Basic statistics for the CMMN complexity metrics survey

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Contents

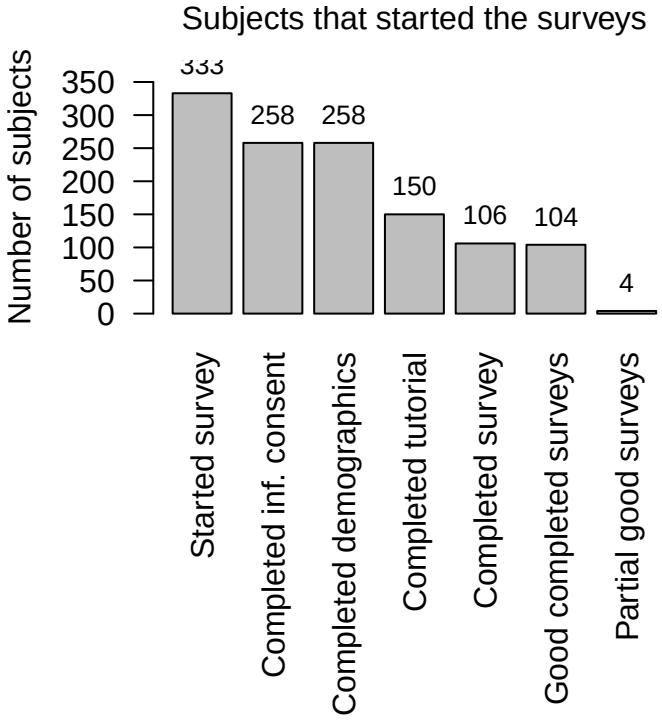
Introduction

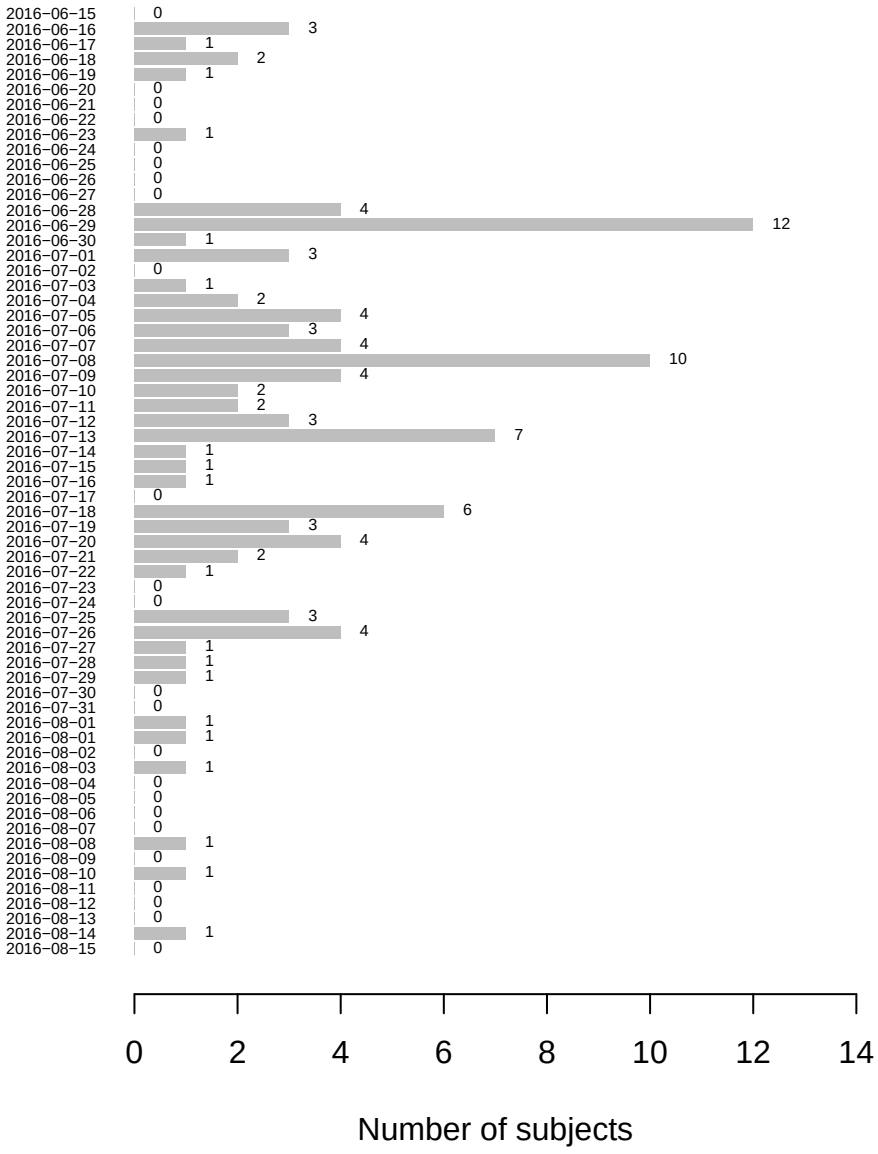
This document contains a basic set of statistics for the CMMN complexity metrics survey.

The survey was distributed using snowball sampling, in which email to potential subjects has been used and the same users have been asked to further distribute the survey. Twitter, Blogs, and LinkedIn posts have also been used to spread the words about the survey.

The breakdown of participation is as follows,

```
Survey Totals:
    106    Completed surveys
    108    Provided valid data (includes incomplete surveys)

    333   Started the survey (passed page 1)
    257   Agreed to informed consent (passed page 2)
    75    Did not answer inform consent (stopped at page 2)
    75    Did not complete demographics (stopped at page 3)
    150   Completed tutorial (passed page 4)
```



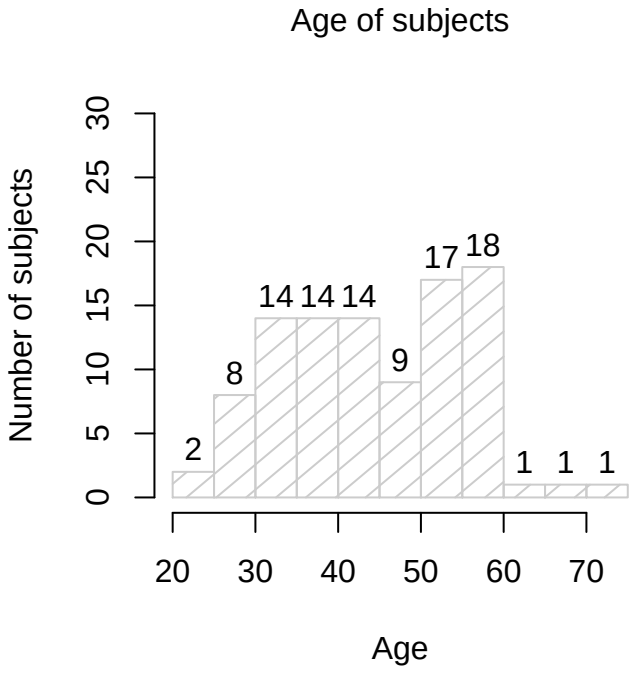

Completed Surveys by date
2016−06−15 0
2016−06−16 3
2016−06−17 1
2016−06−18 2
2016−06−19 1
2016−06−20 0
2016−06−21 0
2016−06−22 0
2016−06−23 1
2016−06−24 0
2016−06−25 0
2016−06−26 0
2016−06−27 0
2016−06−28 4
2016−06−29 12
2016−06−30 1
2016−07−01 3
2016−07−02 0
2016−07−03 1
2016−07−04 2
2016−07−05 4
2016−07−06 3
2016−07−07 4
2016−07−08 10
2016−07−09 4
2016−07−10 2
2016−07−11 2
2016−07−12 3
2016−07−13 7
2016−07−14 1
2016−07−15 1
2016−07−16 1
2016−07−17 0
2016−07−18 6
2016−07−19 3
2016−07−20 4
2016−07−21 2
2016−07−22 1
2016−07−23 0
2016−07−24 0
2016−07−25 3
2016−07−26 4
2016−07−27 1
2016−07−28 1
2016−07−29 1
2016−07−30 0
2016−07−31 0
2016−08−01 1
2016−08−01 1
2016−08−02 0
2016−08−03 1
2016−08−04 0
2016−08−05 0
2016−08−06 0
2016−08−07 0
2016−08−08 1
2016−08−09 0
2016−08−10 1
2016−08−11 0
2016−08−12 0
2016−08−13 0
2016−08−14 1
2016−08−15 0
0 2 4 6 8 10 12 14
Number of subjects

Basic statistics

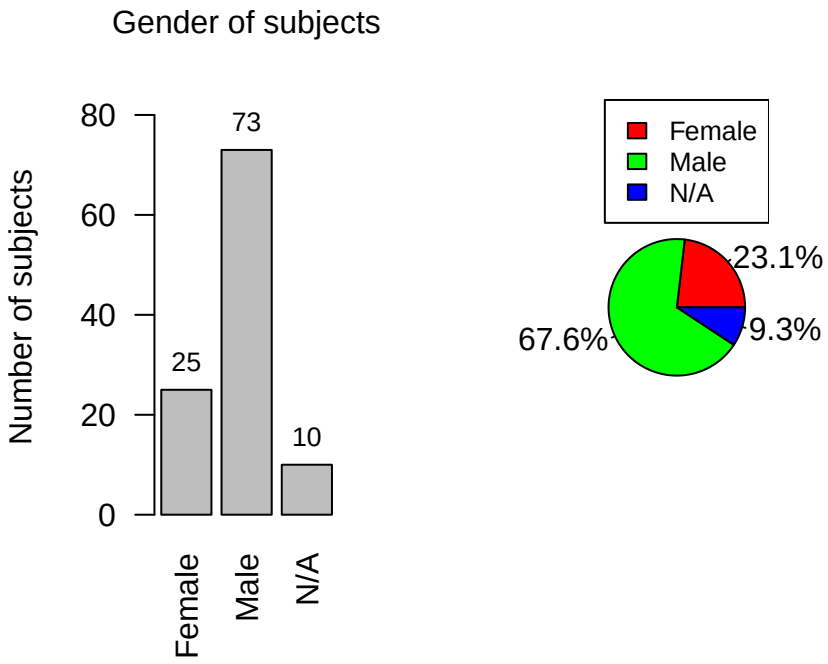
Here we print some basic statistics about the demographics and prior experience for the 108 surveys that provided valid information.

Age of Subjects

9 subjects did not provide their age.

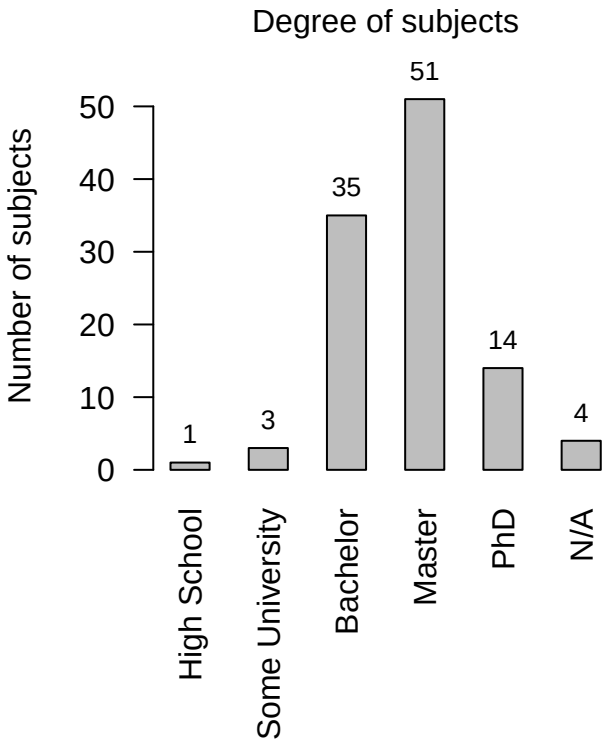


Gender of Subjects



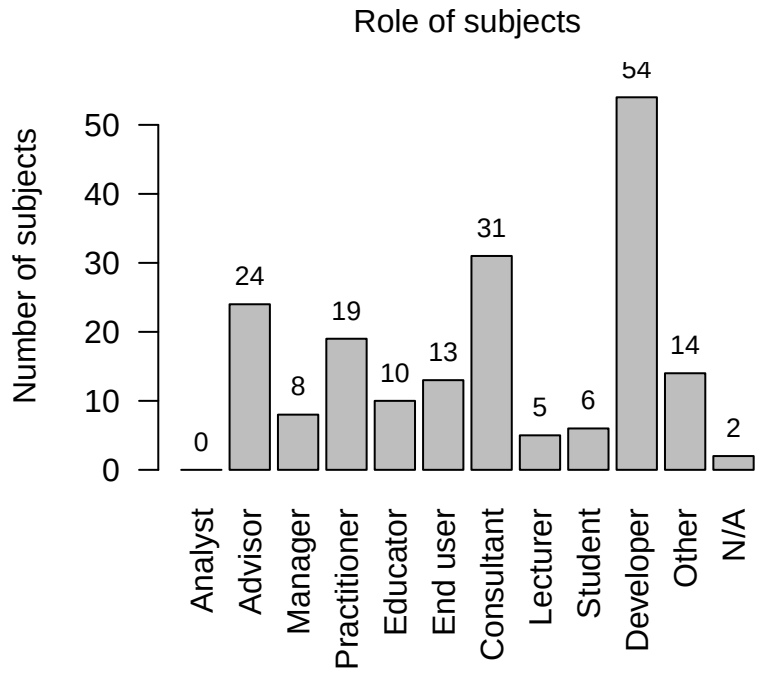
Degree of Subjects

Question was: Highest degree completed?



Role of Subjects

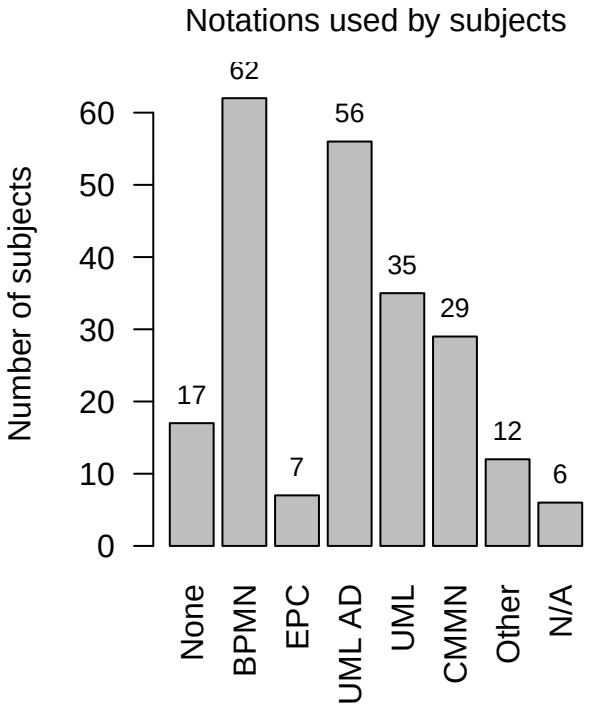
Question was: Current role?




```
Roles:
    Analyst:      Market analyst
    Advisor:      Advise clients on process technology
    Manager:      Manager
    Practitioner: Practitioner (creates process models)
    Educator:     Educator (trains clients on modeling technologies)
    End user:     End user of process technology
    Consultant:   Consultant on process technology
    Lecturer:     University lecturer
    Student:      University student
    Developer:    Designer or developer of process technology products
    Others:       Business Systems Consultant,
                  IIT specialist,
                  implementation provider,
                  Tecnico,
                  Director architecture,
                  Technician Support Representative ,
                  Consultant ECM technology,
                  Gen consultant,
                  Past advisor of clients on process technology,
                  business consultant,
                  researcher,
                  business consultant,
                  Software Developer,
                  Consultant - Technology and Business,
```

Notations used by Subjects

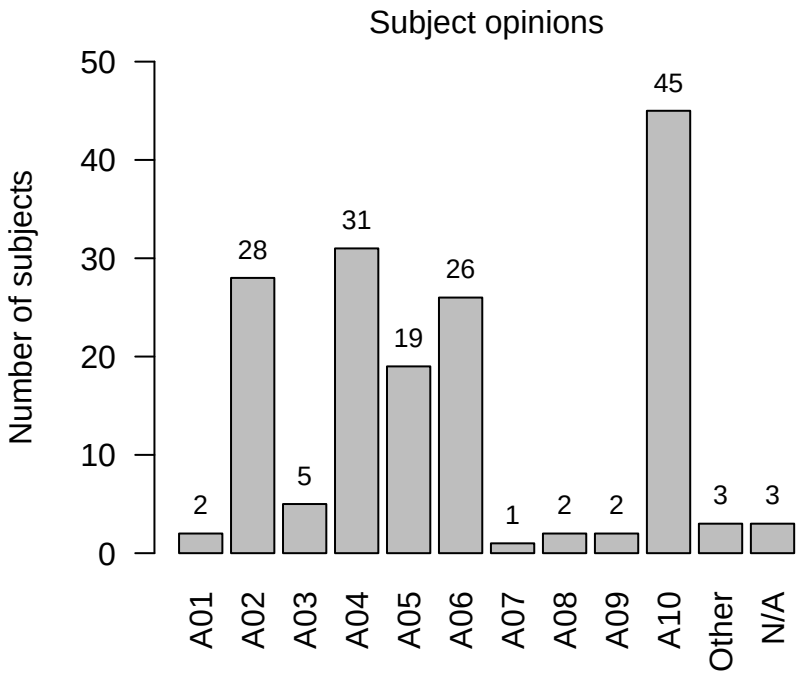
Question was: Process model notation used?




```
Notations:
    Others: Data Flow Diagrams (context models), state diagrams, ,
                  YAWL,
                  BPEL,
                  BPEL, XPDL,
                  Flow Charts,
                  RADs,
                  Decision Model Notation (DMN); Yet Another Workflow Language (YAWL),
                  Filenet proprietary,
                  IDEF,
                  artifact centric appraoch,
                  ArchiMate,
                  BPEL,
```

Opinions of Subjects

Question was: What statements better reflects your current opinion?



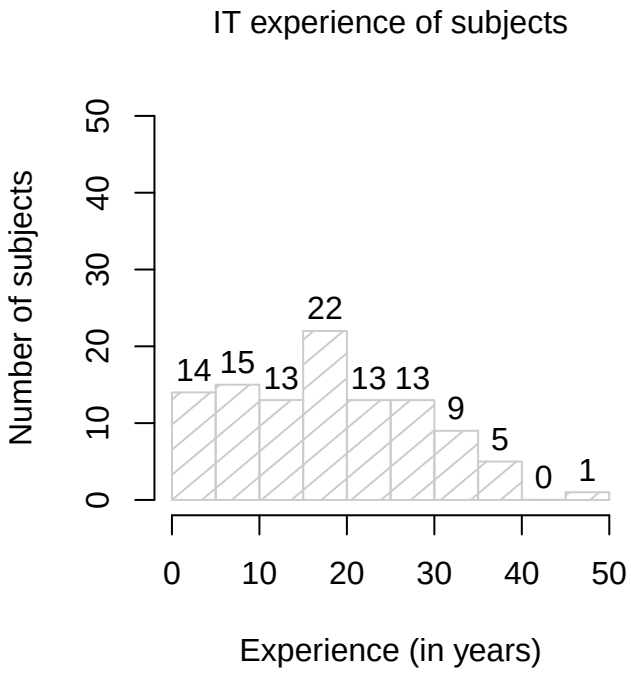

```
Opinions:
    A01:   Adaptive case management cannot be modeled in advance
    A02:   Some initial modeling is required for adaptive case management
    A03:   BPMN is enough to model adaptive case management
    A04:   BPMN is not enough for adaptive case management
    A05:   BPMN and CMMN should be merged into a single standard
    A06:   BPMN and CMMN should be maintained as separate standards
    A07:   CMMN is irrelevant
    A08:   BPMN is irrelevant
    A09:   Both CMMN and BPMN are irrelevant for adaptive case management
    A10:   I don't know enough about CMNN to answer the question
    Other: CMMN wil transform knowledge management,
                  Adaptive case management SHOULD NOT be modeled in advance,
                  I don't have enough experience in BPNM or CMMN,
```

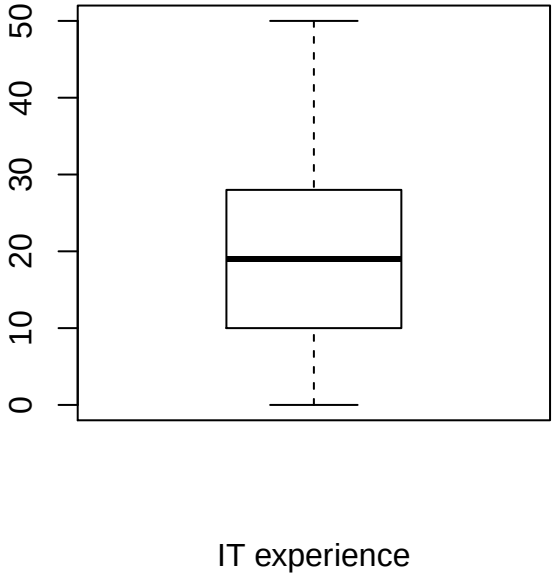
Work experience of Subjects

IT experience

Question was: Work experience in the IT-sector? (in years)

3 subjects did not provide an answer, and 10 has zero IT experience.

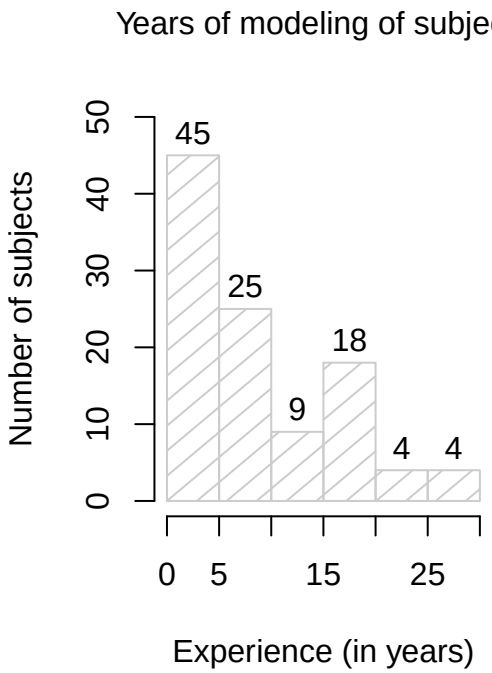


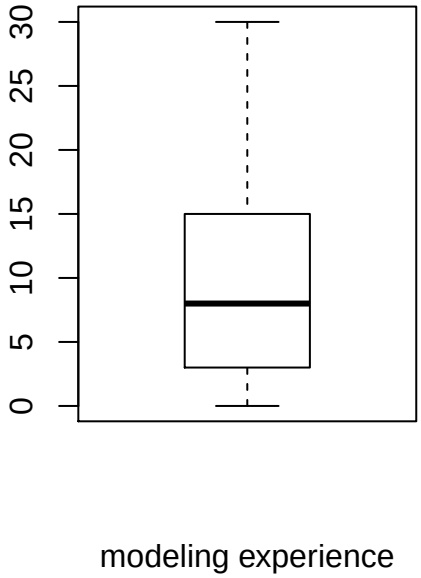


Years of modeling

Question was: Work experience with process (or workflow) models? (in years)

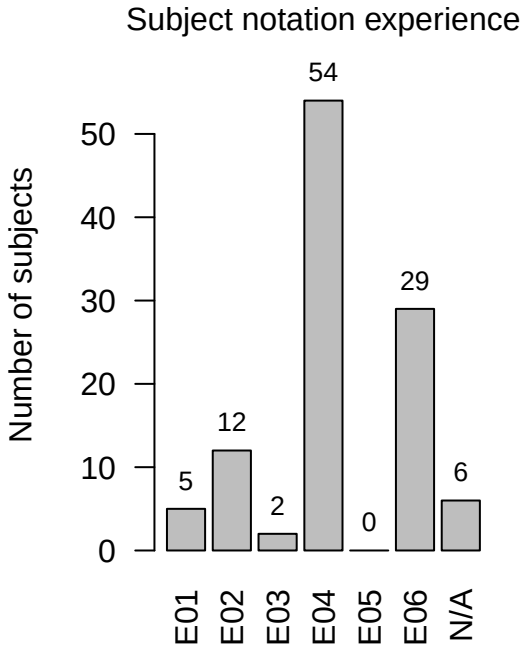
3 subjects did not provide an answer, and 12 has zero modeling experience.





Modeling experience

Calculated variable using notation used, years of modeling, and formal modeling training.

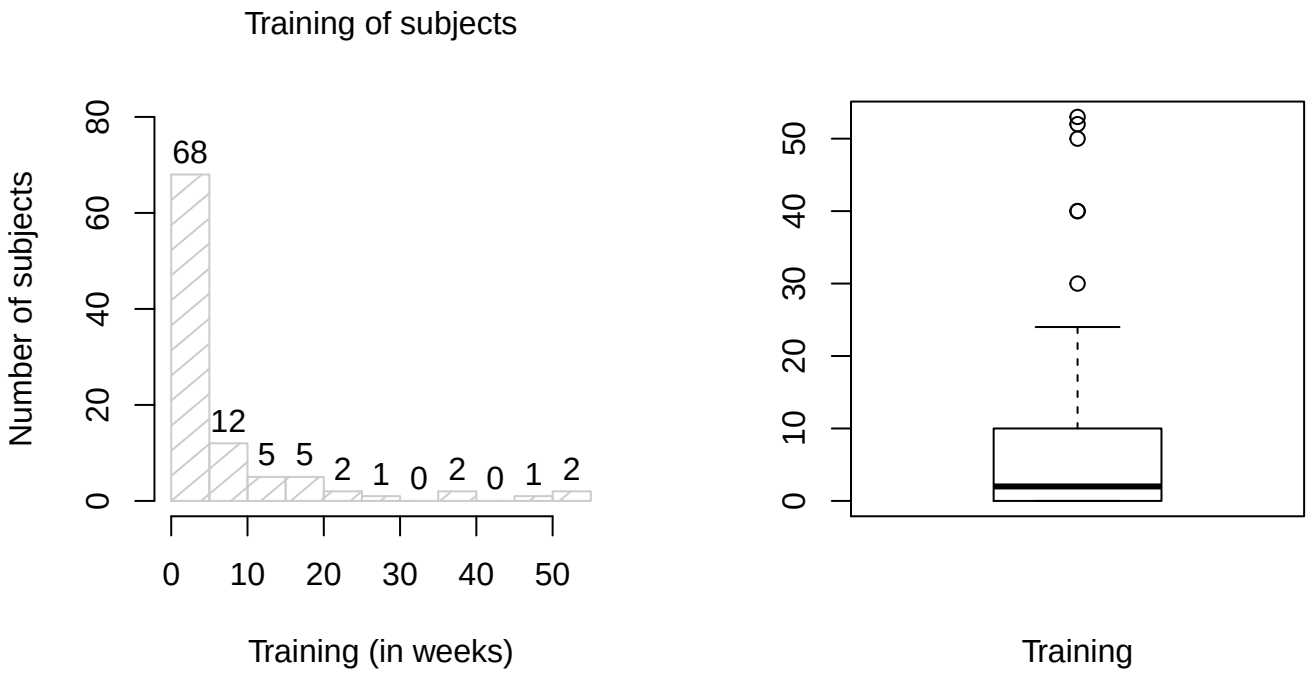



```
Opinions:
    E01:   No notation experience
    E02:   Not using a notation, but has training or experience
    E03:   Using a notation (no CMMN) without any training or experiencet
    E04:   Using a notation (no CMMN) with some training or experience
    E05:   Using CMMN, but without training or experience
    E06:   Using CMMN and has training or experience
```

Formal training of Subjects

Question was: Formal training on process (or workflow) modeling? (in weeks)

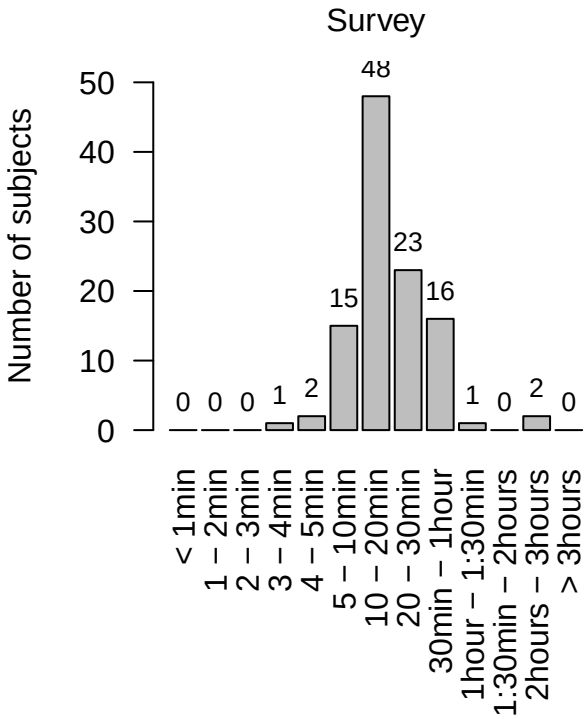
10 subjects did not provide an answer, and 38 has zero formal training.

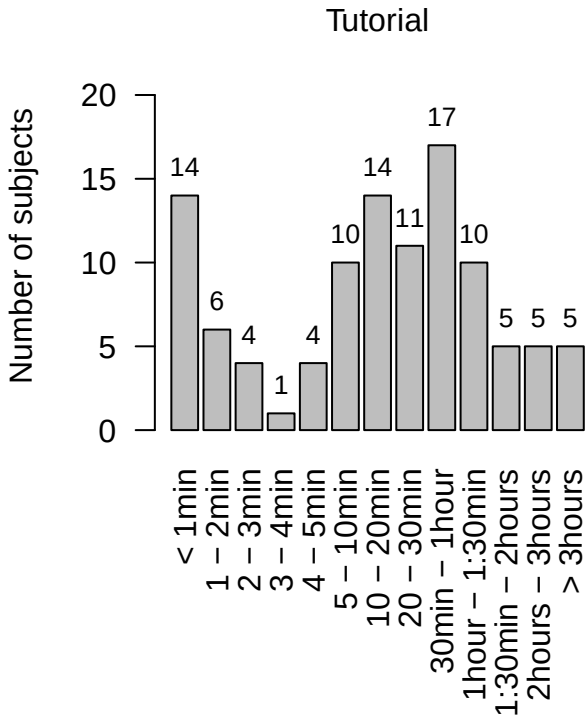


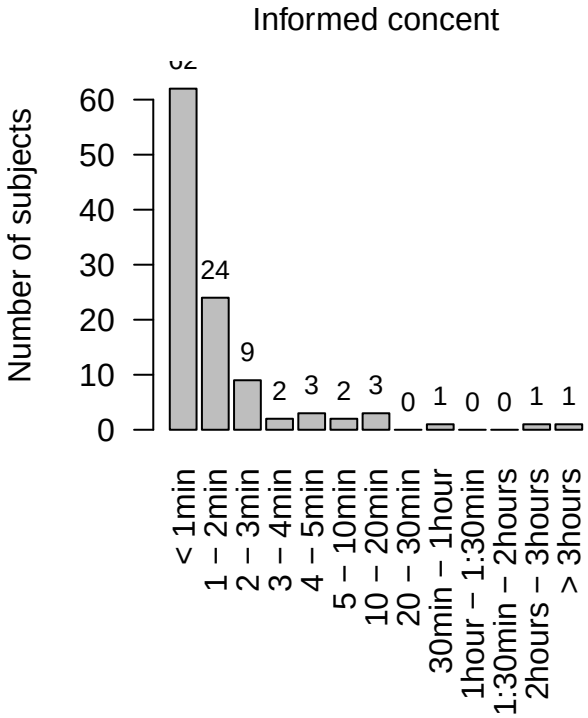
Duration

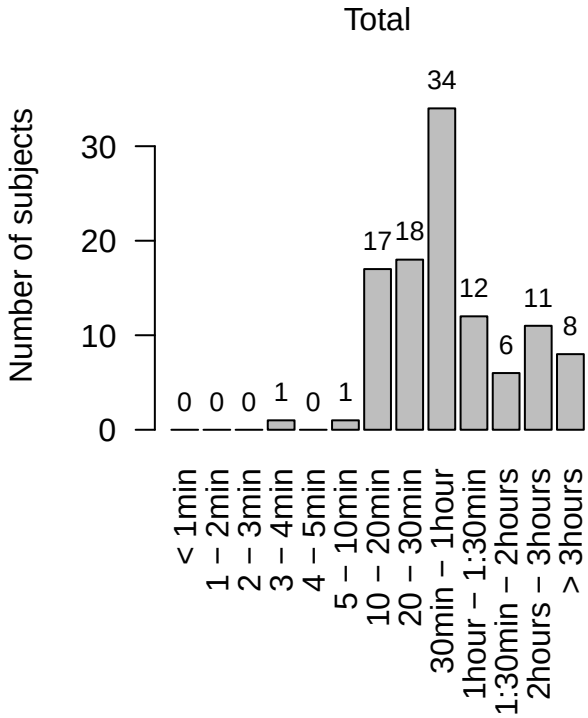
Duration is given in hh:mm:ss (hours, minutes, and seconds). Note that subjects had the ability to do the survey in multiple sessions.

```
Survey time: min 00:03:18 median 00:16:50 max 02:59:09 mean 00:22:05 sd 00:22:10

Tutorial time: min 00:00:10 median 00:19:55 max 06:05:28 mean 00:44:21 sd 01:07:22

Informed concent time: min 00:00:05 median 00:00:41 max 05:07:01 mean 00:05:39 sd 00:31:41

Total time: min 00:03:53 median 00:39:33 max 06:36:56 mean 01:11:15 sd 01:18:51
```


Survey
Number of subjects
0 0 0 1 2 15 48 23 16 1 0 2 0
< 1min
1 – 2min
2 – 3min
3 – 4min
4 – 5min
5 – 10min
10 – 20min
20 – 30min
30min – 1hour
1hour – 1:30min
1:30min – 2hours
2hours – 3hours
> 3hours

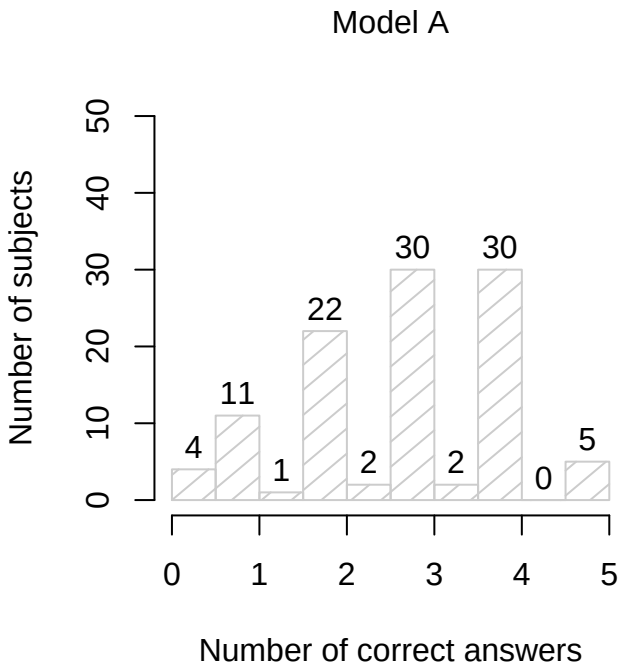

Tutorial
Number of subjects
14 6 4 1 4 10 14 11 17 10 5 5 5
< 1min
1 – 2min
2 – 3min
3 – 4min
4 – 5min
5 – 10min
10 – 20min
20 – 30min
30min – 1hour
1hour – 1:30min
1:30min – 2hours
2hours – 3hours
> 3hours

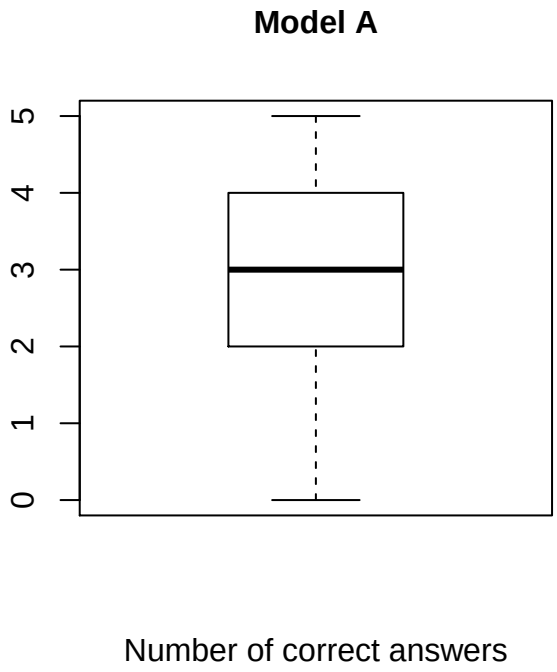

Informed concent
Number of subjects
62 24 9 2 3 2 3 0 1 0 0 1 1
< 1min
1 – 2min
2 – 3min
3 – 4min
4 – 5min
5 – 10min
10 – 20min
20 – 30min
30min – 1hour
1hour – 1:30min
1:30min – 2hours
2hours – 3hours
> 3hours

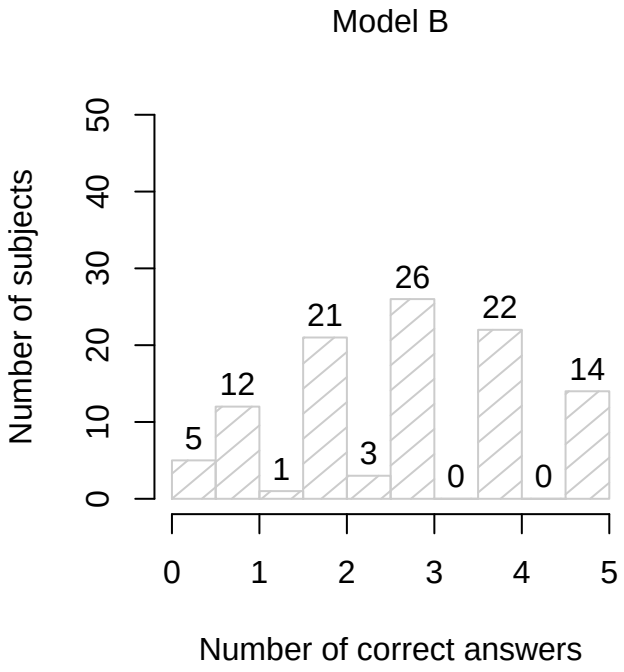

Total
Number of subjects
0 0 0 1 0 1 17 18 34 12 6 11 8
< 1min
1 – 2min
2 – 3min
3 – 4min
4 – 5min
5 – 10min
10 – 20min
20 – 30min
30min – 1hour
1hour – 1:30min
1:30min – 2hours
2hours – 3hours
> 3hours

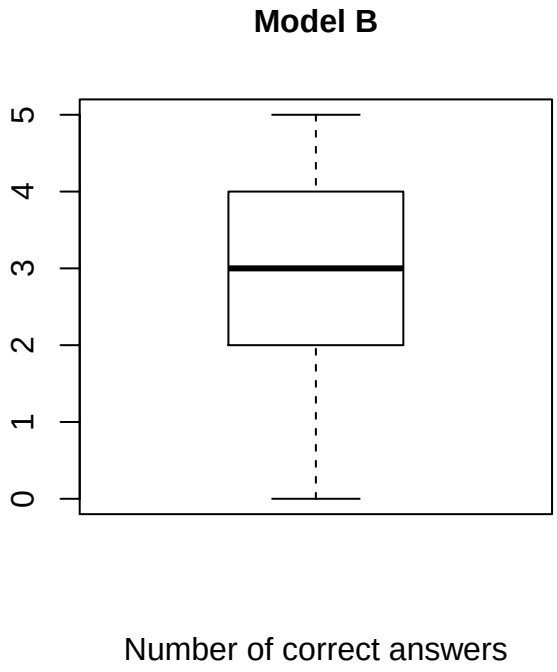
Correct answers

Subjects were exposed to two models, model A and model B. Five questions were asked for each model. Each question had a one point value. One question was evaluated with .25, .50, .75, and 1. Therefore, correct answers range from 0.25 to 5 points.





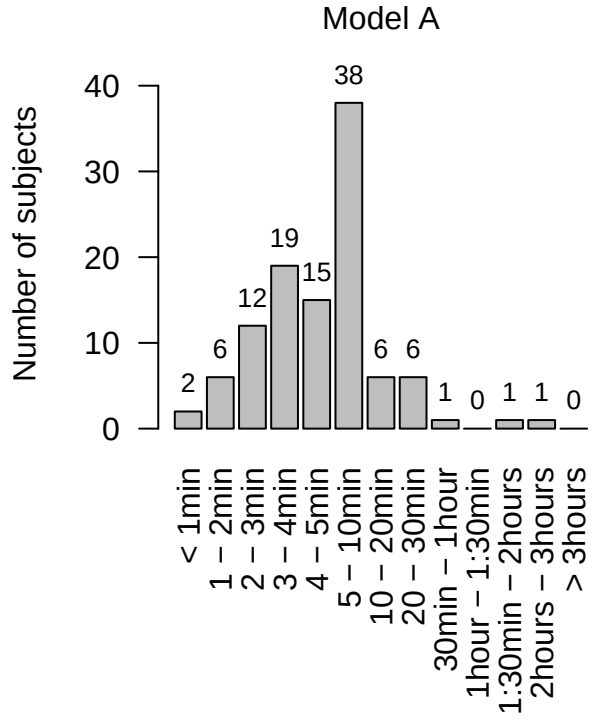


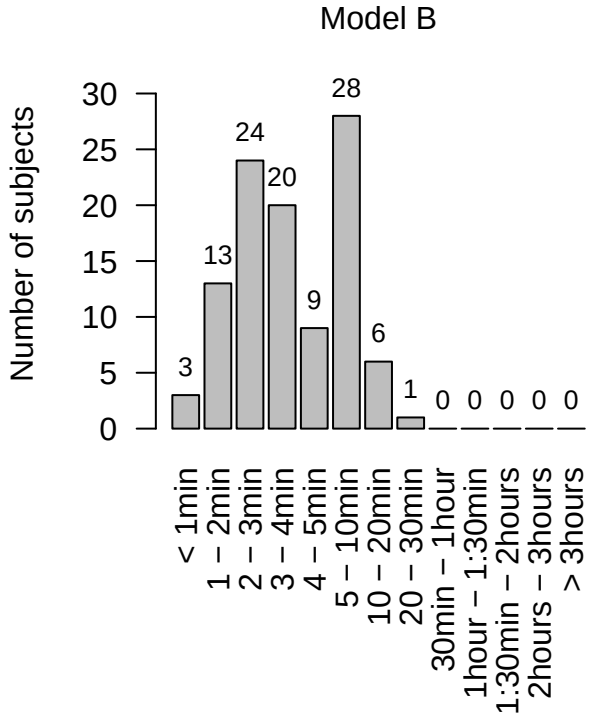


The time used working on each model was recorded.

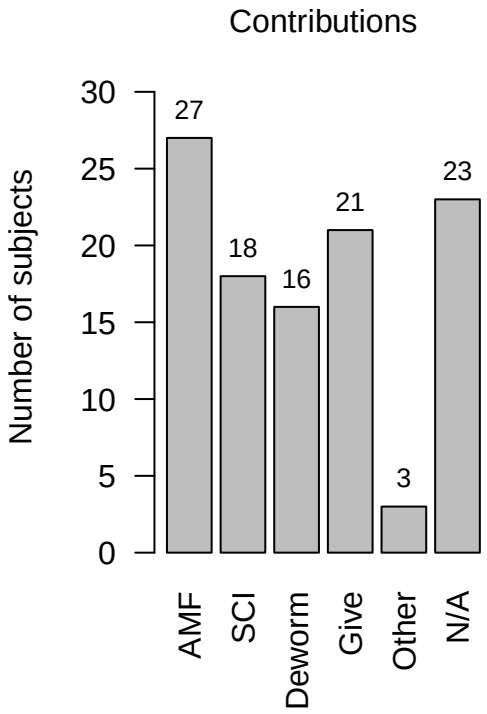
```
Model A time: min 00:00:18 median 00:04:48 max 02:50:49 mean 00:09:22 sd 00:19:57
```

```
Model B time: min 00:00:10 median 00:03:33 max 00:26:02 mean 00:04:35 sd 00:03:33
```





Charitable contributions




```
Charitable organizations:
    AMF:    Against Malaria Foundation
    SCI:    Schistosomiasis Control Initiative
    Deworm: Deworm the World Initiative
    Give:   GiveDirectly
    Other: http://www.choc.org/giving/,
                heretoserve.org,
                AlZ.org,


Contributions:
    AMF:    $ 162
    SCI:    $ 108
    Deworm: $ 96
    Give:   $ 126
    Other:  $ 18
            -------
    TOTAL:  $ 510
```