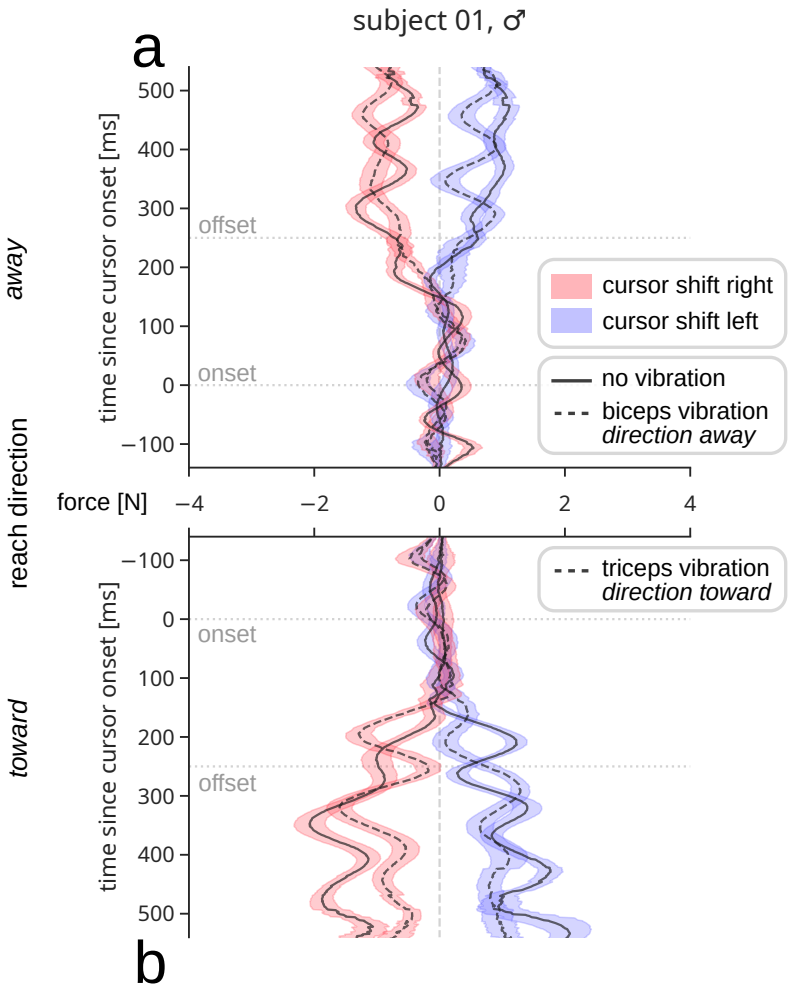
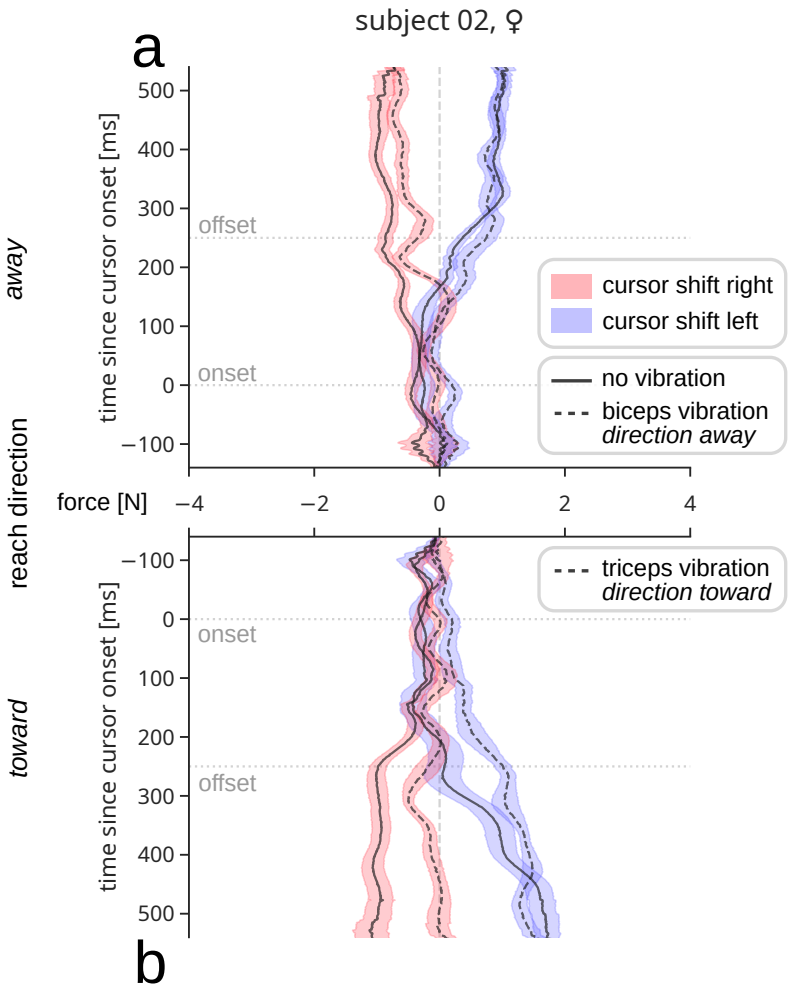
Supplementary figures S1

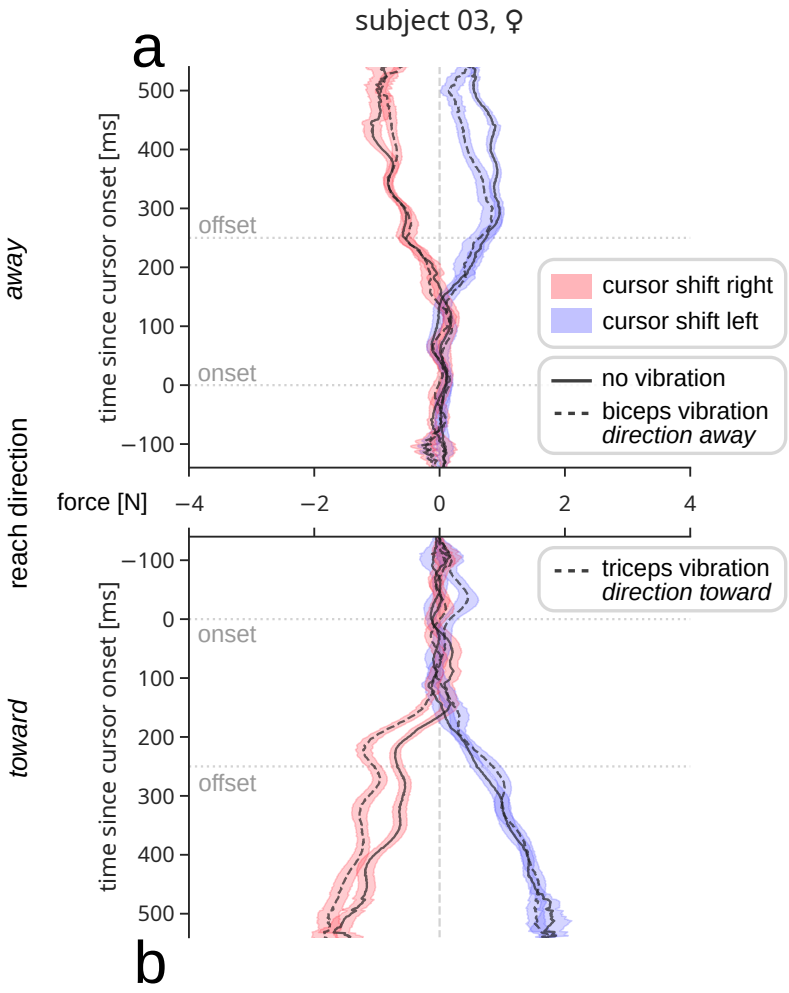
Single subject plots of effect of cursor left/right shifts, with and without vibration

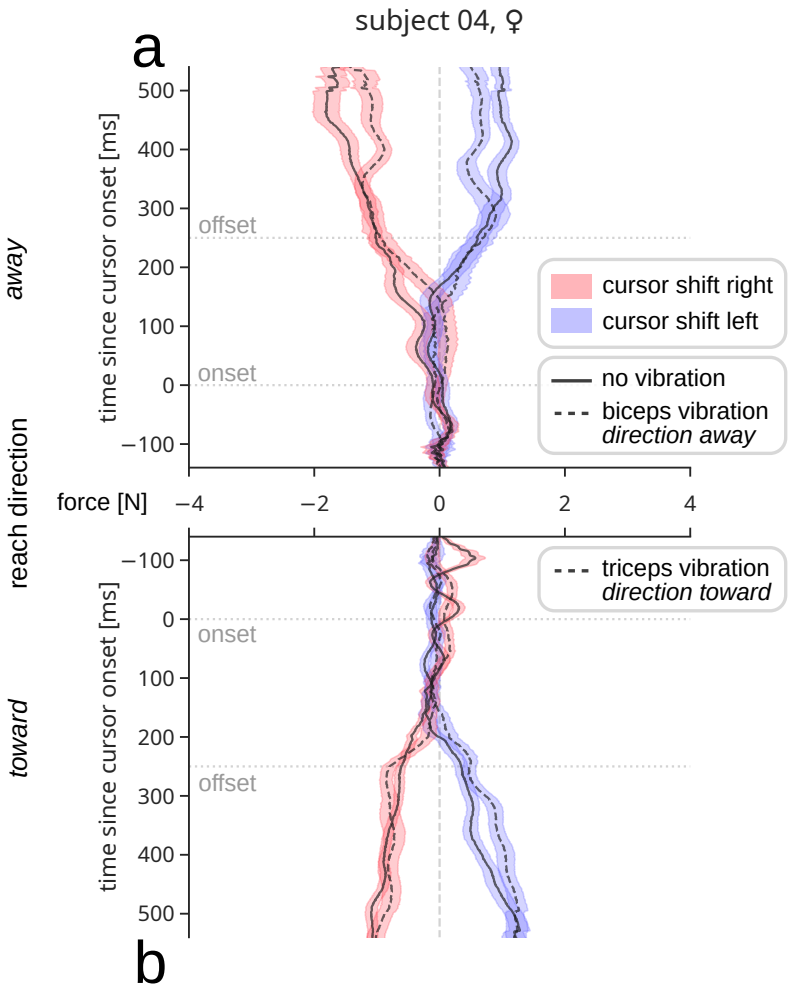
The following plots show single-subject effects, similar to the group-level data in Figure 4 **a,c** in the main text. Each plot shows the data of a single individual subject. The title of each plot shows the subject's number (01-22) and sex as ♂ (male) or ♀ (female). All plots share the following caption:

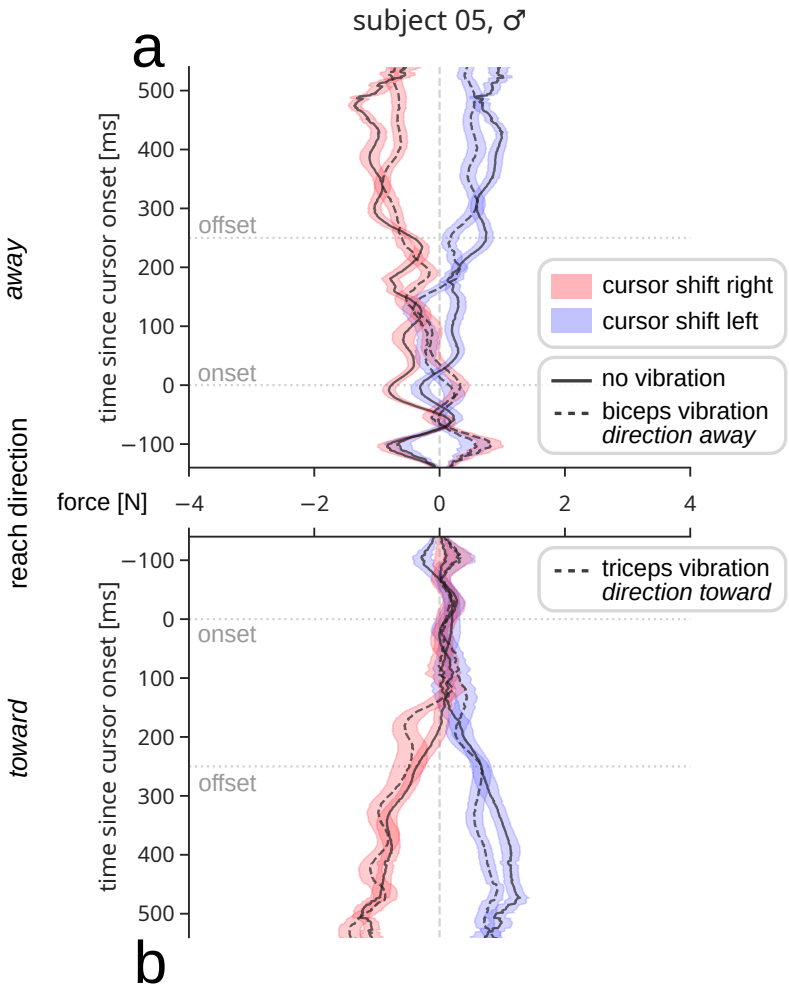
Effect of cursor left/right shifts, with and without vibration. Horizontal lines denote the perturbation onsets and offsets. **a,b**: Mean evoked forces over time. The shaded area denotes ±1 SE across trials. For each condition, mean and SE are based on n = 16-20 trials. Solid lines indicate means of trials with cursor shifts and without vibration, relative to the mean without cursor shift and without vibration. Dashed lines indicate means of trials with cursor shifts and with vibration, relative to the mean without cursor shift and the same vibration. Negative and positive values on the x-axis indicate counter-clockwise and clockwise forces into the channel walls, respectively. **a**: Reaches `away` from the body. **b**: Reaches `toward` the body.

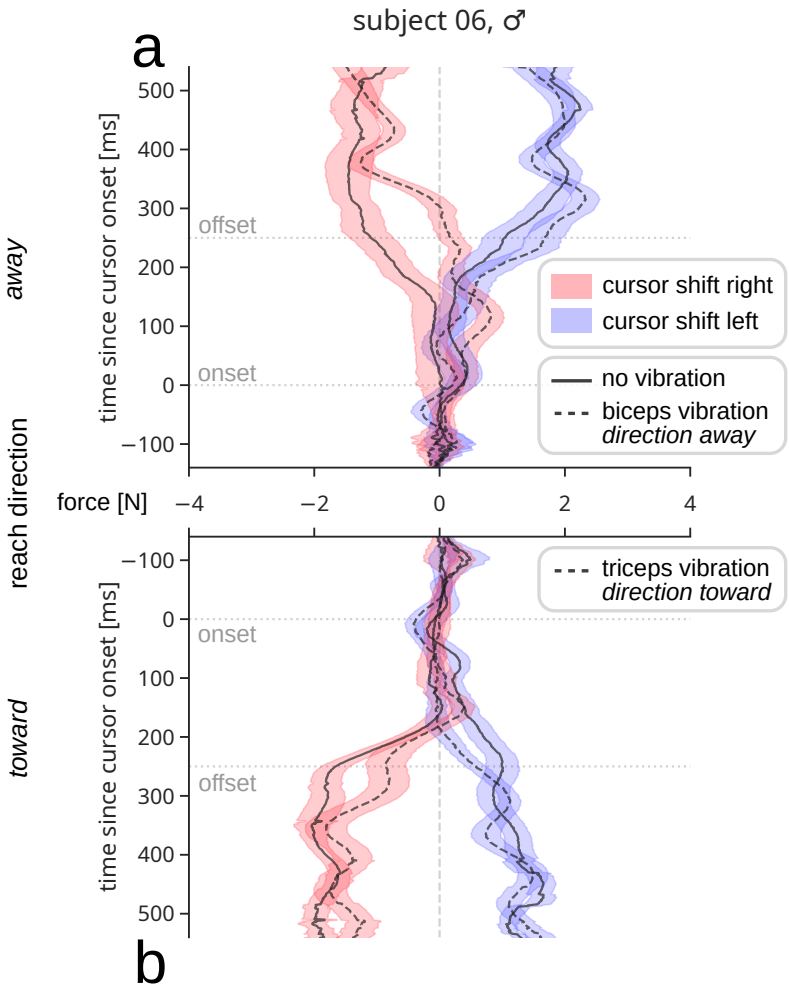

subject 01, ♂
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
triceps vibration
direction toward
force [N]
−4
−2
0
2
4
b

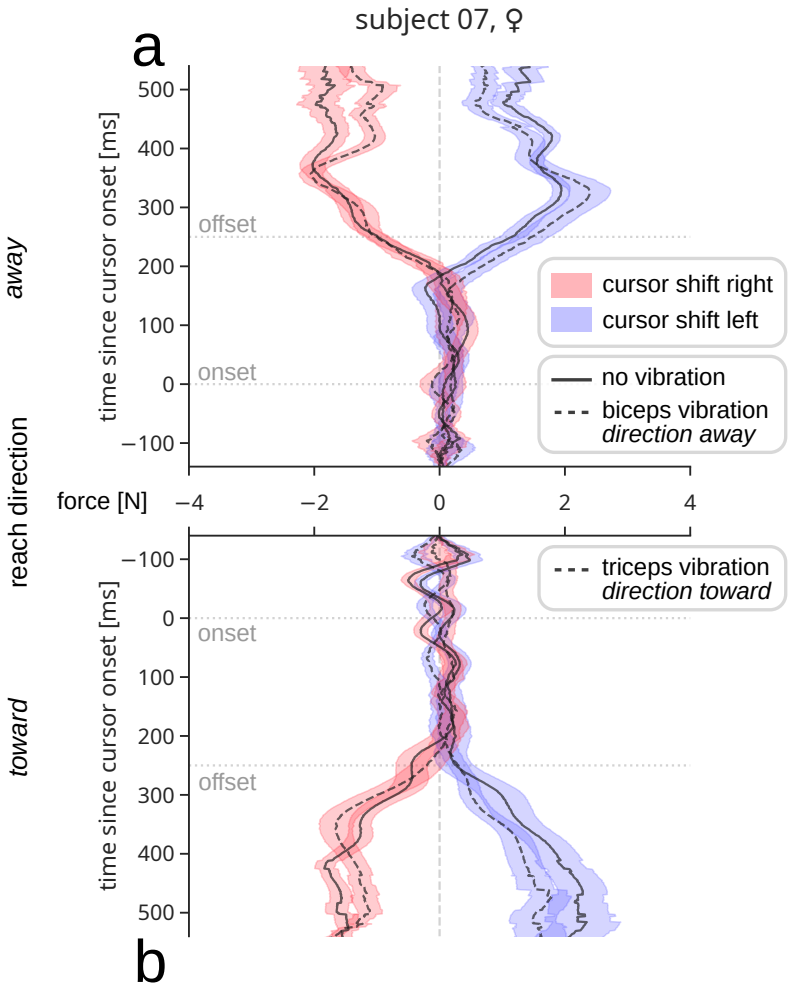

subject 02, ♀
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
triceps vibration
direction toward
force [N]
−4
−2
0
2
4
b

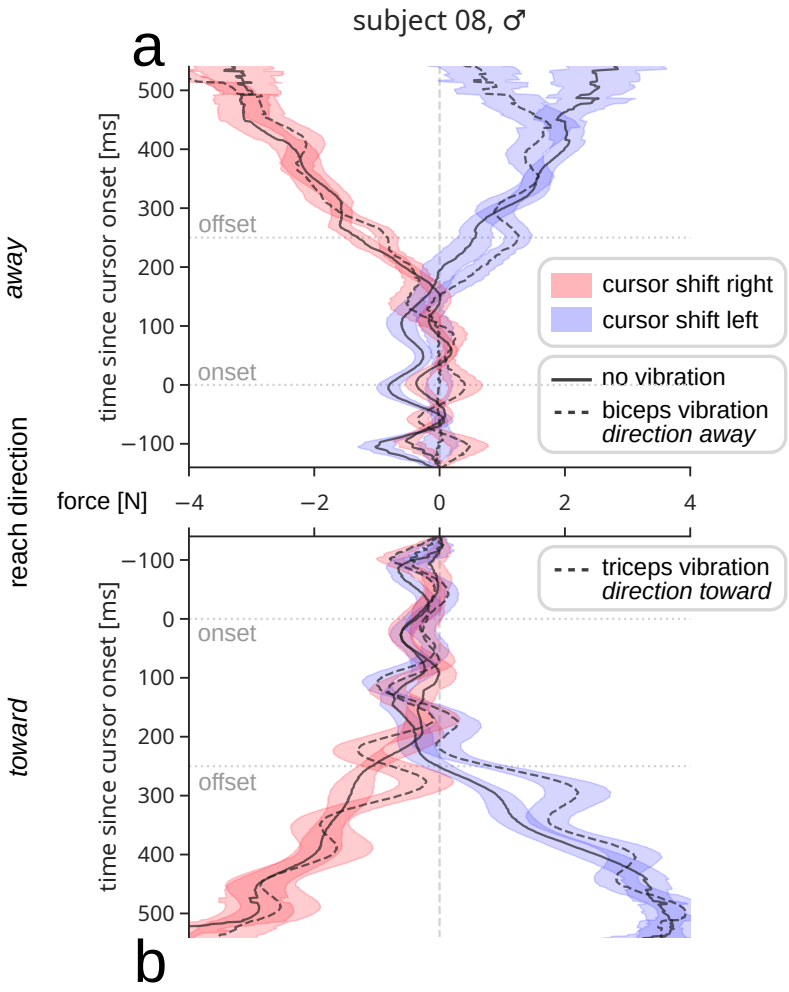

subject 03, ♀
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
force [N]
−4
−2
0
2
4
triceps vibration
direction toward
b

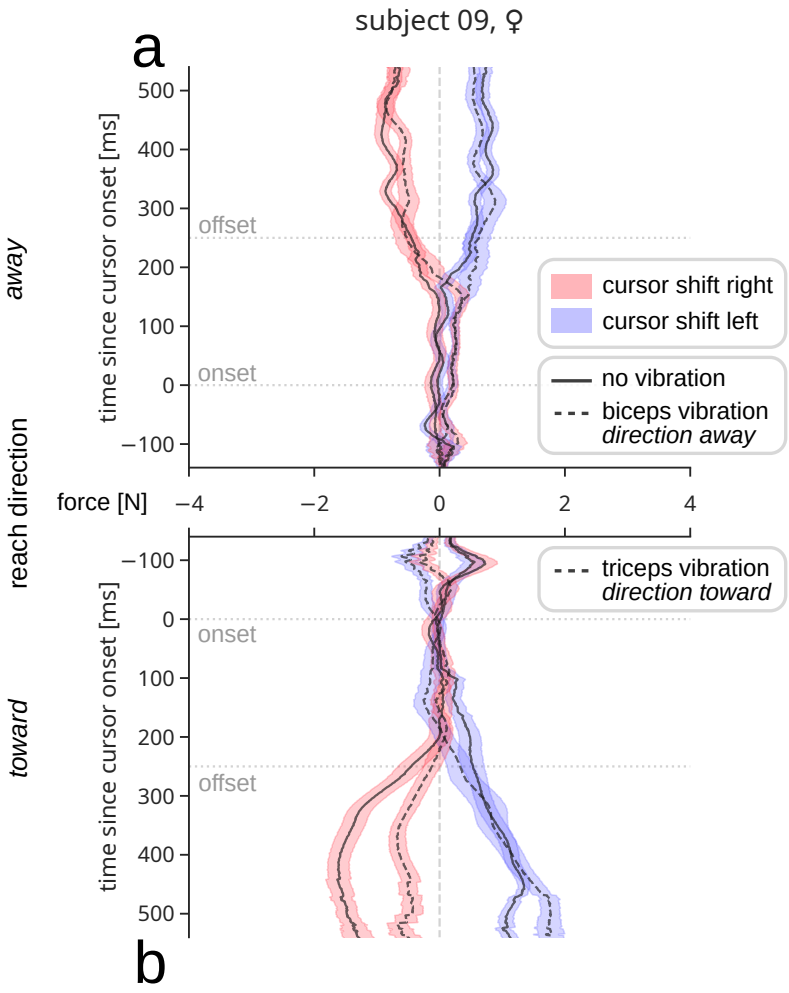

subject 04, ♀
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
force [N]
−4
−2
0
2
4
triceps vibration
direction toward
b

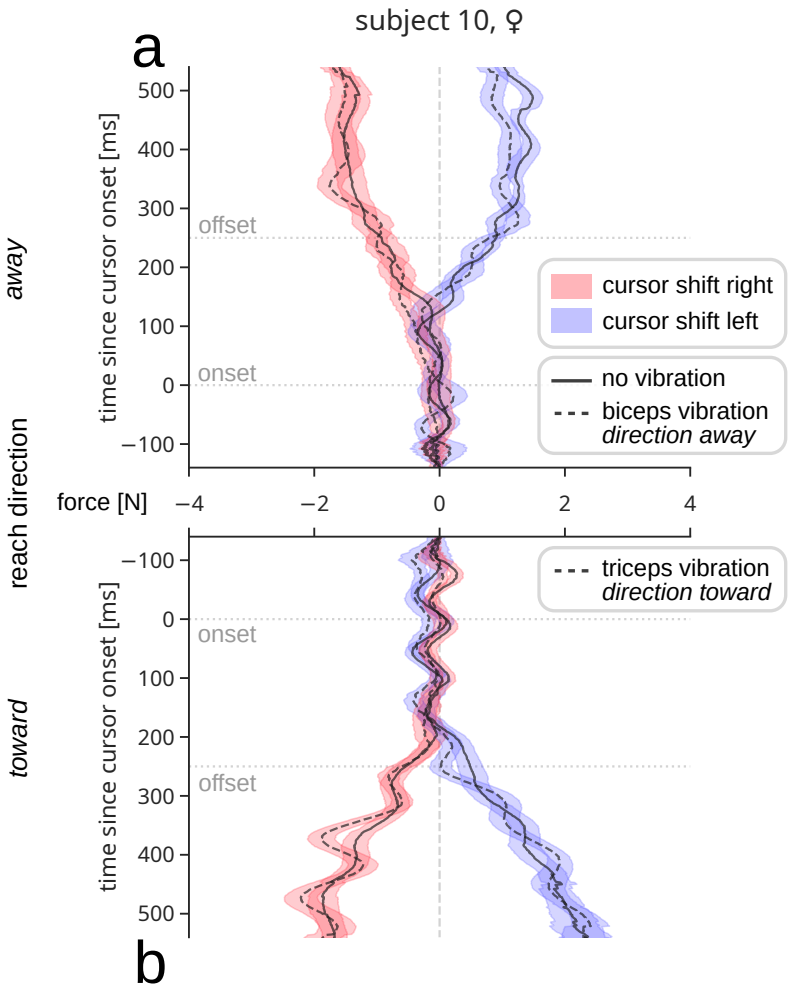

subject 05, ♂
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
force [N]
−4
−2
0
2
4
triceps vibration
direction toward
b

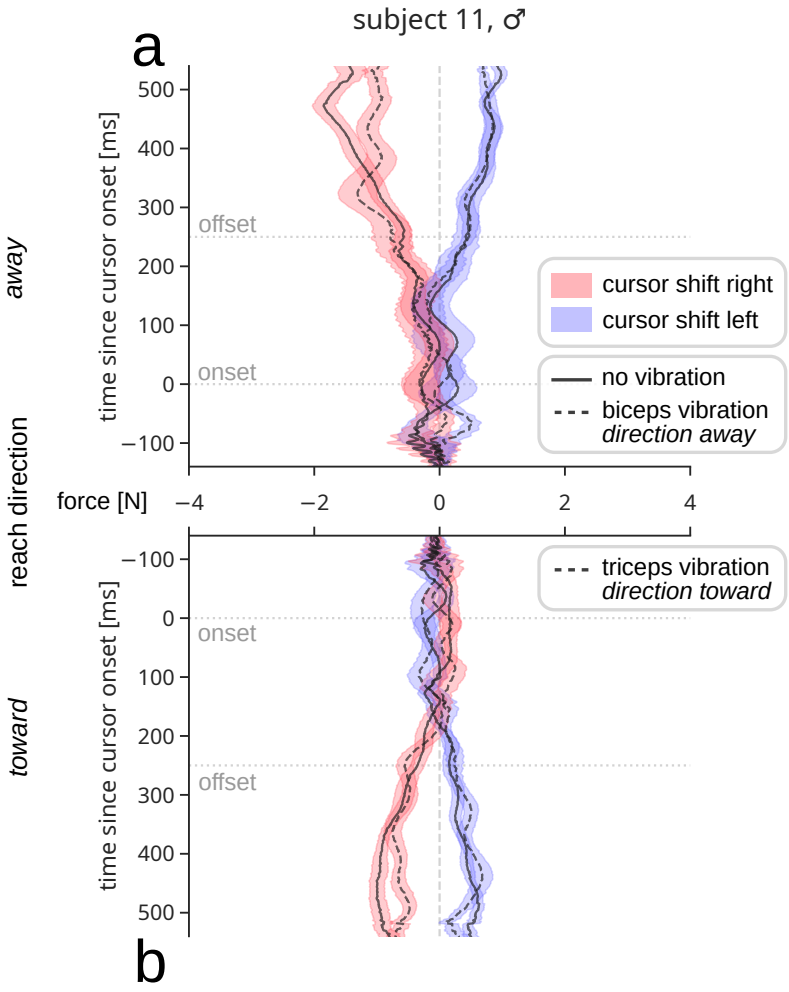

subject 06, ♂
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
triceps vibration
direction toward
force [N]
−4
−2
0
2
4
b

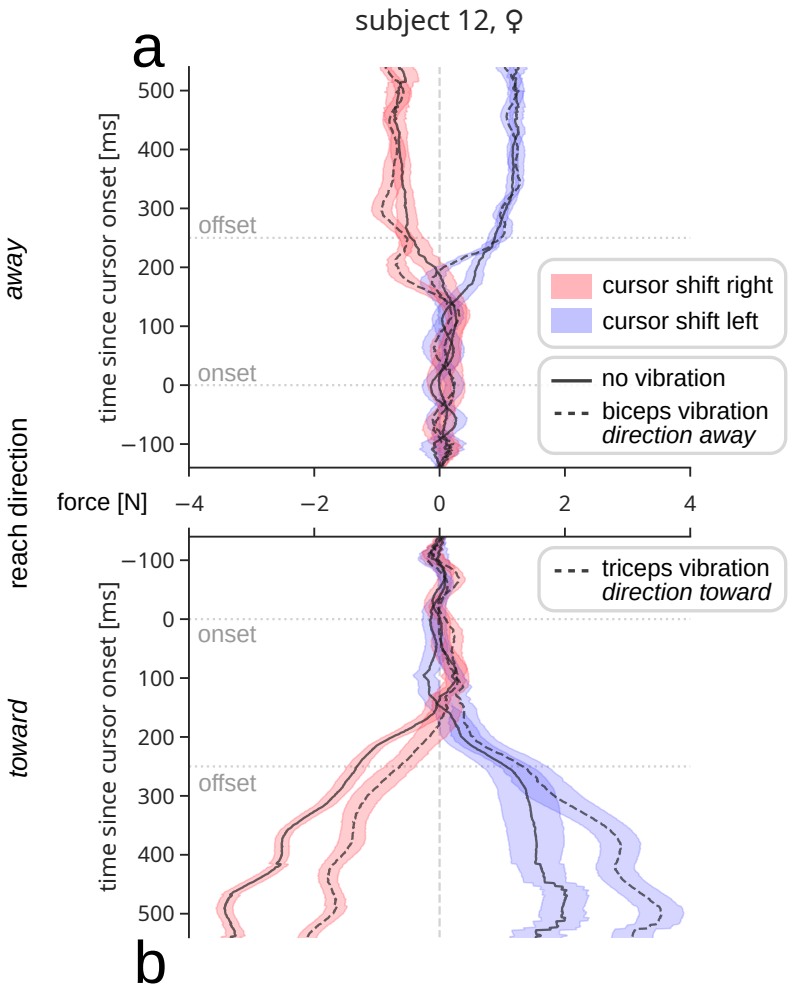

subject 07, ♀
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
triceps vibration
direction toward
force [N]
−4
−2
0
2
4
b

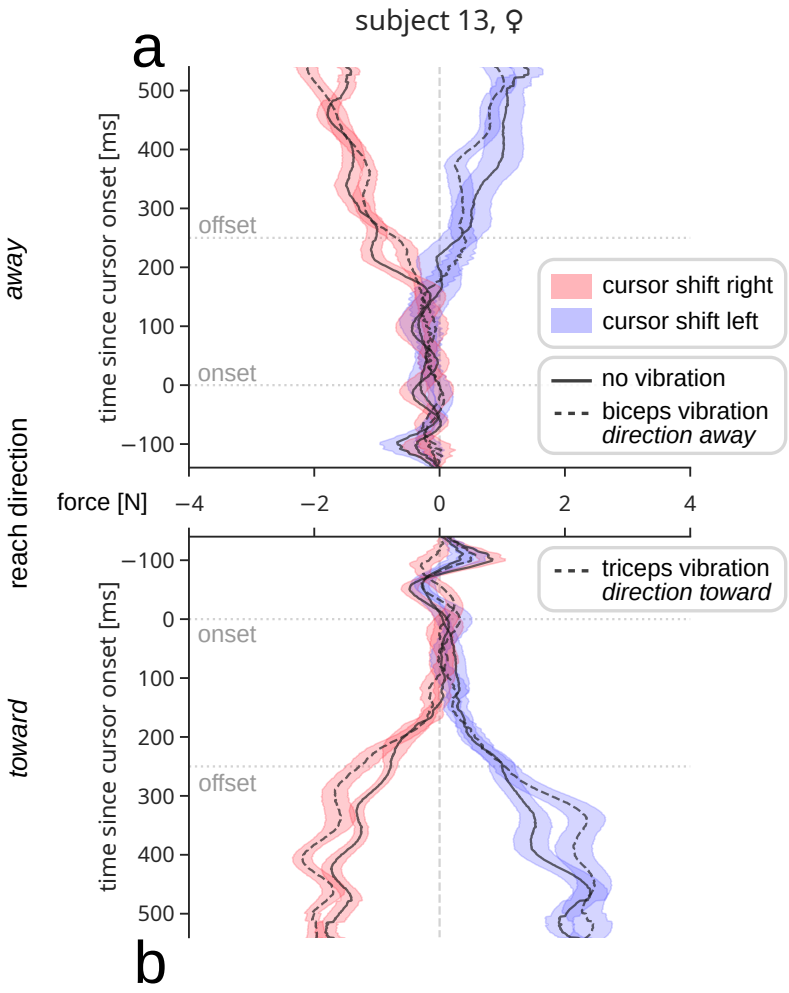

subject 08, ♂
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
force [N]
−4
−2
0
2
4
triceps vibration
direction toward
b

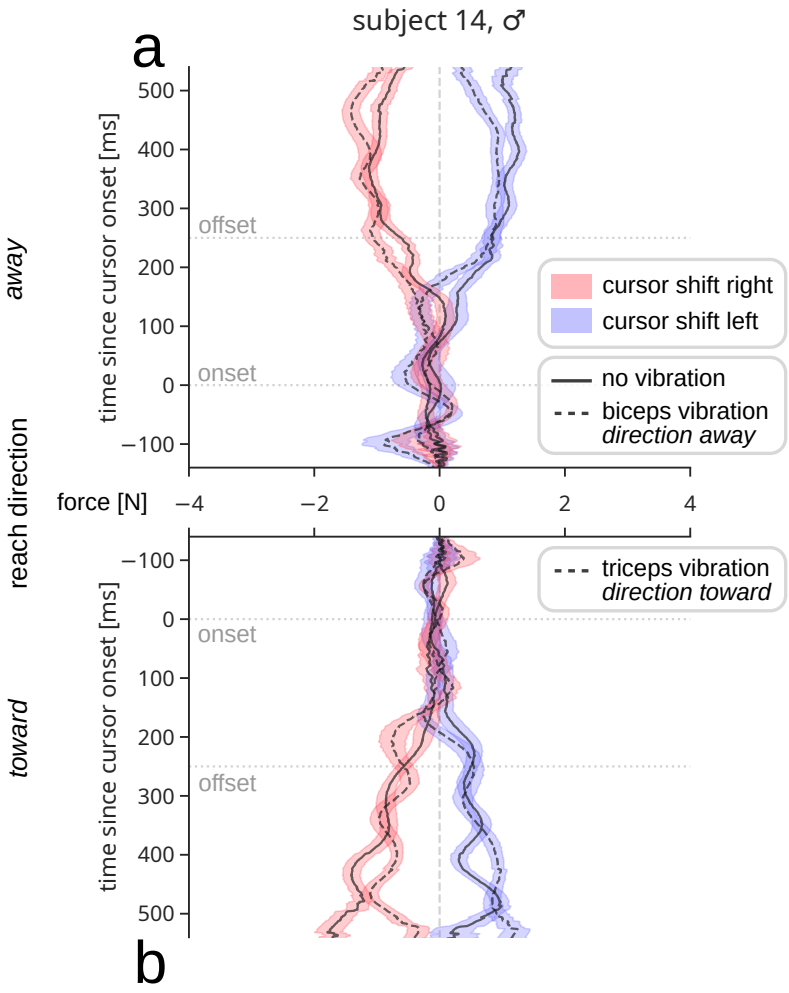

subject 09, ♀
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
triceps vibration
direction toward
force [N]
−4
−2
0
2
4
b

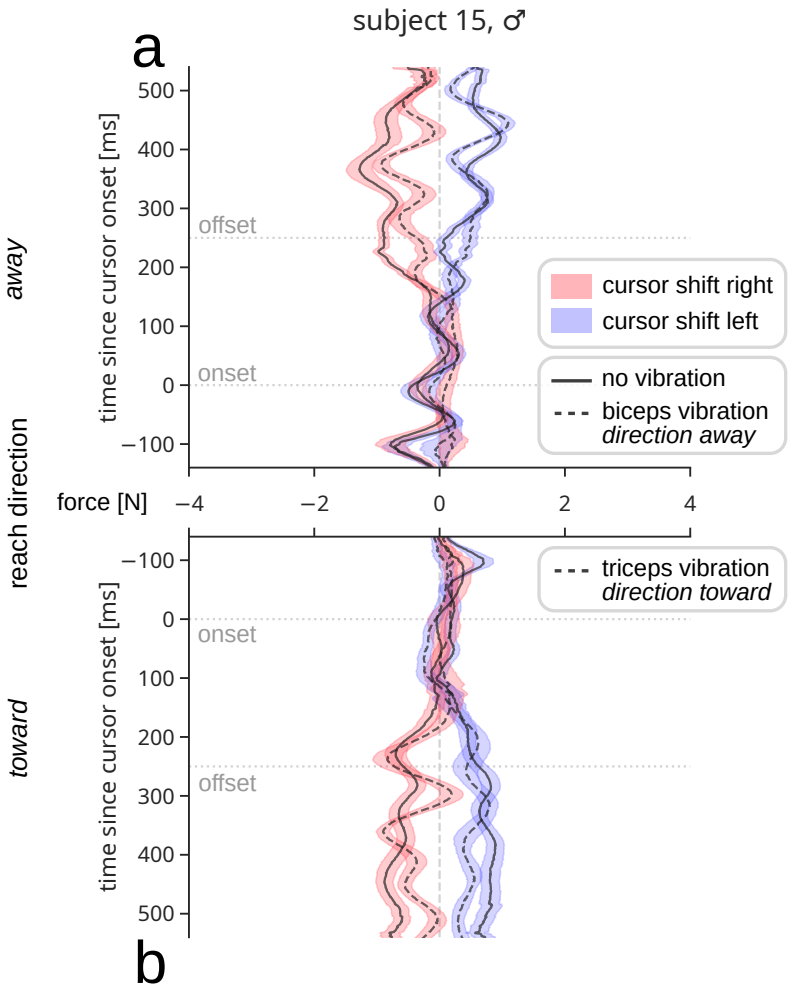

subject 10, ♀
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
force [N]
−4
−2
0
2
4
triceps vibration
direction toward
b

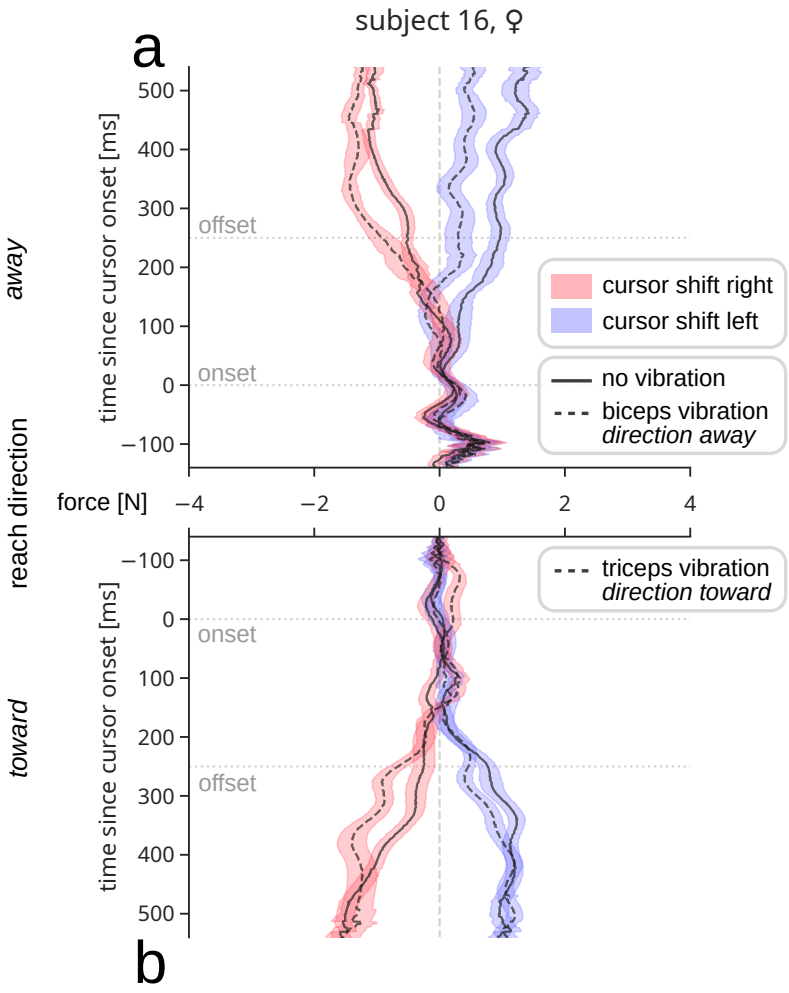

subject 11, ♂
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
force [N]
−4
−2
0
2
4
triceps vibration
direction toward
b

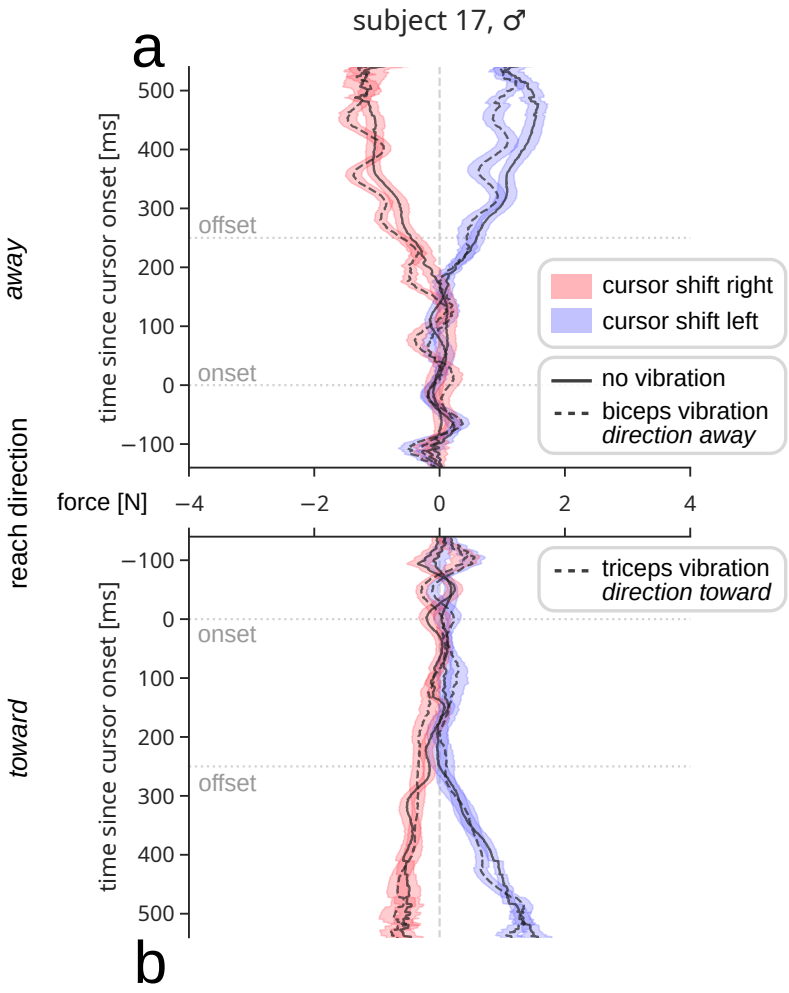

subject 12, ♀
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
force [N]
−4
−2
0
2
4
triceps vibration
direction toward
b

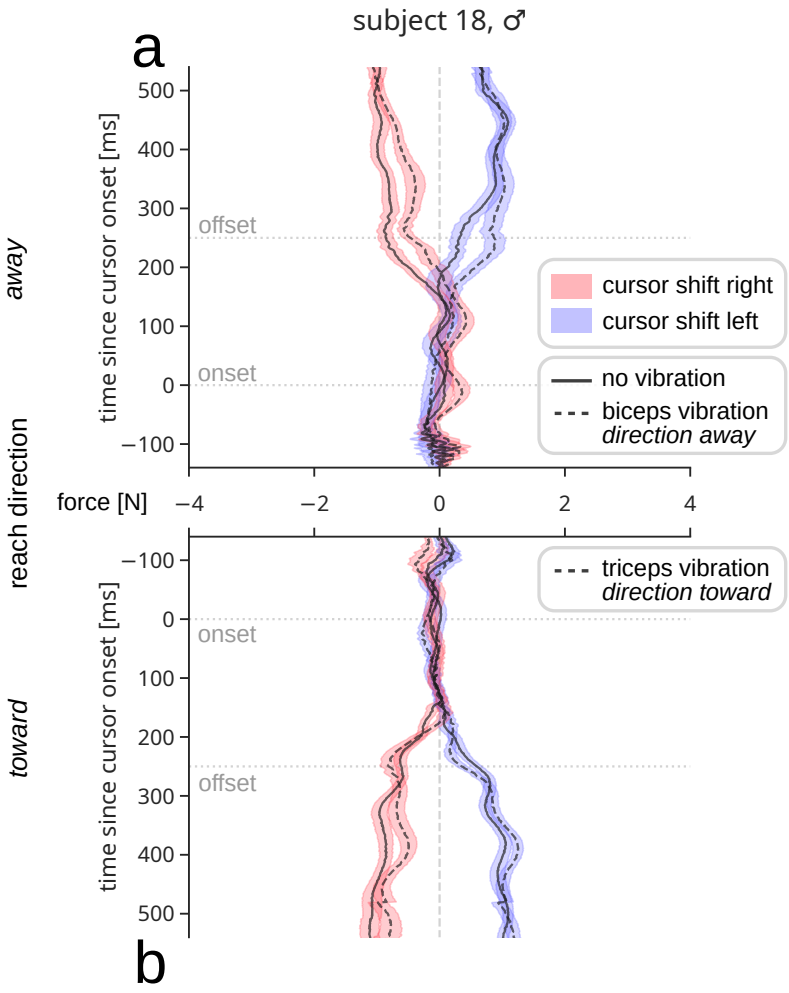

subject 13, ♀
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
force [N]
−4
−2
0
2
4
triceps vibration
direction toward
b

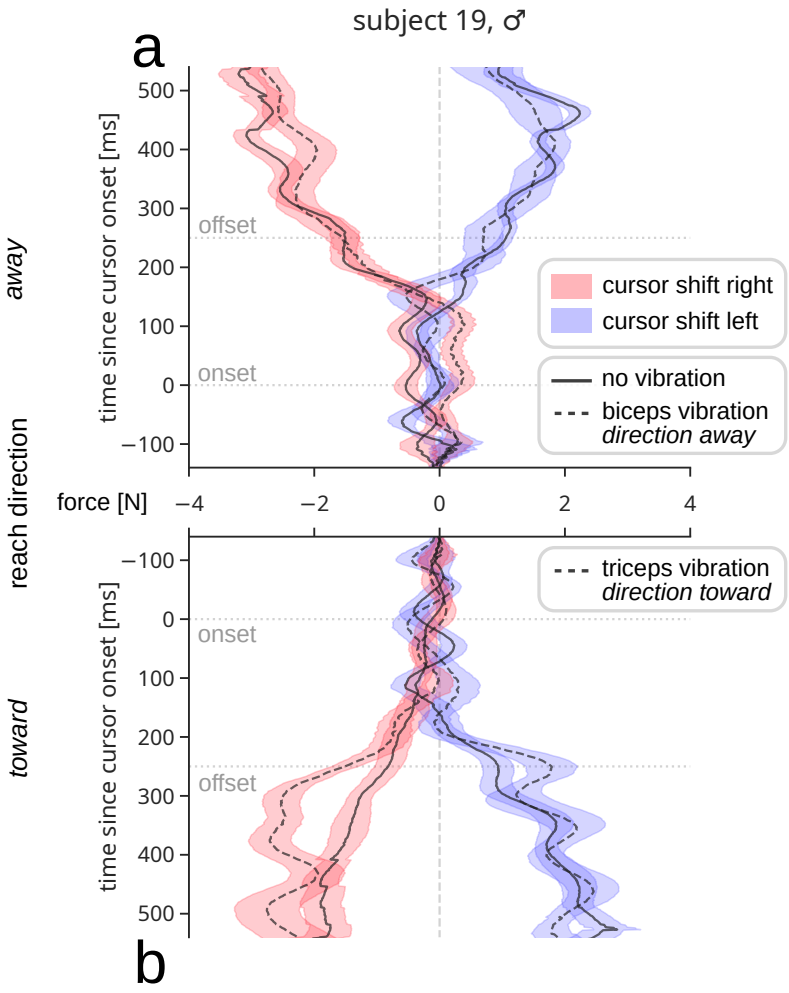

subject 14, ♂
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
triceps vibration
direction toward
force [N]
−4
−2
0
2
4
b

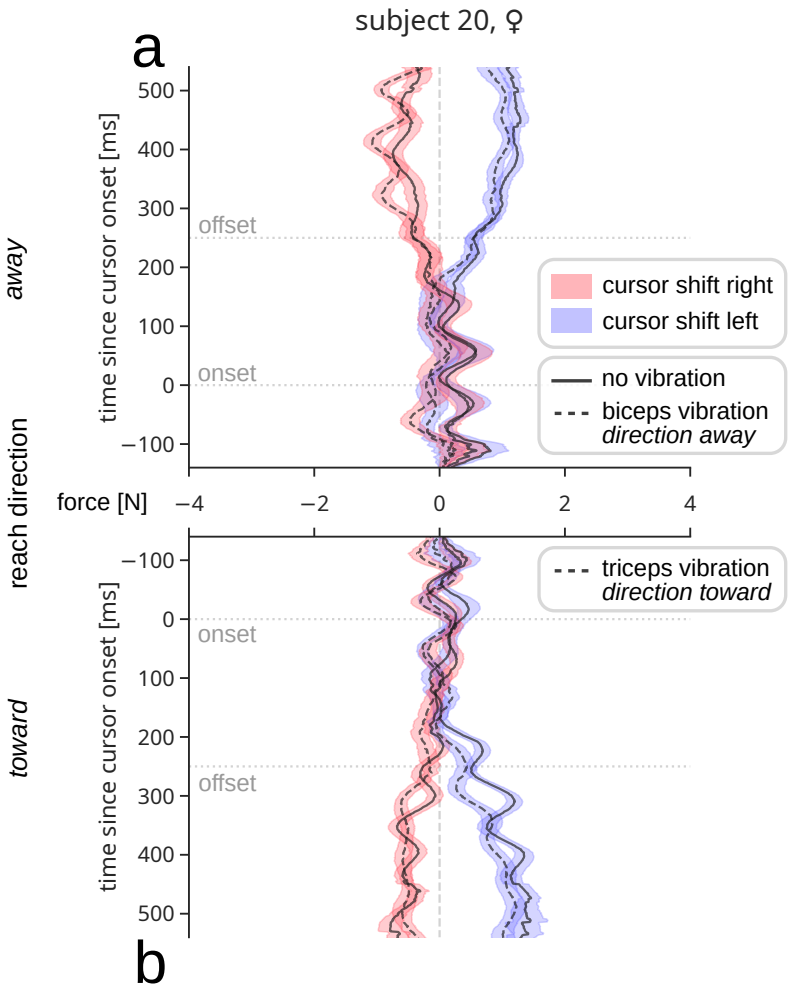

subject 15, ♂
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
triceps vibration
direction toward
force [N]
−4
−2
0
2
4
b

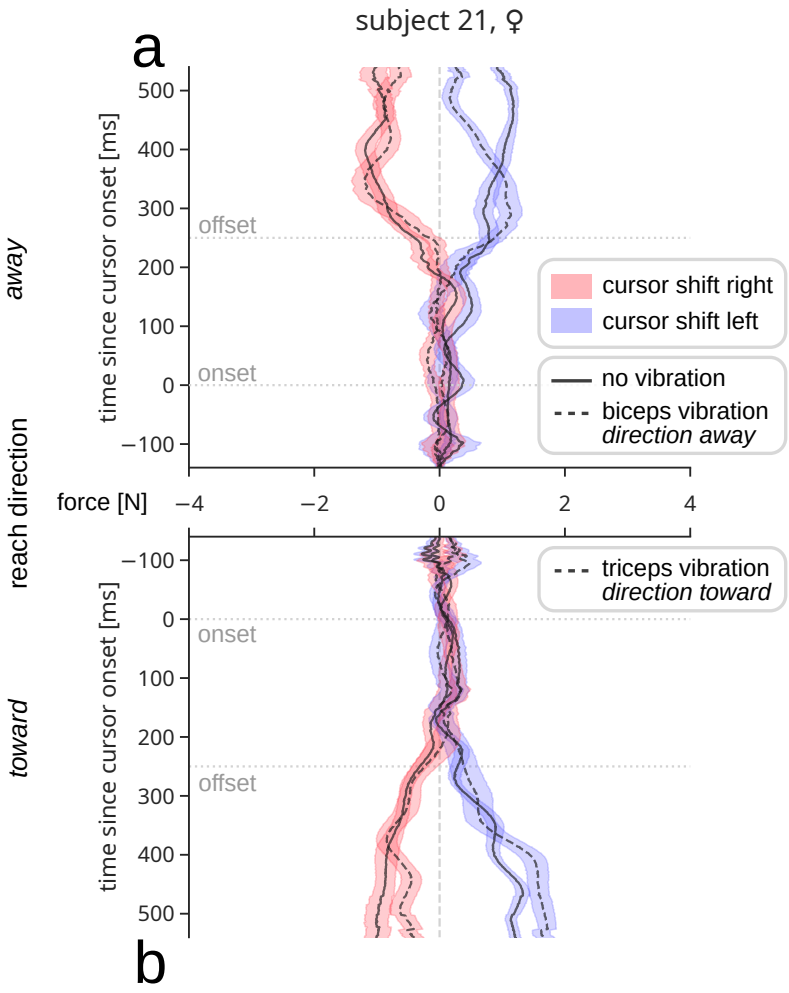

subject 16, ♀
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
force [N]
−4
−2
0
2
4
triceps vibration
direction toward
b

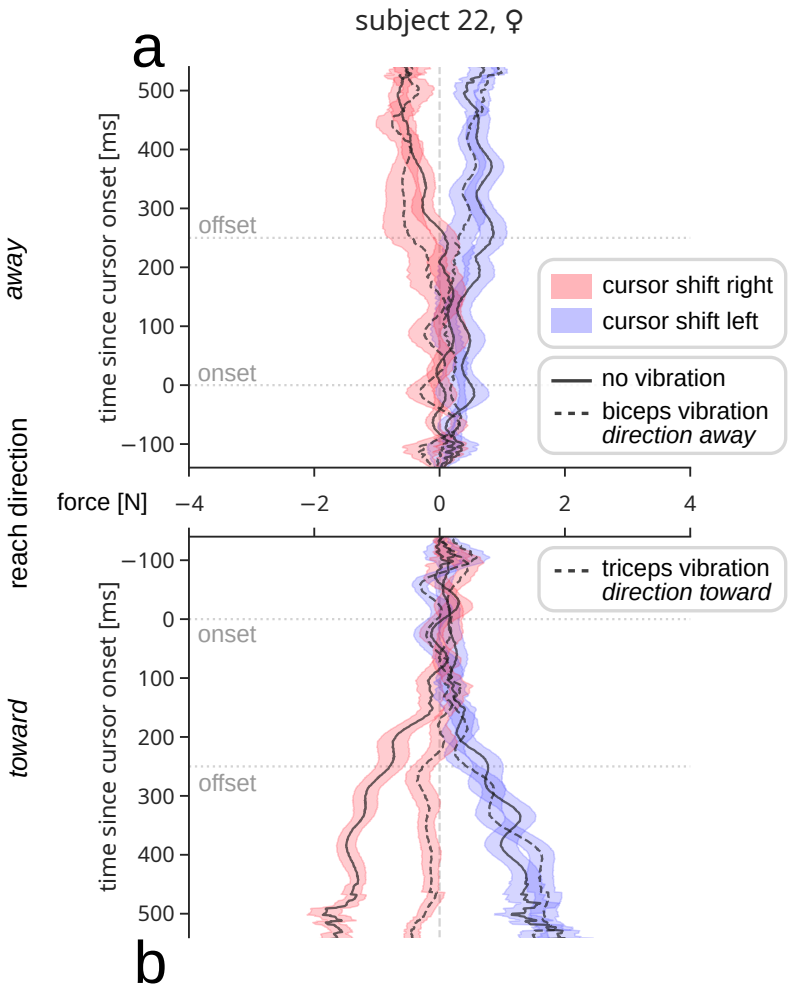

subject 17, ♂
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
force [N]
−4
−2
0
2
4
triceps vibration
direction toward
b


subject 18, ♂
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
triceps vibration
direction toward
force [N]
−4
−2
0
2
4
b


subject 19, ♂
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
triceps vibration
direction toward
force [N]
−4
−2
0
2
4
b


subject 20, ♀
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
triceps vibration
direction toward
force [N]
−4
−2
0
2
4
b


subject 21, ♀
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
force [N]
−4
−2
0
2
4
triceps vibration
direction toward
b


subject 22, ♀
a
away
reach direction
toward
time since cursor onset [ms]
500
400
300
200
100
0
−100
offset
onset
cursor shift right
cursor shift left
no vibration
biceps vibration
direction away
force [N]
−4
−2
0
2
4
triceps vibration
direction toward
b