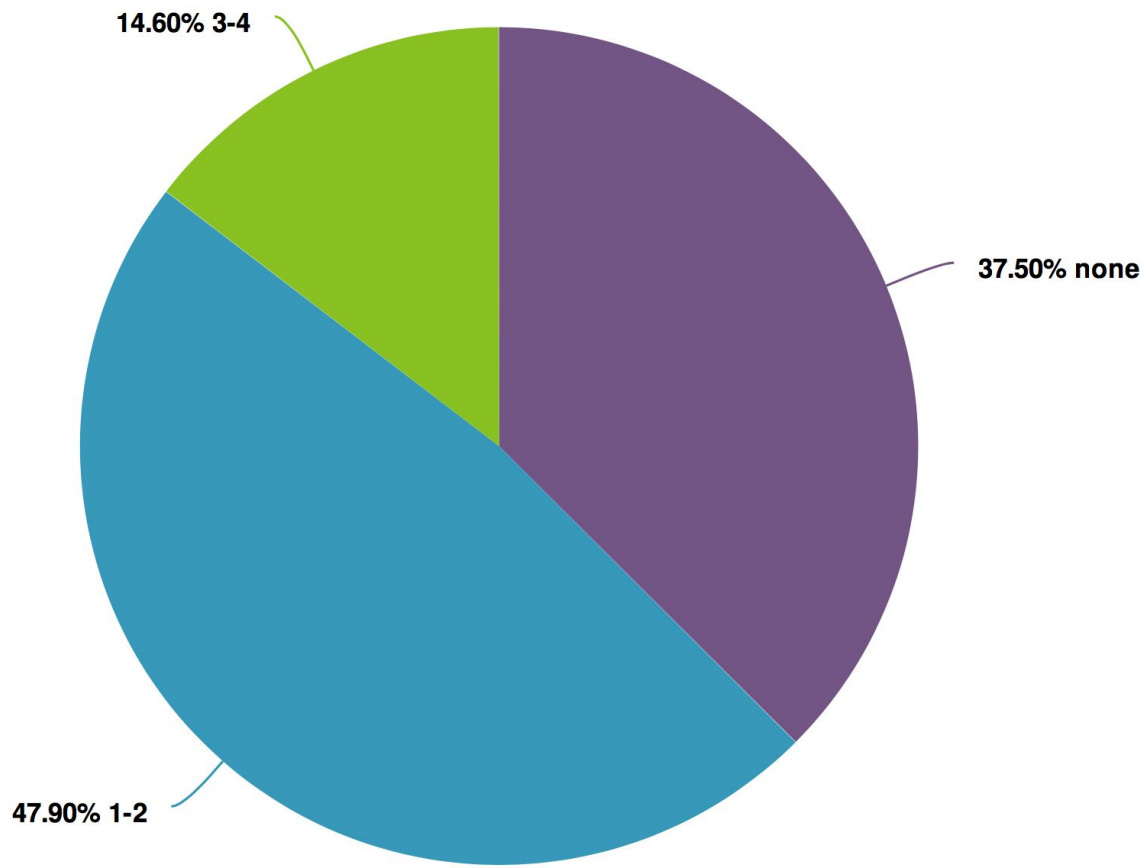|		
Completion Rate:	**82.1%**	
	Complete	46
	Partial	10

Total: 56

14. Do you feel confident that the review process led to the top papers being selected for publication (i.e., overall, not just the ones you reviewed)?


85% positive
6% negative

- 2.10% mostly no
- 4.20% more no than yes
- 8.30% neither yes nor no
- 37.50% mostly yes
- 47.90% more yes than no

8. How often did you participate in discussion on papers that you were not assigned?

6.30% for 5-6 papers

8.30% for 3-4 papers

Significant participation is rare (<15%)

47.90% never

37.50% for 1-2 papers

18. Of the papers you reviewed, how many had you already reviewed previously?

14.60% 3-4

37.50% none

47.90% 1-2

20. From your perspective as a reviewer, was the page limit on papers too generous, about right, or too stingy?

46% too long
0% too short

10.40% much too generous

35.40% too generous

54.20% about right
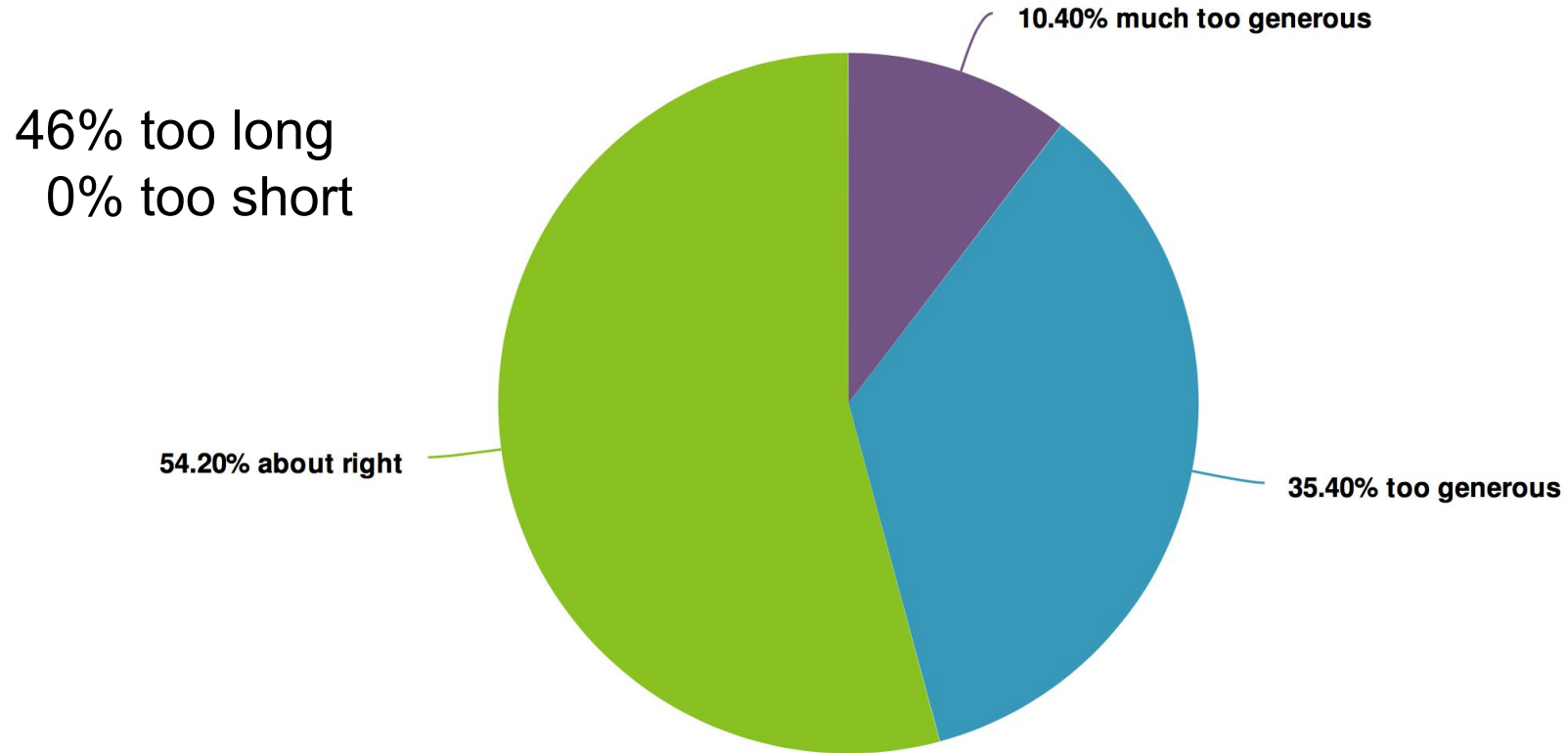
21. How much time (in hours) did you spend, on average, on each paper you reviewed (including reading the paper, writing the review, reading and responding to reviews online, and in-person discussion)?
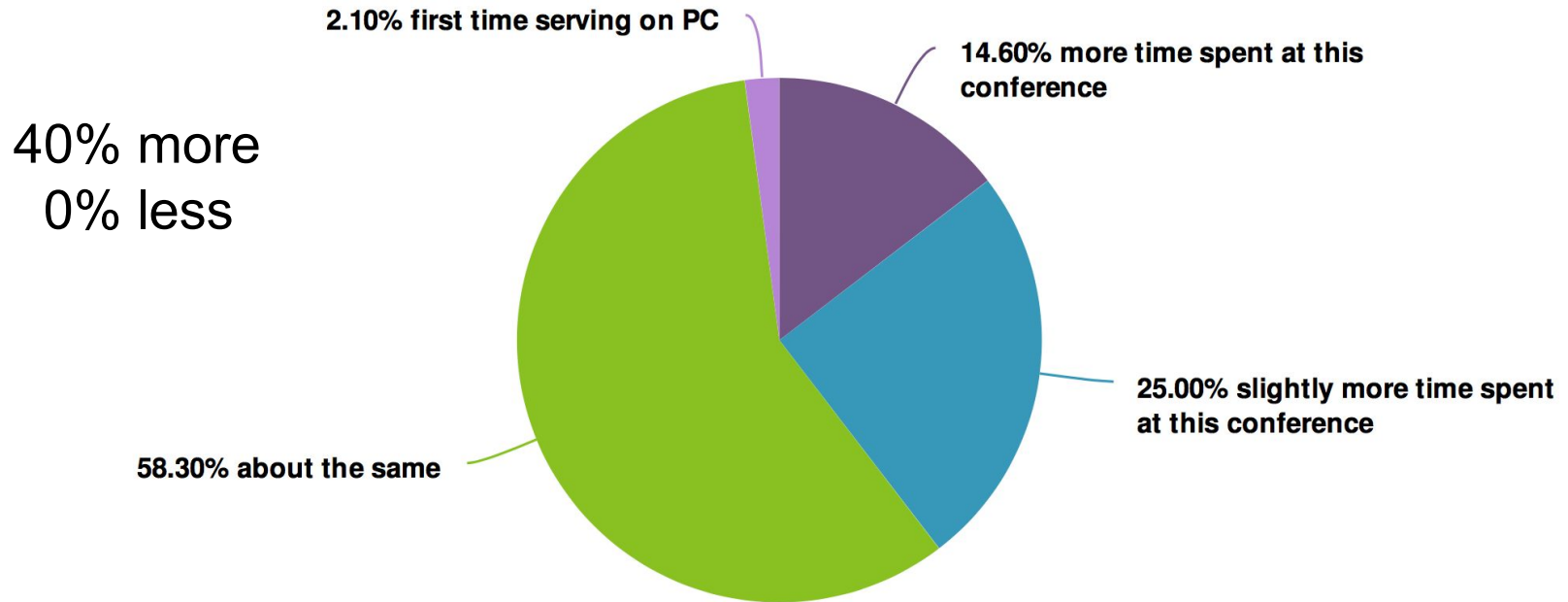
Min: 1.5 hours (1 response)
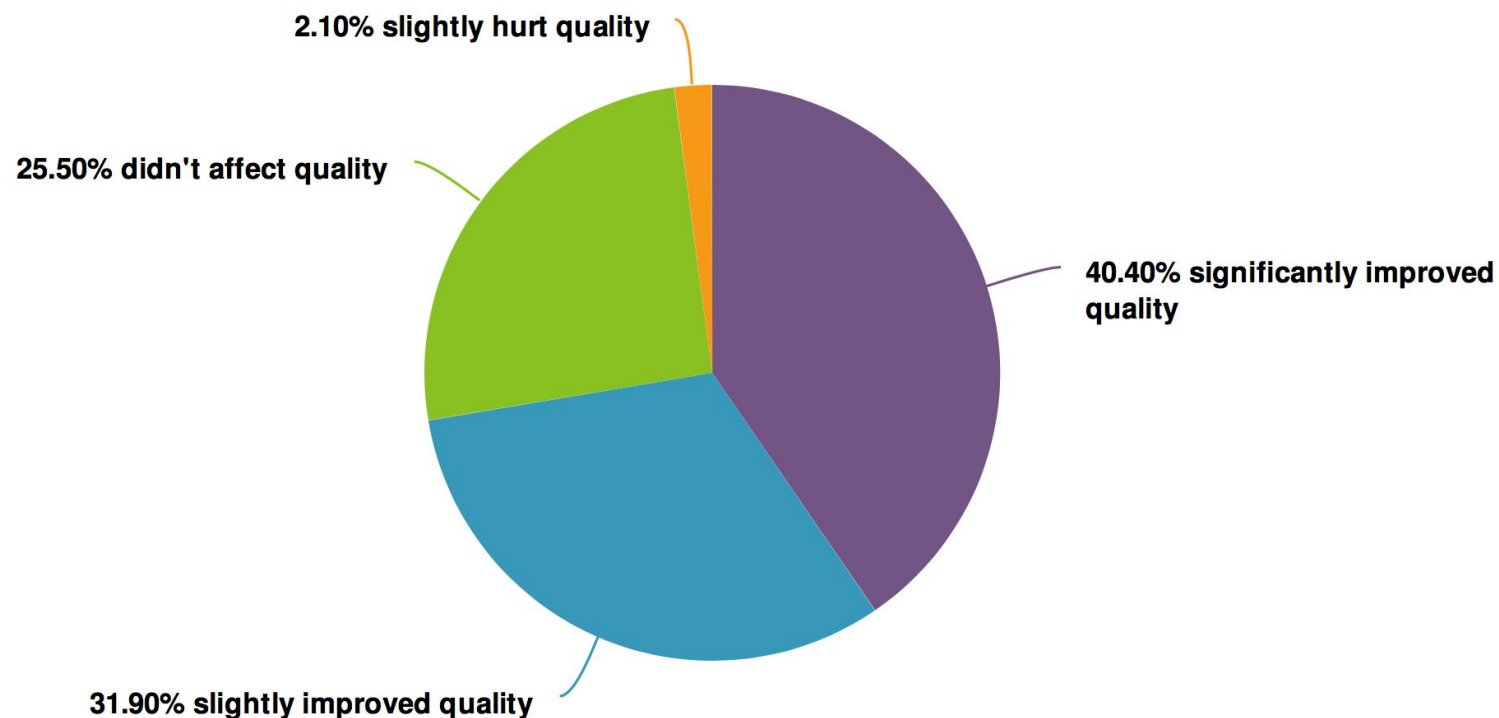
Max: 12 hours (1 response)
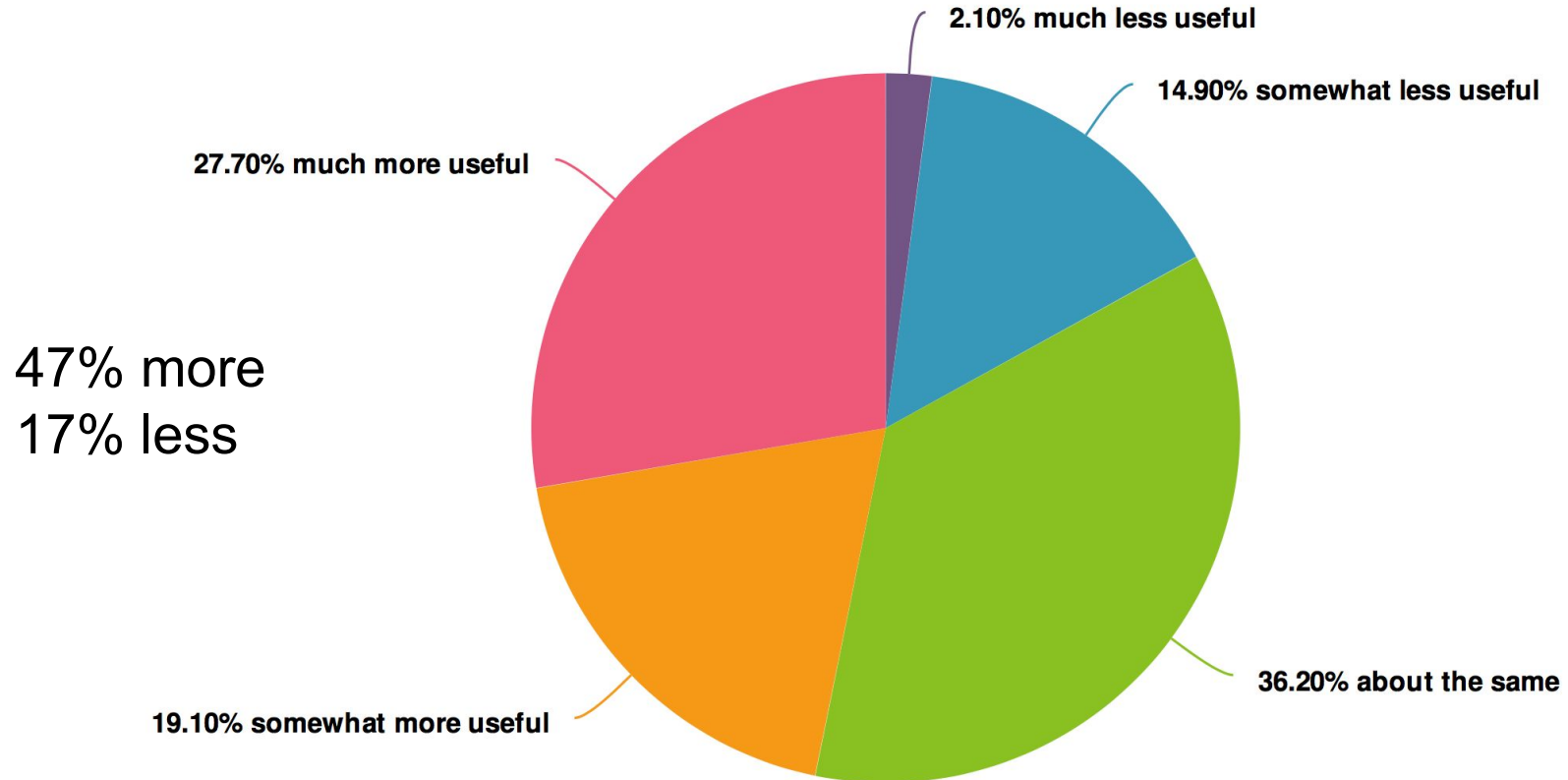
Average: 4.6 hours

Median: 4 hours

22. How does this compare to time spent per paper at other top security conferences (including previous editions of Oakland) for which you've been on the PC?

40% more
0% less

2.10% first time serving on PC

14.60% more time spent at this conference

25.00% slightly more time spent at this conference

58.30% about the same

31. How much do you think the PC meeting contributed to the quality of the program (compared to just online discussion)?

2.10% slightly hurt quality

25.50% didn't affect quality

40.40% significantly improved quality

31.90% slightly improved quality

33. Compared to online discussion, how useful did you find the in-person discussion?

2.10% much less useful

14.90% somewhat less useful

27.70% much more useful

47% more
17% less

36.20% about the same

19.10% somewhat more useful

35. How much of the benefit that you derived from participating on the PC (e.g., learning about the topics outside your area, meeting other people, learning about community standards and trends) do you think came from the PC meeting rather than from the online discussion and other parts of the reviewing process?
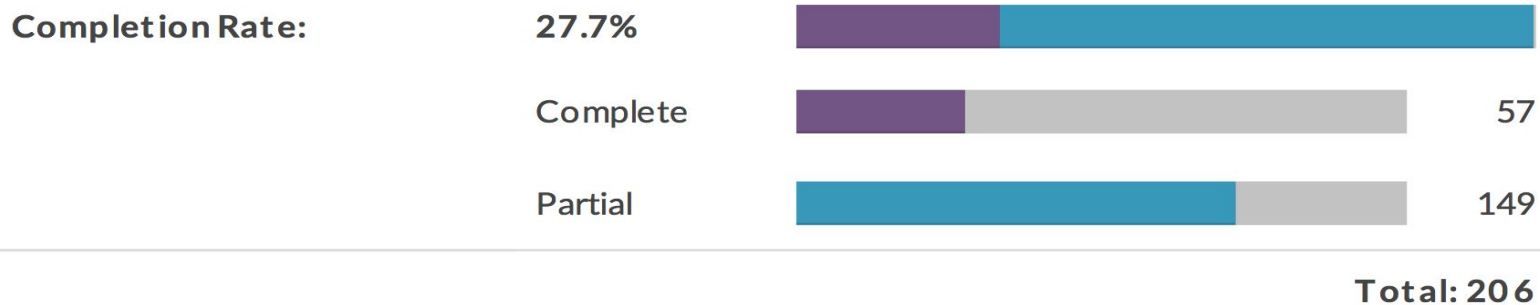

6.40% didn't derive any benefit

19.10% most

14.90% none

17.00% very little

42.60% some
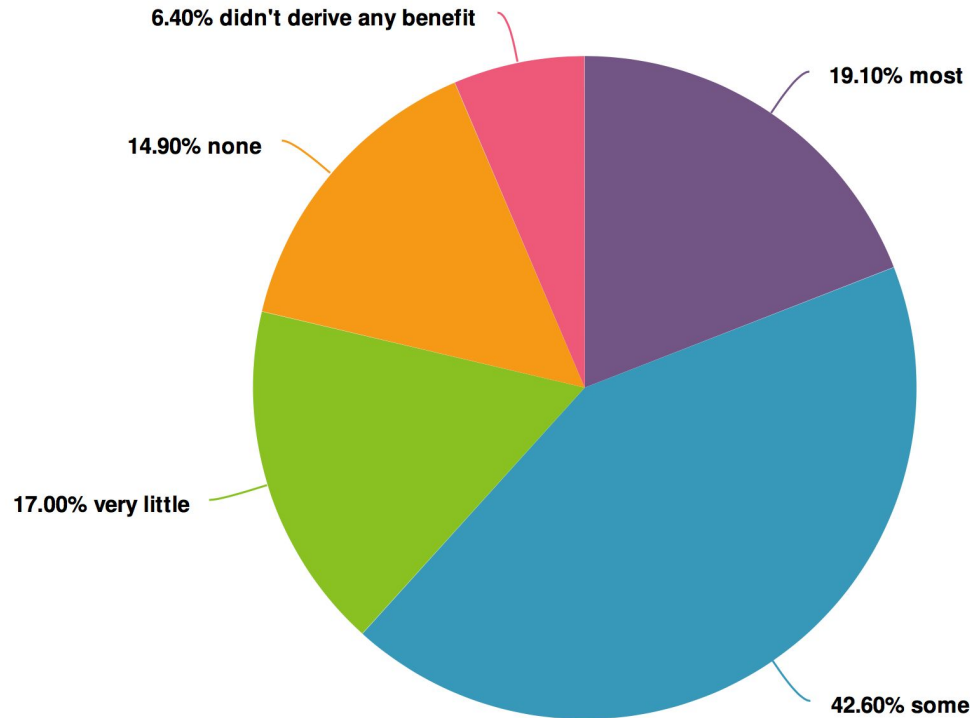
Author survey response data

less experienced (a student or other) OR (no security papers) OR (no security committees)

Completion Rate: 99.5%

Complete — 194

Partial — 1

Total: 195
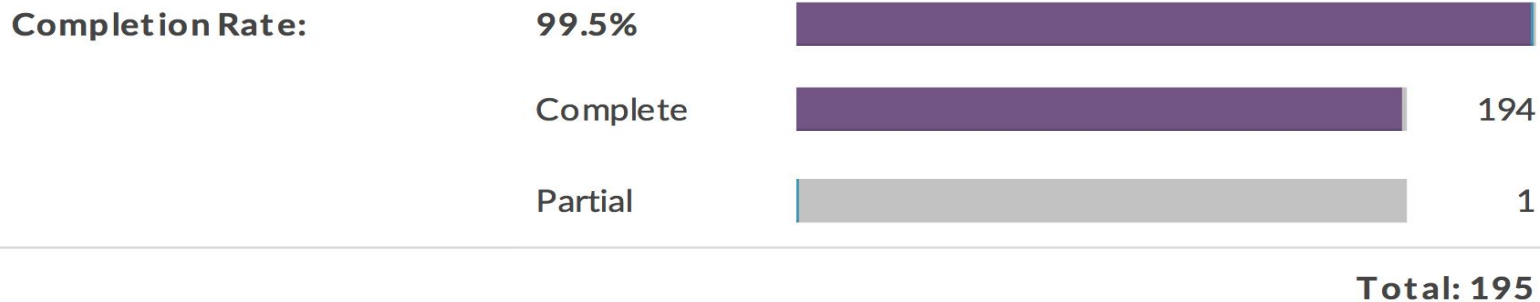
more experienced ! (less experienced)

Completion Rate: 27.7%

Complete — 57

Partial — 149

Total: 206

3. Was your submission to IEEE S&P (the one with respect to which you're answering these questions) accepted for publication at IEEE S&P 2017?
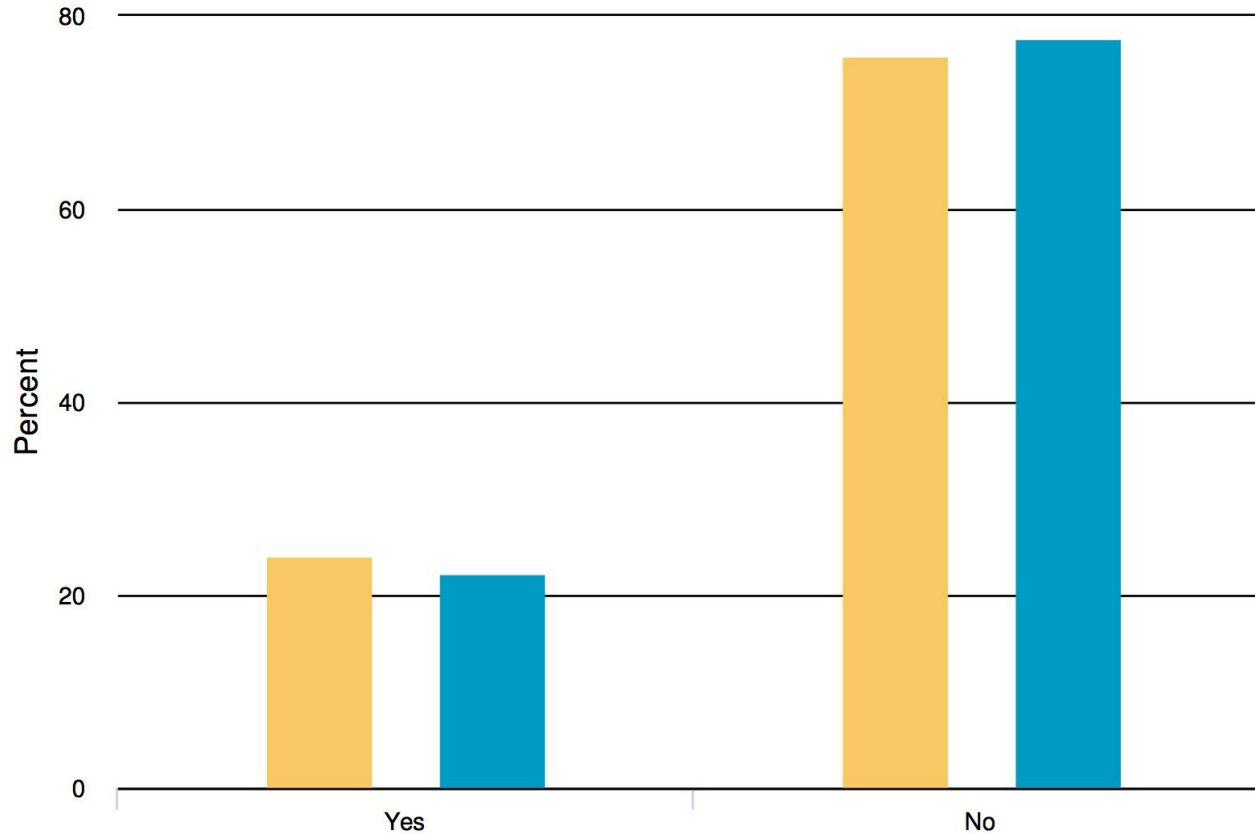
1. Would the paper you submitted have been substantially stronger if you could have spent additional time on it?


46% more time
45% ready
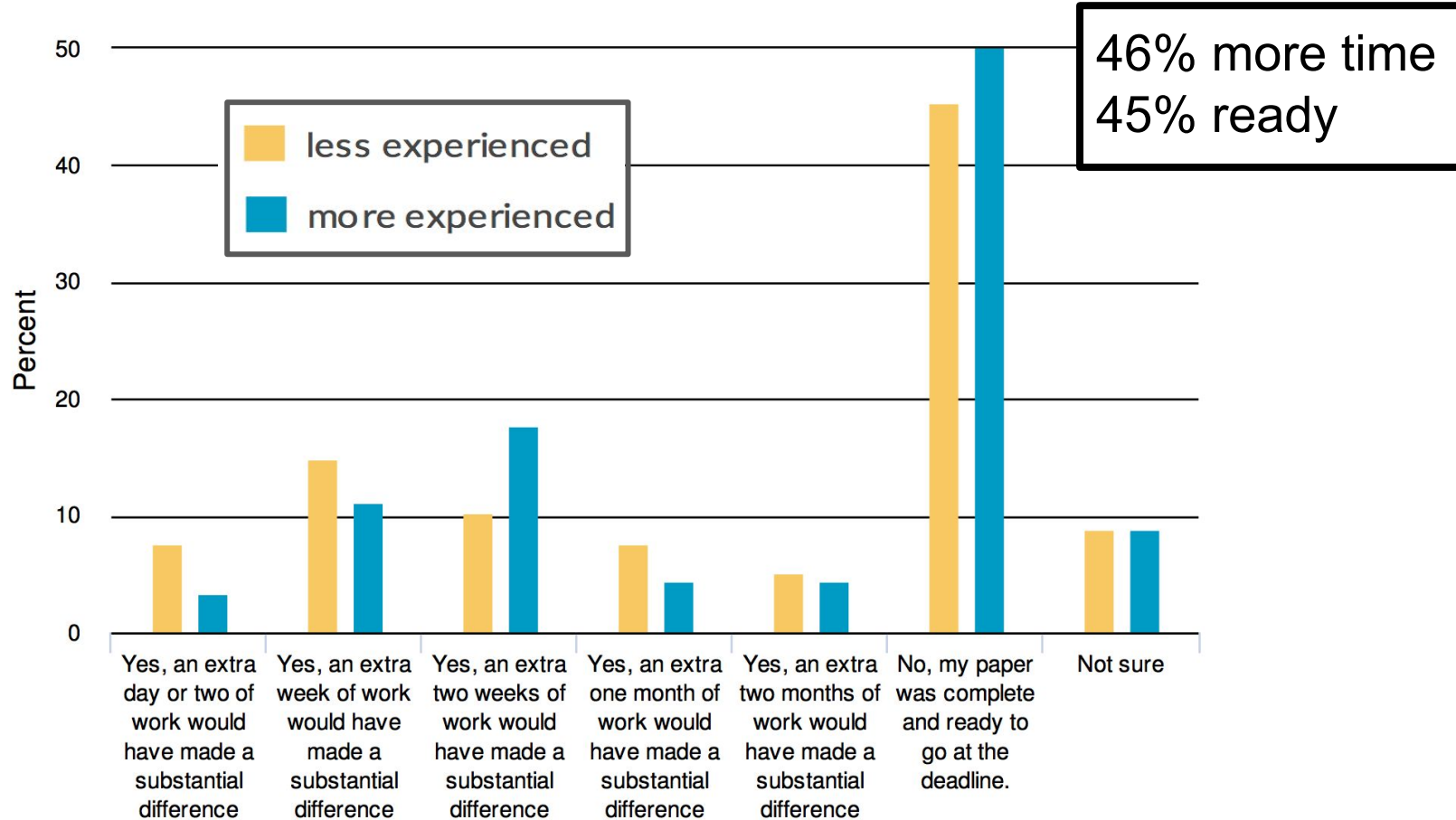
4. Based on the reviews your submission received, do you feel you could have convinced the reviewers to accept the paper with:


75% revision
25% rebuttal
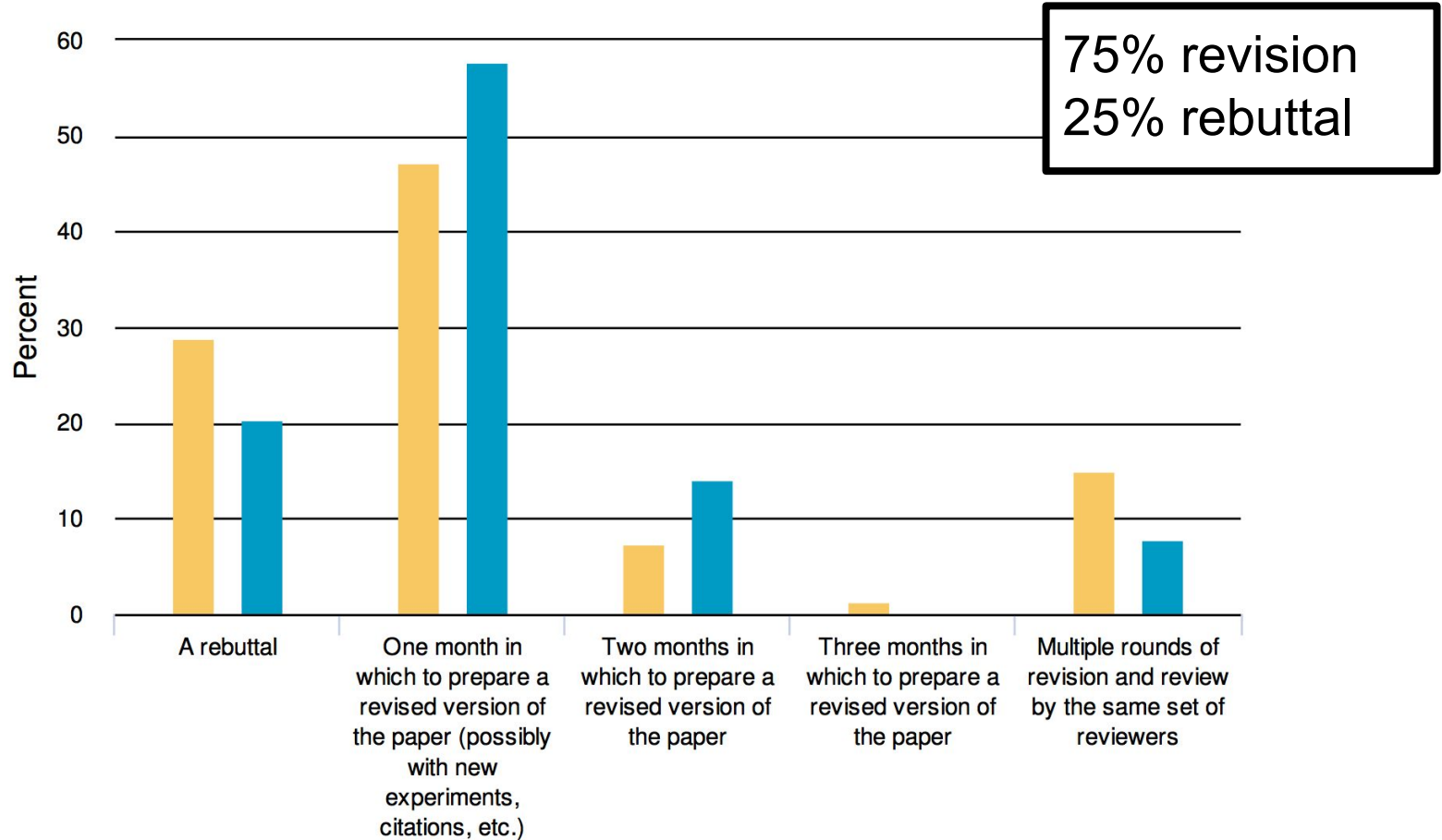
7. The reviews I received mostly evaluated my work objectively. I.e., the decision seemed to be based mostly on facts and not mostly on reviewers' subjective opinions (e.g., disliking an area or style of research).

60% positive
27% negative
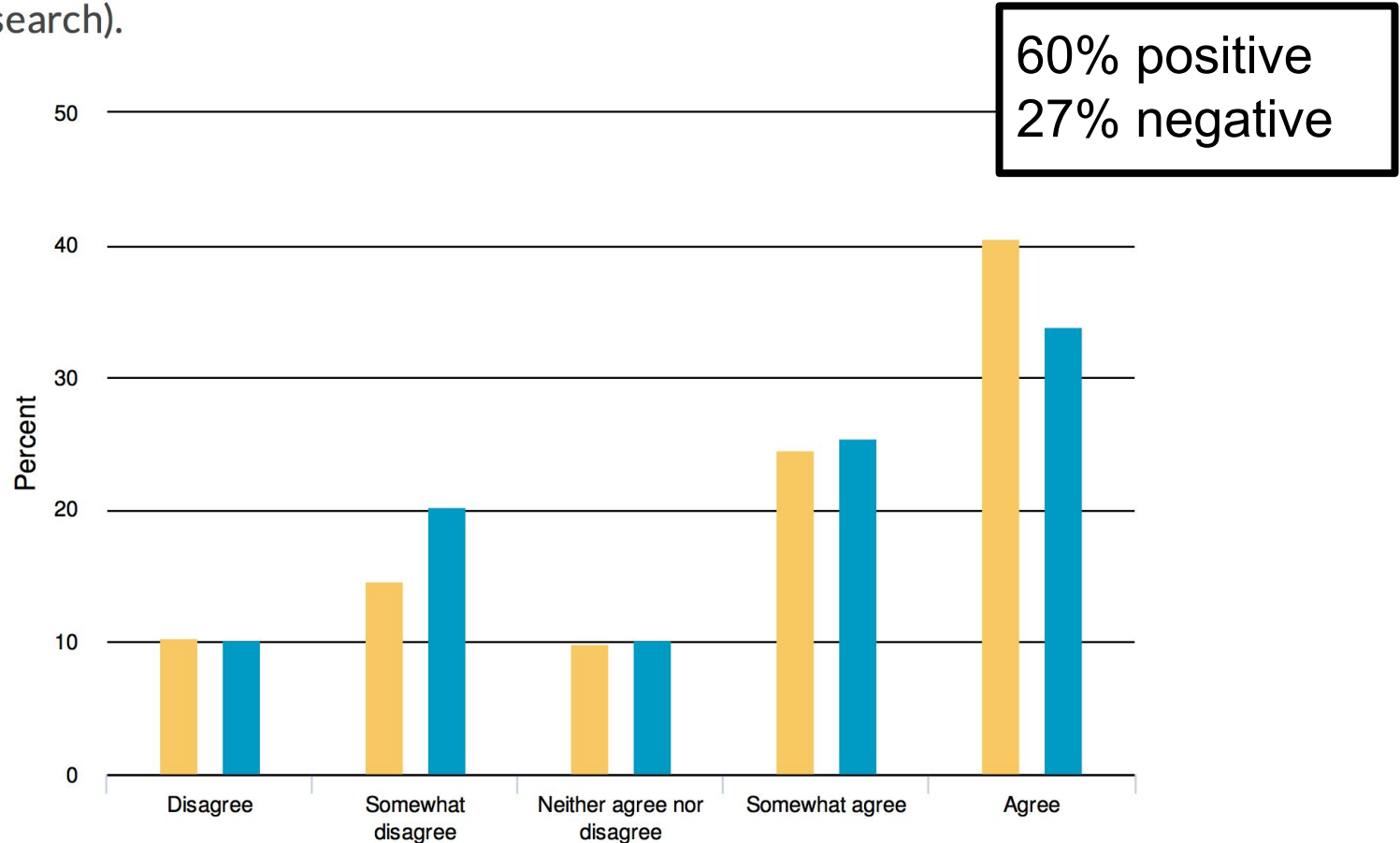
10. The reviews I received were constructive and respectful (even if I disagreed with the subjective assessments or final outcome).

74% positive
11% negative
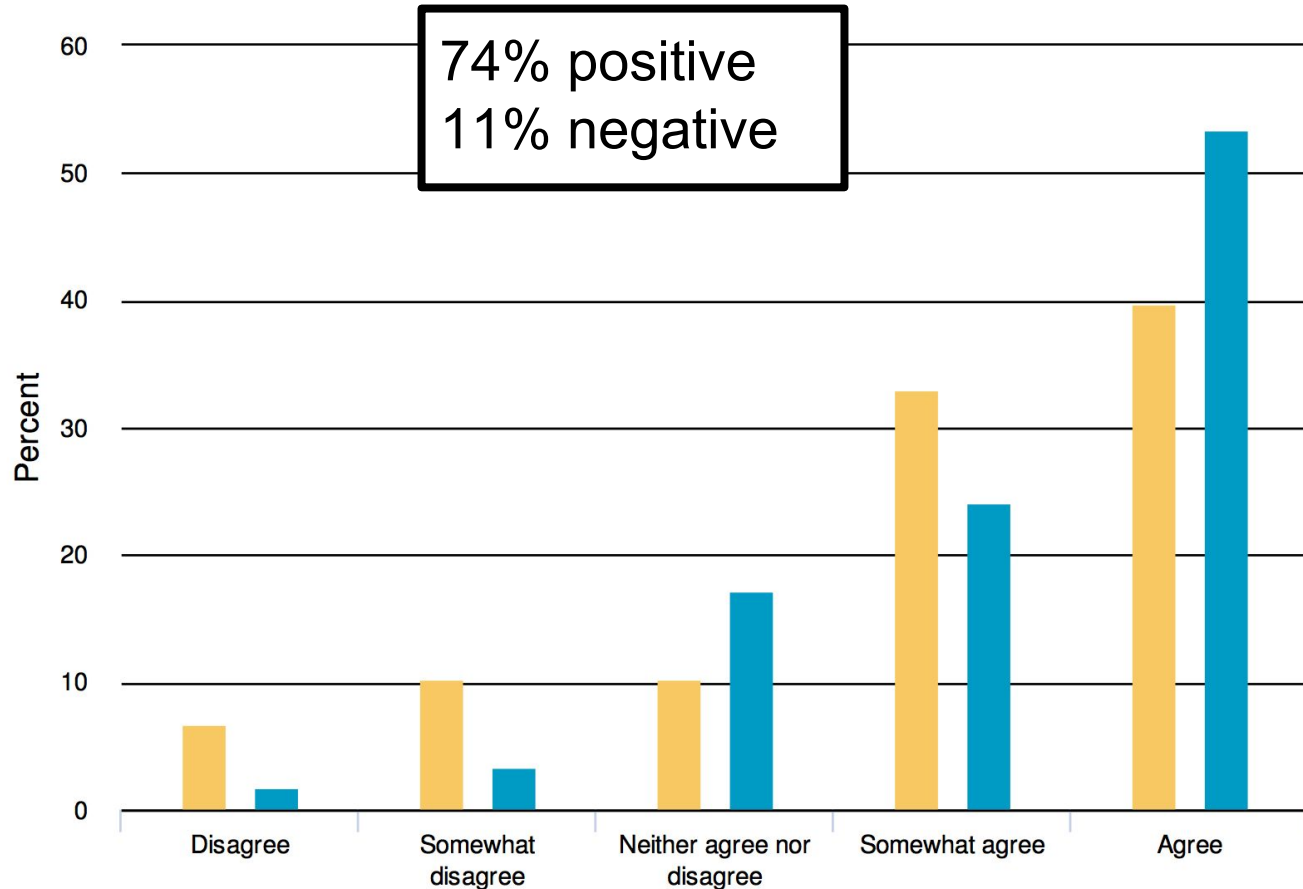
12. Compared with previous years of this conference, the overall quality of the reviews I received were:
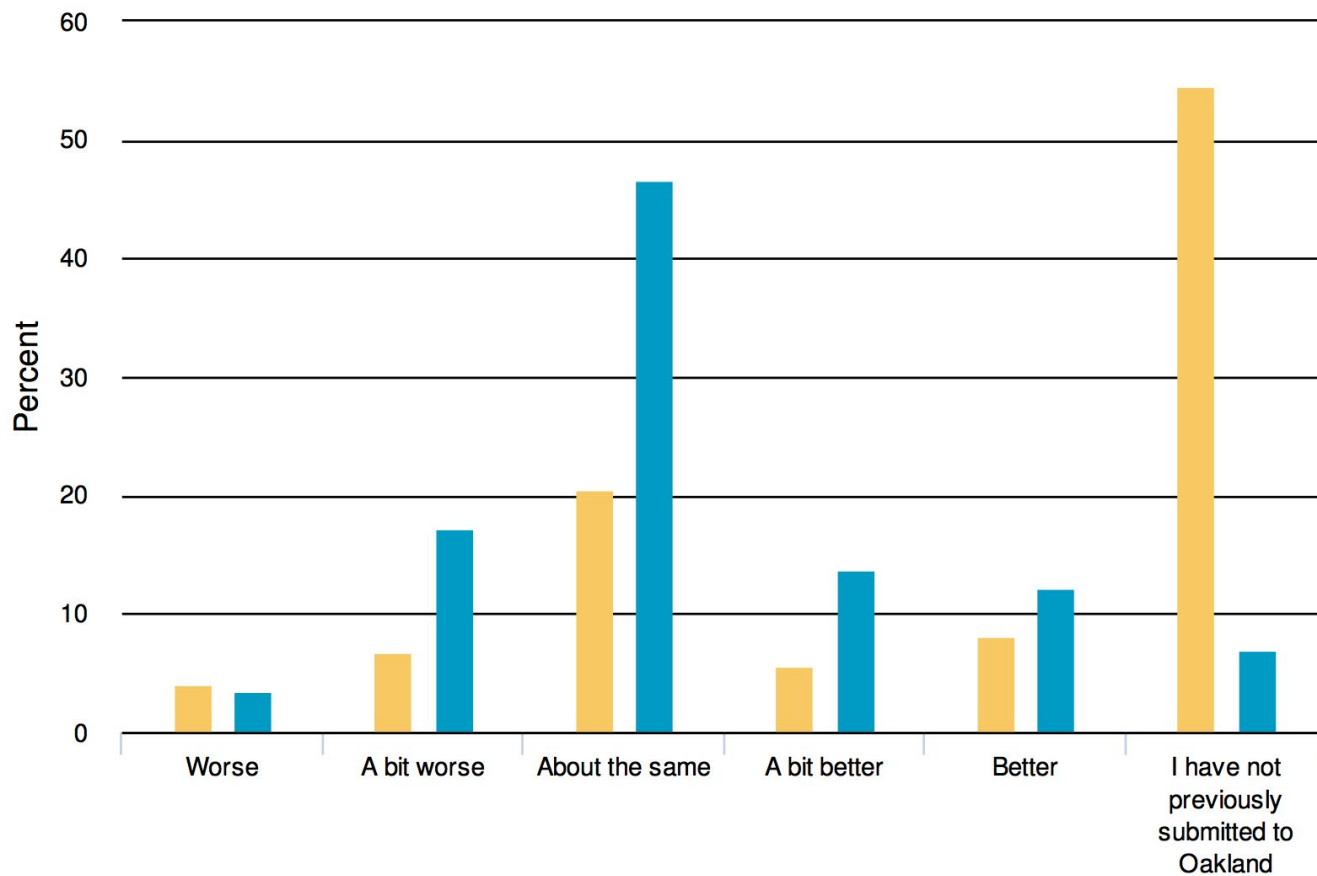
13. Compared with other top-tier security conferences (e.g., USENIX Security, ACM CCS, or NDSS), the overall quality of the reviews I received were:
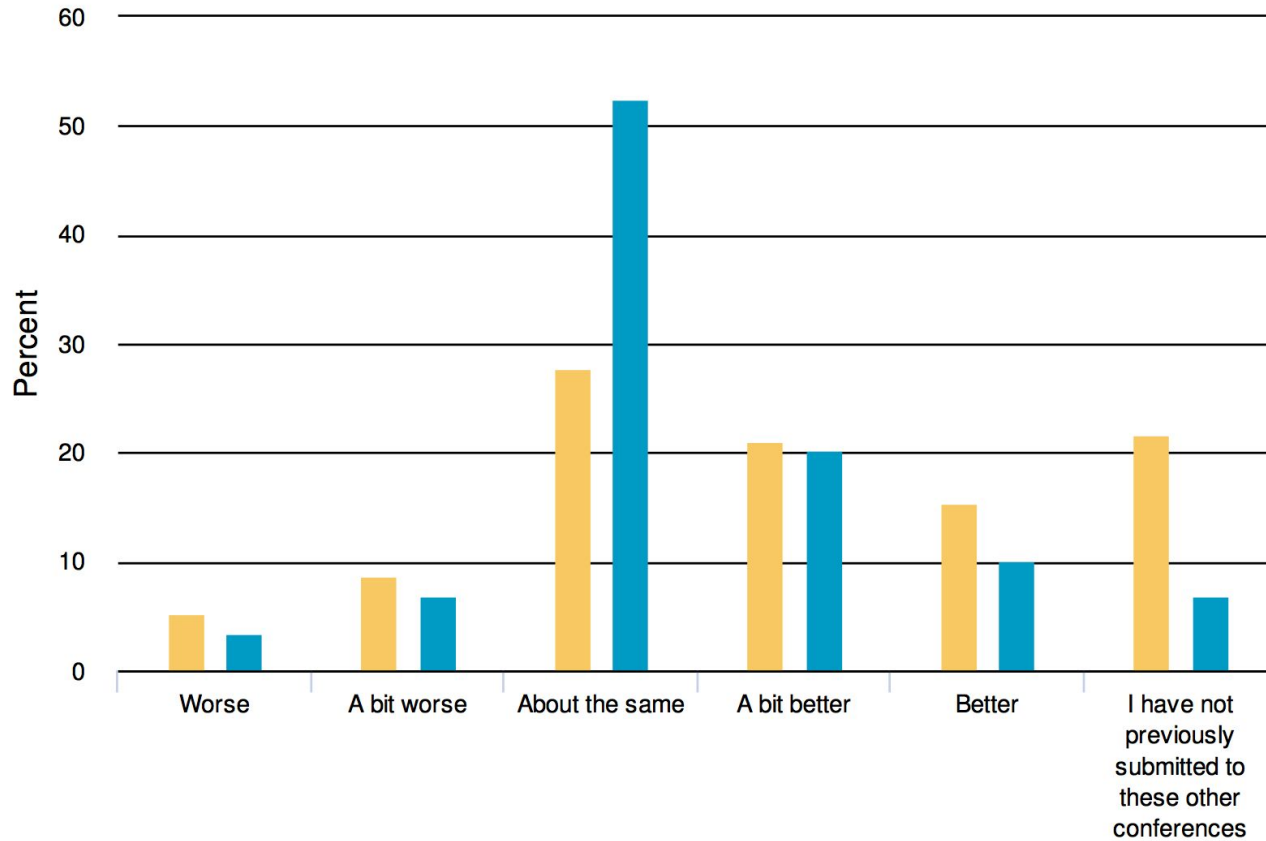
Student PC - Process and Results

Pre-meeting

Meeting

Correlation between Student PC and Senior PC

Student PC - Pre-Meeting

Student PC was surprisingly selective (40 of 92 applicants selected)

Pre-reviewing telco to explain the process of PCs and reviewing

Selection of 163 papers from main PC (removed very bad, SOK, and conflict:me)

Bidding, reviewing (1 round), and online discussion simulated a real PC

- Reduced to 74 papers to discuss in one-day in-person meeting

Student PC - Meeting

Meeting on Saturday right after Real World Crypto in NYC

- Received $20k from NSF, which funded 23 US students to attend the meeting

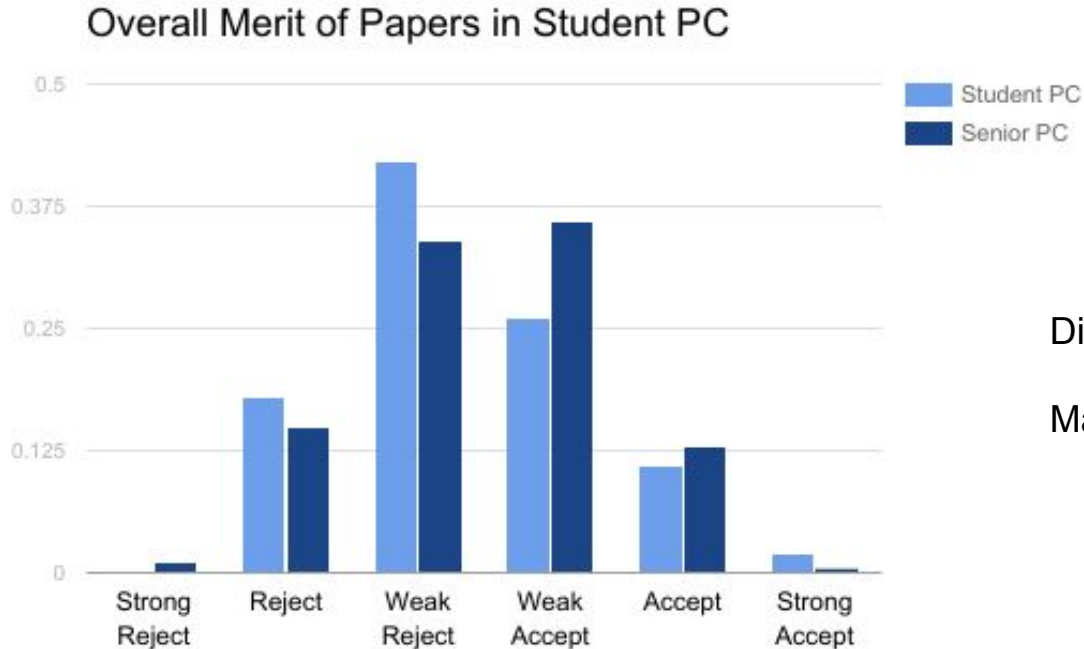Meeting started out with an overview of the process

Concluded with reflections on the fairness of the process

- Based on six papers that hit on different aspects
  (e.g., single outspoken reviewer, composition of reviewers)

Student PC - Results
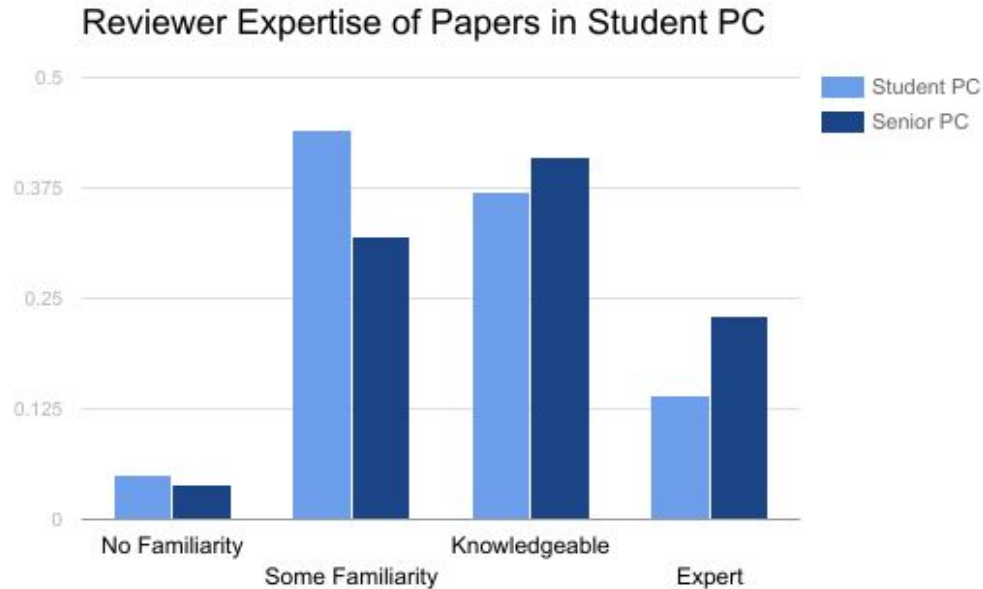
Students tended to be slightly more negative

Overall Merit of Papers in Student PC

Difference *highly* significant

Mann-Whitney *U*: 48656
p < 0.001

Student PC - Results

Students self-rated with slightly lower expertise

Reviewer Expertise of Papers in Student PC

Difference *highly* significant

Mann-Whitney *U*: 83646
p < 0.001

Student PC - Results

Acceptance rate for the 163 papers considered by the Student PC

| Result	Student PC	Senior PC
Reject	79.0%	85%
Accept (all)	21.0%	15%
Accept w/ shepherding	8.6%	7.0%

Student PC - Results

Confusion matrix for the 163 papers considered by the Student PC

- Students agreed with senior PC on 73.6% of the papers
- Fairly similar confusion matrix to last year

	Senior accept	Senior reject
Student accept	8	26
Student reject	17	112

Student PC - Survey

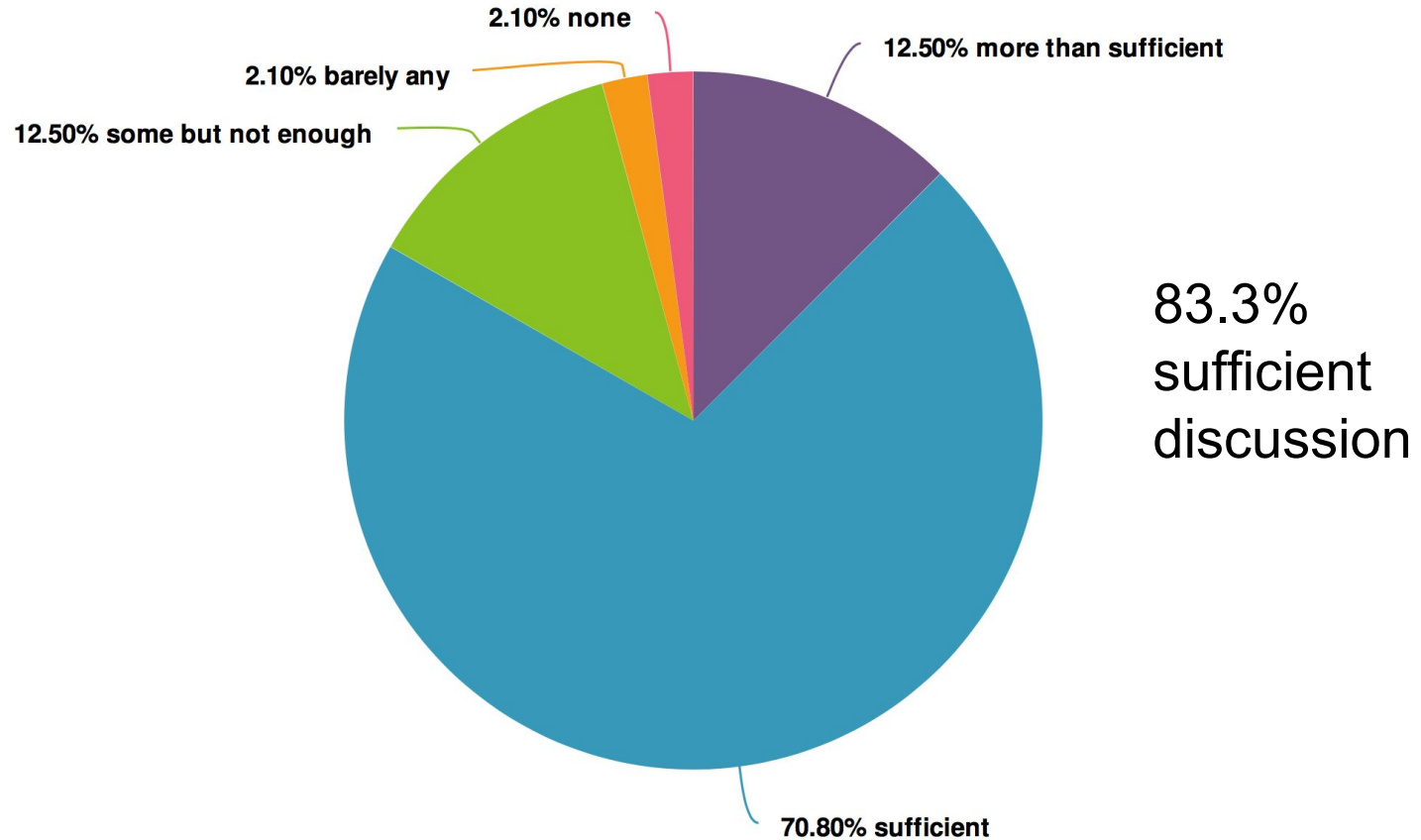Very positive learning experience for students

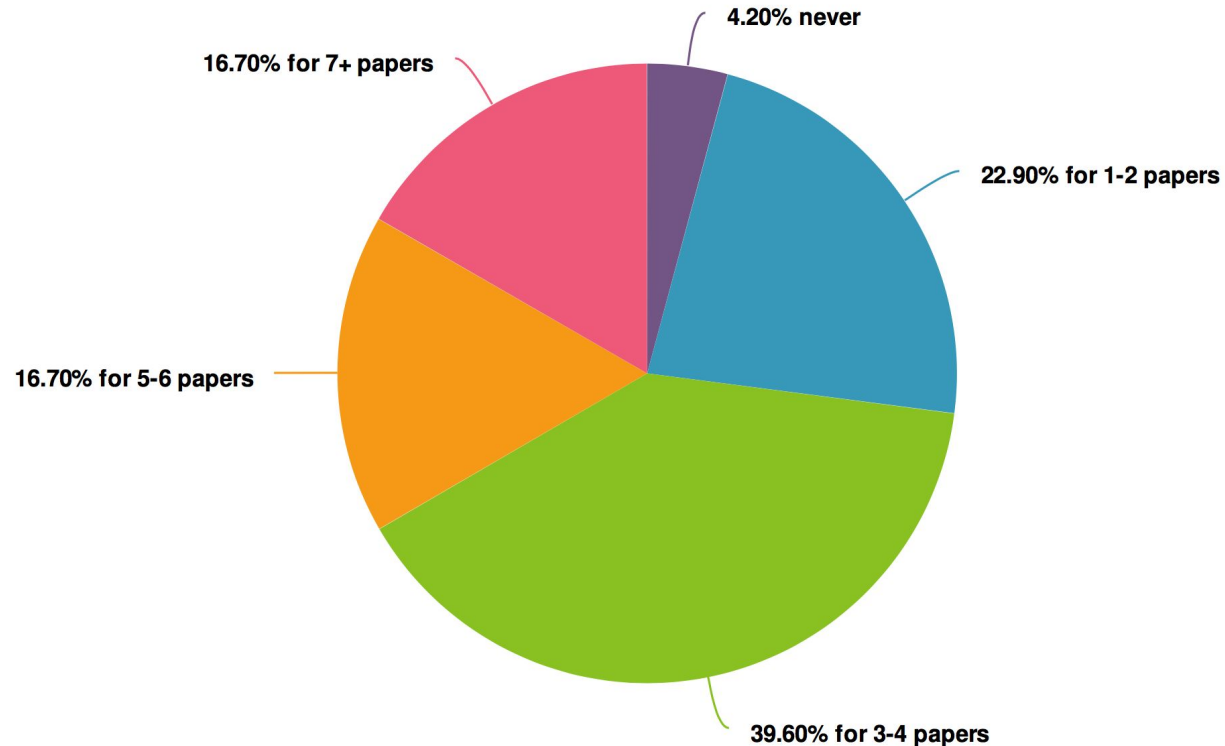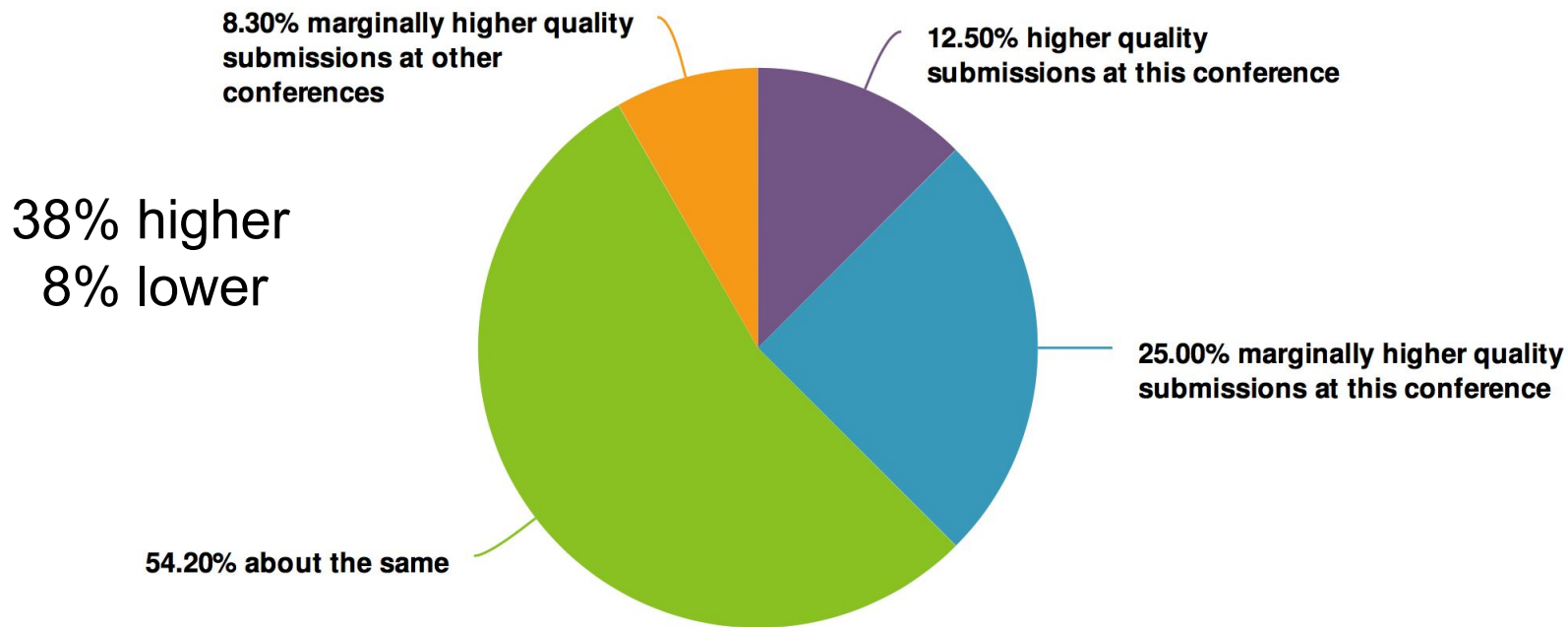With respect to the in-person PC meeting
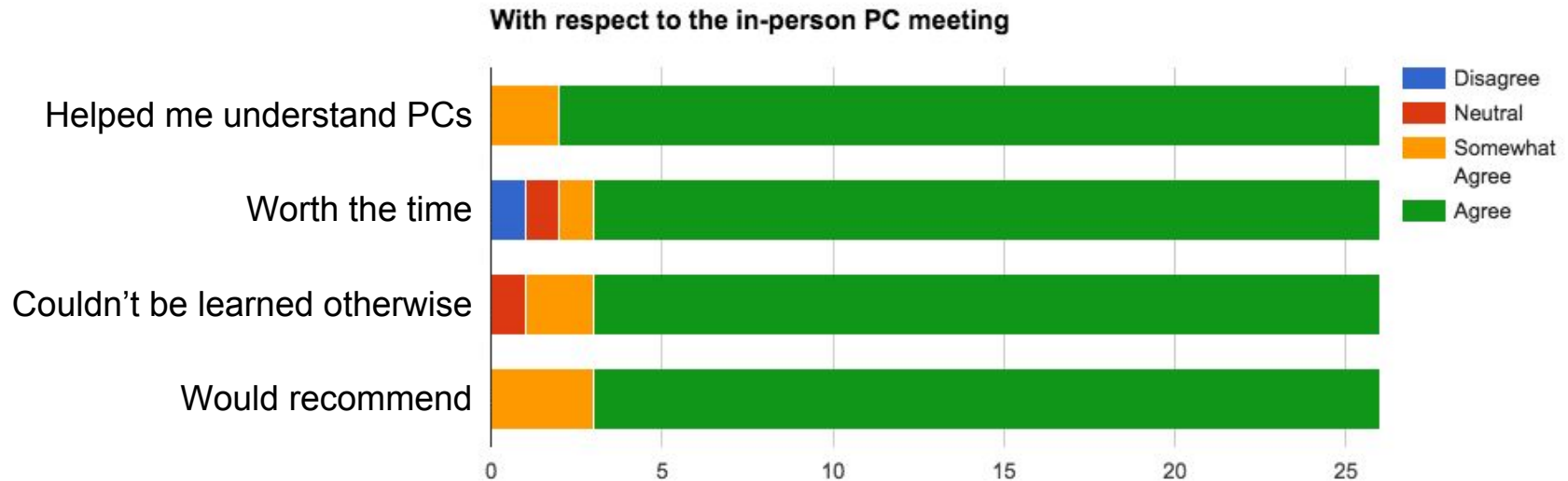
More survey data

1. For papers that needed discussion among reviewers, how much discussion (online and in person) did these papers get on average?

2.10% none

2.10% barely any

12.50% some but not enough

12.50% more than sufficient

70.80% sufficient

83.3% sufficient discussion

2. How often did the discussion (online and in person) about papers that you reviewed affect your opinion (e.g., you changed your mind; significantly confirmed your opinion; didn't change your opinion but changed your understanding of the paper)?

- 4.20% never
- 22.90% for 1-2 papers
- 39.60% for 3-4 papers
- 16.70% for 5-6 papers
- 16.70% for 7+ papers

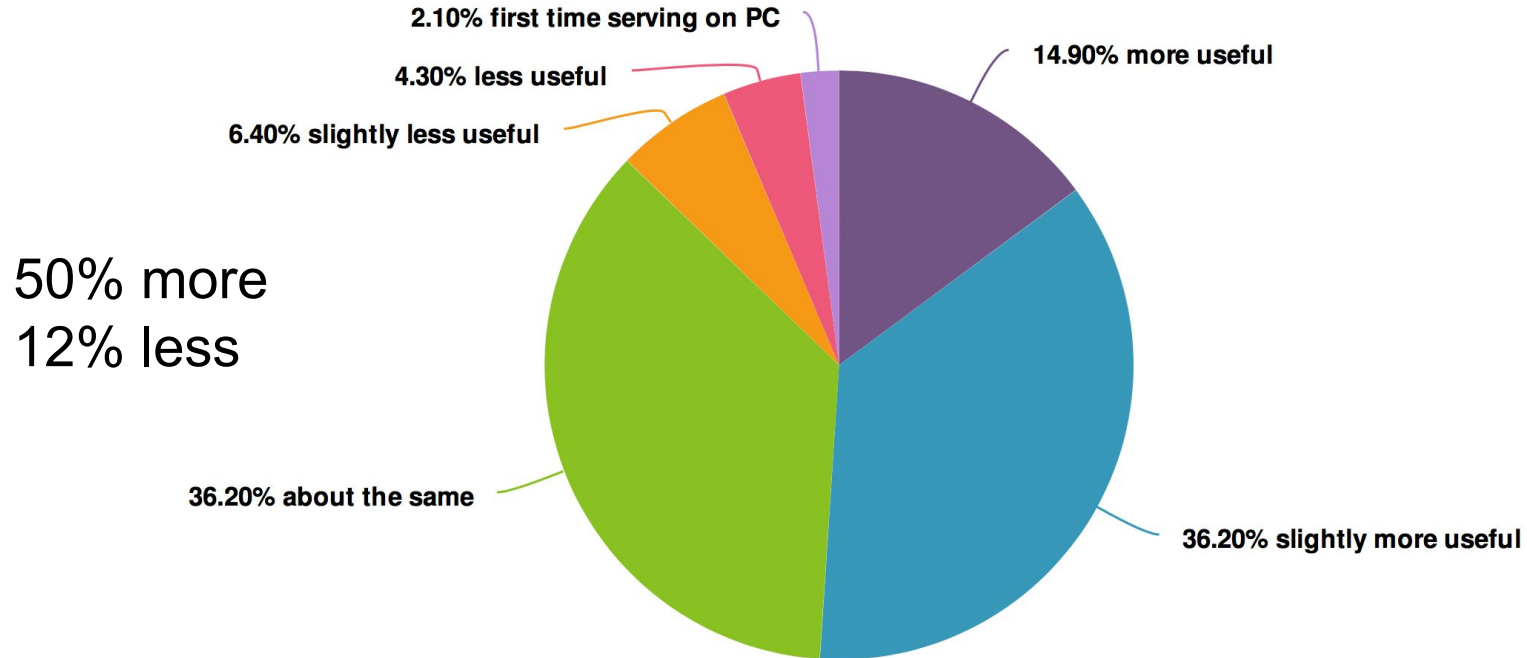## 17. How does the average quality of all the papers you reviewed compare to that at other top security conferences (including previous editions of Oakland) for which you've been on the PC?

8.30% marginally higher quality submissions at other conferences

12.50% higher quality submissions at this conference

25.00% marginally higher quality submissions at this conference

54.20% about the same

38% higher
8% lower

30. For papers that you reviewed, how often did PC members who were not assigned to review the paper contribute substantially to the discussion at the PC meeting (substantially = added an important viewpoint or information that improved or affected the discussion)?

17.00% never

25.50% didn't attend

4.30% 5+ papers

12.80% 3-4 papers

40.40% 1-2 papers
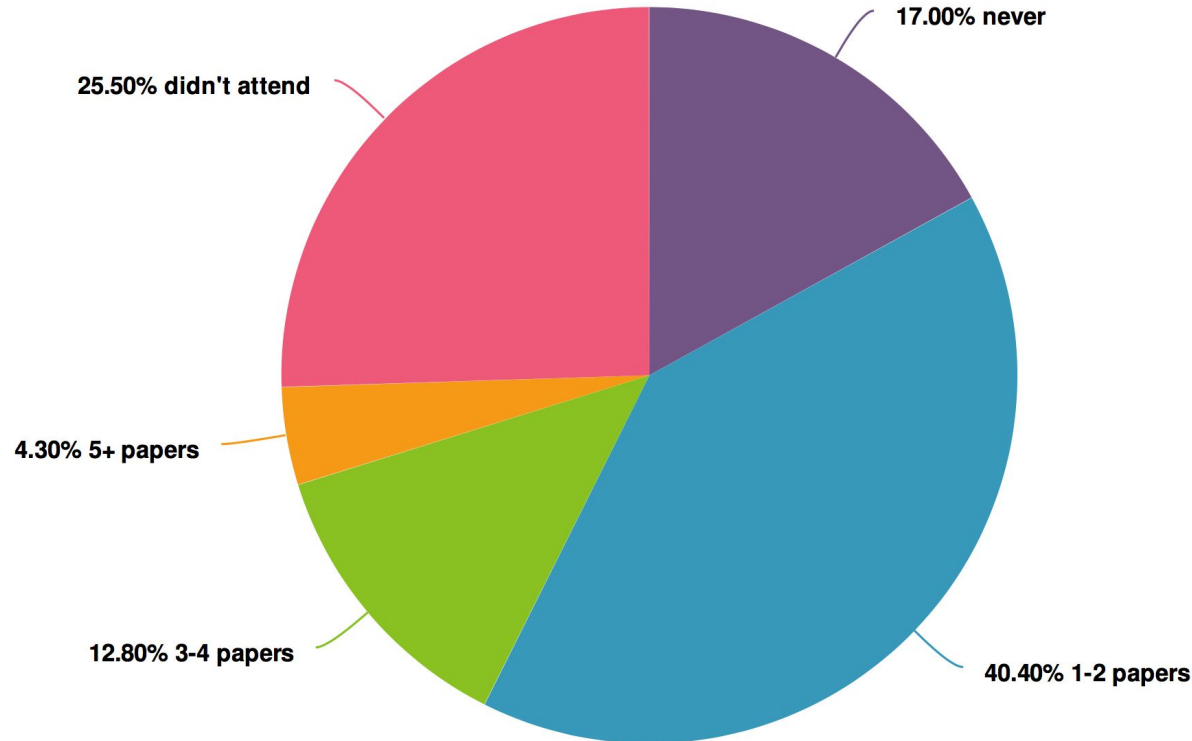
28. Compared to other top security conferences (and previous editions of Oakland) for which you've served on the PC, how professionally valuable did you find serving on the Oakland PC this year (e.g., in terms of networking, learning, etc.)?

2.10% first time serving on PC

4.30% less useful

6.40% slightly less useful

14.90% more useful

36.20% about the same

36.20% slightly more useful

50% more
12% less

5. If you are planning to revise and resubmit your paper, would you prefer for the revision to be reviewed by: