

RSD

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RSD calculation

This document explains how RSD was calculated.

This first line loads the data frame, selects and displays the relevant columns. Repetition of a stimulus is indicated in column “repl”.

```
results <- read.table("../dfs/results_preprocessed.txt", sep = "\t", header = T)
# Remove a few columns to make this easier understandable
results <- results %>% select(file, subject, interval_type, cluster, triplet, repl, AccOff_V) %>%
  filter(subject %in% c(1:4), # which subjects
         cluster %in% c("CV", "CCV") # which clusters
        )
```

The next line of code selects the variables that should remain in the output using group_by. The summarise function collapses the DV (AccOff_V) across repetition by calculating the median.

```
# Take median across repetitions
data.median <- results %>% group_by(triplet, interval_type, cluster, subject) %>%
  dplyr::summarise(
    median = median(AccOff_V)
  ) %>% ungroup()
```

In the next step we collapse the medians resulting from the previous lines of code across cluster size using group_by for the remaining variables triplet, interval_type and subject. The mean of the medians from above were calculated across cluster size and in addition the RSD values for each subject, triplet and interval type. The RSD based on the SDs across repetitions and cluster sizes.

```
## Joining, by = c("triplet", "interval_type", "subject")
```

Finally, the mean, SD and RSD from the previous code were summarised across subjects by calculating the average value for each the mean, SD and RSD across subjects.

```
# For summary purposes get the mean of the means, sd and rsds
# resulting from the previous by-subject statistics
data.mean <- data.rsd %>% group_by(triplet, interval_type) %>%
  dplyr::summarise(
    mean = mean (mean),
    SD = mean (sd),
    RSD = mean (rsd)) %>% ungroup()
```

Table 1: Data summary by-subject.

	Triplet	LE2A			CC2A			RE2A		
		mean	SD	RSD	mean	SD	RSD	mean	SD	RSD
Subject 1										
	1	226.07	38.54	17.05	189.00	22.79	12.06	154.85	14.93	9.64
	2	232.35	28.69	12.35	189.72	21.31	11.23	146.20	13.02	8.90
	3	229.05	36.17	15.79	191.24	25.45	13.31	145.10	11.58	7.98
	4	221.53	31.87	14.39	184.65	17.66	9.57	146.62	10.66	7.27
	5	230.70	47.39	20.54	192.86	26.07	13.52	155.82	12.25	7.86
	6	233.85	27.88	11.92	191.76	18.17	9.48	146.85	10.30	7.01
	7	229.70	27.69	12.05	191.57	19.69	10.28	142.78	9.22	6.46
	8	197.85	37.22	18.81	167.43	20.00	11.95	142.30	10.01	7.03
	9	205.25	43.82	21.35	171.99	19.98	11.62	140.43	5.02	3.57
Subject 2										
	1	303.40	50.34	16.59	262.88	29.09	11.07	220.80	12.95	5.86
	2	311.07	44.54	14.32	260.89	26.52	10.17	218.72	16.71	7.64
	3	299.30	34.18	11.42	252.99	18.48	7.30	198.48	12.66	6.38
	4	307.60	38.24	12.43	256.31	20.41	7.96	204.43	18.73	9.16
	5	305.30	62.61	20.51	257.64	33.27	12.91	217.40	12.07	5.55
	6	323.62	33.52	10.36	279.10	21.59	7.74	225.75	19.99	8.86
	7	302.95	46.98	15.51	261.99	27.59	10.53	212.45	19.25	9.06
	8	284.80	43.30	15.20	239.09	22.86	9.56	195.18	13.88	7.11
	9	292.88	59.04	20.16	247.88	35.05	14.14	202.58	18.06	8.91
Subject 3										
	1	227.03	52.89	23.30	191.26	27.33	14.29	159.00	8.35	5.25
	2	229.72	24.56	10.69	193.51	18.13	9.37	143.20	8.37	5.84
	3	230.20	28.80	12.51	196.16	18.23	9.29	161.57	13.17	8.15
	4	223.35	30.90	13.84	192.41	18.64	9.69	159.50	9.49	5.95
	5	218.00	45.49	20.87	182.35	21.63	11.86	154.20	8.88	5.76
	6	220.43	31.90	14.47	186.31	18.51	9.93	150.93	9.43	6.25
	7	207.03	34.58	16.70	181.04	23.03	12.72	153.75	11.59	7.54
	8	200.15	35.21	17.59	166.05	24.17	14.56	131.03	12.27	9.36
	9	208.45	37.21	17.85	176.26	22.06	12.52	142.20	6.94	4.88
Subject 4										
	1	259.35	54.04	20.84	222.30	32.78	14.75	187.65	16.47	8.78
	2	278.90	34.71	12.45	247.67	25.17	10.16	208.60	20.55	9.85
	3	268.20	53.49	19.94	231.95	34.84	15.02	195.85	18.42	9.40
	4	279.20	36.56	13.10	239.38	20.77	8.68	199.35	13.26	6.65
	5	277.73	50.92	18.34	231.79	24.84	10.72	192.20	20.18	10.50
	6	277.30	38.94	14.04	240.79	27.77	11.54	194.95	15.51	7.96
	7	259.73	46.52	17.91	228.76	34.19	14.95	189.43	14.13	7.46
	8	258.75	47.85	18.49	216.88	31.61	14.57	176.25	15.68	8.90
	9	253.17	46.21	18.25	212.41	24.90	11.72	166.93	7.21	4.32

Table 2: Data summary by-triplet across subjects 1 and 2.

Triplet	LE2A			CC2A			RE2A		
	mean	SD	RSD	mean	SD	RSD	mean	SD	RSD
1	253.96	48.95	19.44	216.36	28.00	13.04	180.57	13.18	7.38
2	263.01	33.13	12.45	222.95	22.78	10.23	179.18	14.66	8.06
3	256.69	38.16	14.92	218.08	24.25	11.23	175.25	13.96	7.98
4	257.92	34.39	13.44	218.19	19.37	8.97	177.47	13.04	7.26
5	257.93	51.60	20.06	216.16	26.45	12.25	179.91	13.34	7.42
6	263.80	33.06	12.70	224.49	21.51	9.67	179.62	13.81	7.52
7	249.85	38.94	15.54	215.84	26.13	12.12	174.60	13.55	7.63
8	235.39	40.90	17.53	197.36	24.66	12.66	161.19	12.96	8.10
9	239.94	46.57	19.40	202.13	25.50	12.50	163.03	9.31	5.42