

Sylvan Crossword Report - Edition 5

12/8/21 - 7/8/23

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July 9, 2023

1) Introduction



I have really cool friends who I miss very much!!

Hello friends who I cherish and miss very dearly!! Great news: more crossword data, this time bigger and better than ever!

Not only does this report document over 150 more puzzles than the 4th report, but the New York Times Games app has added perhaps the greatest feature in the history of features. You can now go back and look at old crossword leaderboard pages, which is huge news for me! I usually collect y'all's crossword times by screenshotting the leaderboard several times daily, but this method meant I was bound to miss some scores if people solved the puzzle closer to when its availability expires. Now I can be confident I'm not missing anyone's scores!! Furthermore, I used this feature to look at all the leaderboards since the beginning of data

collection on 12/8/21, and updated all scores that were missing from my data file, including adding the scores of those of us who hadn't been included since the beginning. For example, I have now added all of jakewal99's scores since 12/8/21, as well as 2 newcomers, matayae1318 (friend from softball Ellie) and Els59 (Allie). Woohoo!! I really made elite use of a 10-hour flight from SF to Dublin. God I love more complete data.

I should note though that with this additional data from the past, previous ranks and time-adjusted scores have changed for puzzles included in previous reports. For example, jakewal99 is now the co-winner of the 12/14/21 puzzle, alongside grapefruit jones.

This installment covers from 12/8/21 - 7/8/23 (577 puzzles), with the first report covering up to 12/28/21, the second report covering up to 2/14/22, the third report covering up to 7/23/22, and the fourth report covering up to 2/4/23. As mentioned in the Introduction in the 4th edition, the 12/8/22 puzzle was skipped for data collection purposes, as it coincided with [1,100 New York Times Union employees striking](#), and this is officially a pro-labor data analysis project.

This report will be structured as follows:

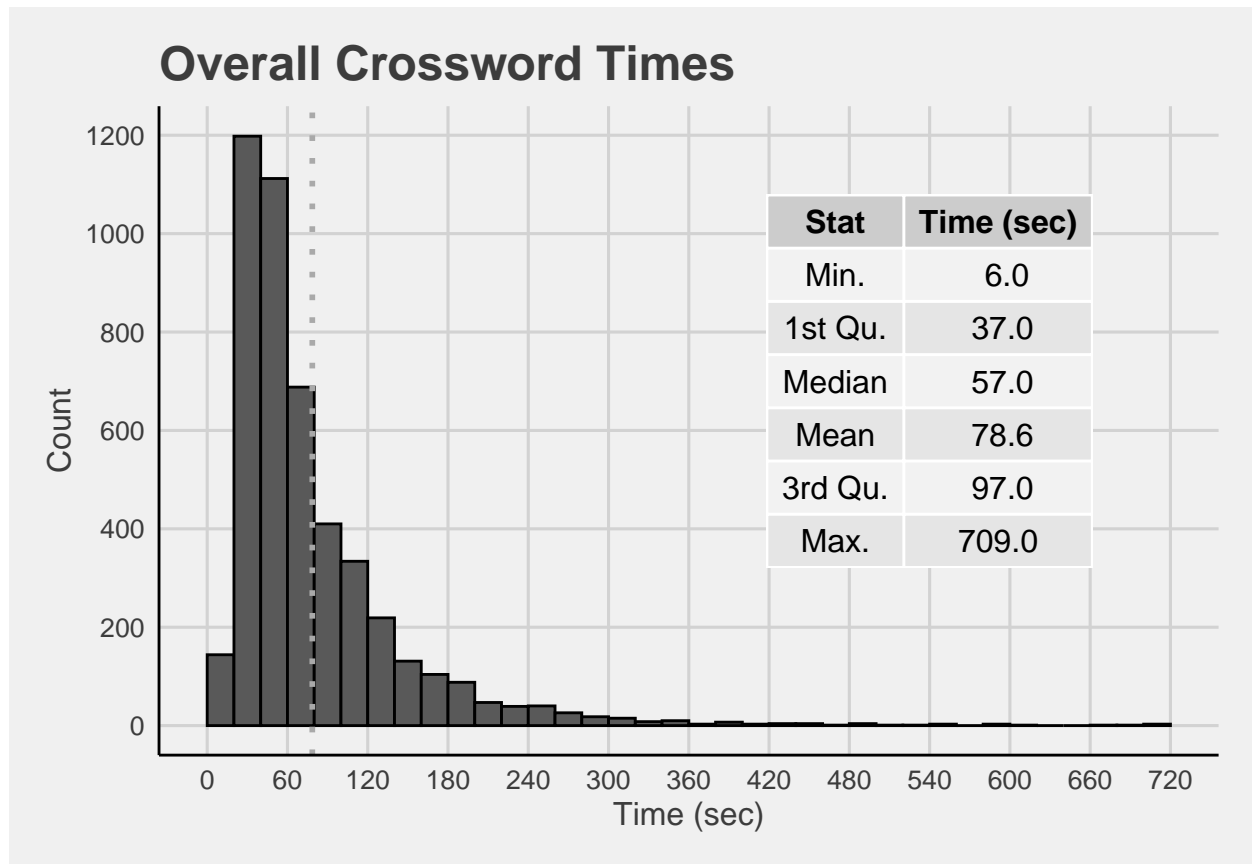
1. Introduction
2. Methodology
3. Summary
4. Profiles
5. Declarations of Funding and Competing Interests
6. Acknowledgements
7. Appendix: Z-Score Explanation, Summary Stats, and Graphs for Each Weekday

2) Methodology

No methodological updates have been made since the first two reports, so go look there if you're really that interested. Or check out [my GitHub](#) if you wanna see the super amazing sick code.

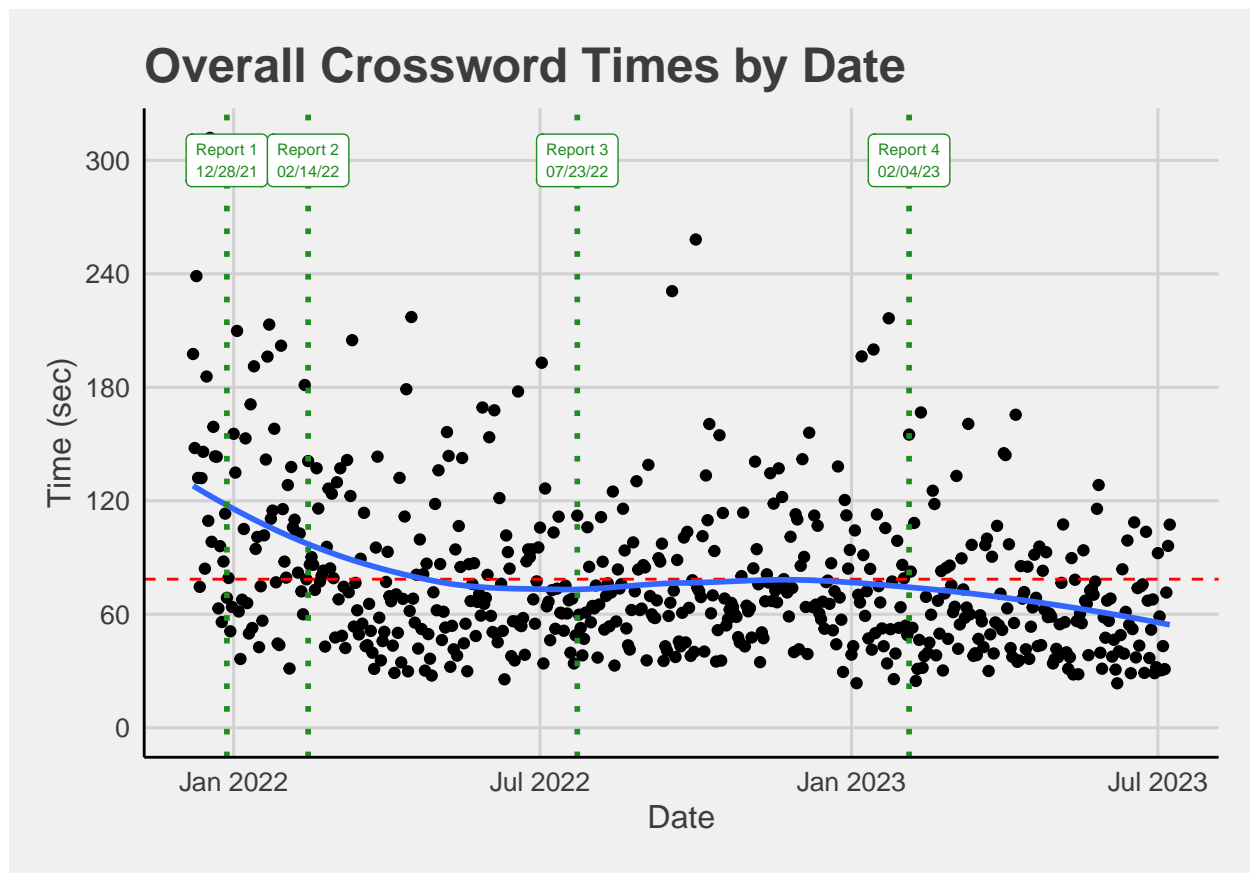
3) Summary

3.1) Overall Trends



Our group's crossword times have continued to improve in this most recent interval, with the median improving from 60 to 57 seconds, the mean dropping from 82.9 to 78.6 seconds, and the lower and upper quartiles dipping from 39 to 37 seconds and 102 to 97 seconds, respectively.

liam continues to own record for the quickest puzzle solve with his 6-second solve on the 9/18/22 puzzle, although with the inclusion of prior data, he is now joined by jakewal99, who likewise had a 6-second solve on the 1/5/22 puzzle.



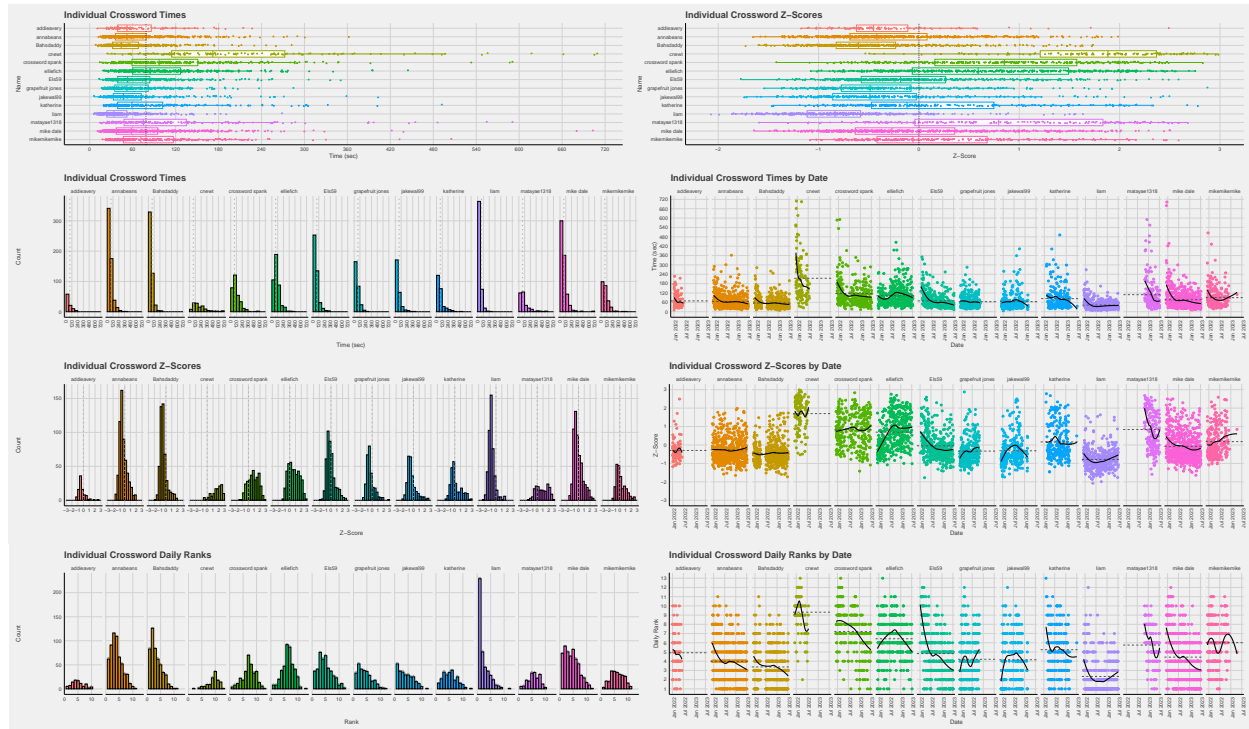
Look at that superimposed local polynomial regression fit on the scatterplot trend downwards lets gooooooooo

Overall Best Week - Average Time: 42.9 Seconds

	Weekday	Time
Jun 04, 2023	Sunday	37.6
Jun 05, 2023	Monday	46.5
Jun 06, 2023	Tuesday	30.8
Jun 07, 2023	Wednesday	23.5
Jun 08, 2023	Thursday	40.4
Jun 09, 2023	Friday	49.0
Jun 10, 2023	Saturday	83.8

We have a new best overall week! Cool!!

3.2) Individuals' Scores



Note that in the above boxplots and histograms, the dotted lines represent the overall average, while in the scatterplots, the dashed lines represent each participant's personal average.

Rankings of Each Player

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	N/A	Total Score
annabeans	62	91	116	109	66	52	31	30	11	5	1	0	0	0	3	6323
mike dale	74	89	77	68	82	62	52	28	23	13	8	1	0	0	0	6093
liam	229	77	45	37	28	19	8	6	3	0	0	1	0	0	124	5732
Bahsdaddy	83	126	84	62	50	34	29	10	5	1	1	0	0	0	92	5637
Els59	37	41	76	62	69	43	37	27	23	8	11	2	0	0	141	4435
elliefich	8	8	20	38	47	92	87	51	41	25	4	0	1	0	155	3614
grapefruit jones	33	52	41	38	36	28	16	18	10	3	2	1	0	0	299	3000
jakewal99	52	37	35	29	29	25	25	15	11	5	0	1	0	0	313	2862
crossword spank	4	8	11	22	18	36	70	51	33	36	13	6	1	0	268	2405
katherine	12	21	35	29	34	39	18	25	12	9	3	0	1	0	339	2321
mikemikemike	3	16	15	37	36	34	30	28	26	12	5	0	0	0	335	2175
matayae1318	5	6	18	16	33	34	22	30	10	3	0	0	0	0	400	1637
addieavery	5	7	14	18	17	11	5	10	2	4	0	0	0	0	484	938
cnewt	0	1	0	2	5	5	9	9	23	36	18	14	1	0	454	699

The above table displays the number of times each player has finished at each rank, with the **Total Score** column being the sum of points if a 1st-place finish gets 14 points, 2nd-place gets 13, . . . , 14th-place gets 1 point. Not completing a puzzle accrues 0 points. Note that there exists the 14th-place column despite no one occupying a spot in this column because there are 14 possible ranks, due to there being 14 competitors. There just has not been a single day where all 14 competitors completed a puzzle.

annabeans has reclaimed her place at the summit of the Sylvan Crossword Report. Must be because she watches Survivor.

3.3) Individual Rankings by Number of Players Beaten per Puzzle

As discussed in Edition 4, I have created an alternative ranking system to give a different perspective on the leaderboard, by instead scoring players per puzzle based on how many fellow competitors they beat on a given puzzle, as opposed to the typical ranking system, which ranks solves based on how many other players bested a given person's solve time. For example, my 1st-place solve on 6/9/22 would be worth 5 points, as I beat 4 other competitors, and liam's 1st-place solve on 3/12/22 would be worth 12 points, as he beat 11 other competitors. This alternative ranking system is designed to reward players who achieved higher ranks in puzzles in which there were more competitors, and hurts players like myself who have racked up high finishes through puzzles with lower overall participation.

The following tables displays the number of times each player beat a given number of fellow competitors, ranging from 13, indicating a player bested 13 other players, to 0, indicating a player bested no other players (i.e., finished last), with the **Total Score** column being the sum of points if beating 13 other players gets 14 points, beating 12 other players gets 13 points, ..., beating 0 other players gets 1 point. Not completing a puzzle accrues 0 points.

Number of Competitors Bested for Each Player

	13	12	11	10	9	8	7	6	5	4	3	2	1	0	N/A	Total Score
liam	0	0	13	27	45	58	71	75	61	45	25	21	8	4	124	3292
annabeans	0	0	1	3	14	35	49	63	78	87	83	73	66	22	3	2941
Bahsdaddy	0	0	3	9	31	26	47	66	74	83	65	43	22	16	92	2825
mike dale	0	0	1	3	16	24	36	53	63	85	93	70	88	45	0	2686
Els59	0	0	0	1	3	3	19	53	58	61	75	76	59	28	141	1918
grapefruit jones	0	4	1	7	17	28	38	33	36	36	26	26	19	7	299	1721
jakewal99	0	1	3	13	24	27	30	23	32	23	32	23	18	15	313	1631
elliefich	0	0	1	0	3	6	13	21	22	24	41	79	86	126	155	1298
mikemikemike	0	0	2	0	4	7	15	26	24	40	33	33	30	28	335	1092
katherine	0	0	0	3	3	11	15	19	28	39	25	32	28	35	339	1065
crossword spank	0	0	0	0	1	1	6	9	17	15	33	49	80	98	268	844
addieavery	0	0	2	2	8	10	10	18	12	8	13	5	4	1	484	610
matayae1318	0	0	0	0	0	1	2	4	7	10	23	26	36	68	400	455
cnewt	0	0	0	0	1	0	2	0	3	1	5	11	24	76	454	226

As with Edition 4, according to this scoring system, liam remains the frontrunner, annabeans remains in 2nd place, and Bahsdaddy has moved up to 3rd place.

Note that the rest of the report will continue with using raw ranks, as opposed to number of competitors beaten, due to ease of interpretability, and due to the fact that this scoring system is also imperfect. For example, if a person finishes 1st out of 3 one day, and then finishes 1st out of 8 the next day, their total number of competitors beaten will have dropped by 5, which seems awfully variable for a player who finished 1st in back-to-back days.

3.4) Improvements in Most Recent Period

This section will explore performance before (inclusive) and after 02/04/23, which is the final date in which data was included for Edition 4.

Change in Average Time

	Avg Time Pre-02/04	Avg Time Post-02/04	Change In Time
addieavery	69.3		
annabeans	68.7	56.1	-12.5
Bahsdaddy	59.4	48.6	-10.9
cnewt	214.3		
crossword spank	125.8	97.0	-28.8
elliefich	102.7	101.7	-1.1
Els59	77.5	49.5	-28.0
grapefruit jones	64.5		
jakewal99	65.7	44.3	-21.5
katherine	86.7	50.6	-36.1
liam	43.9	38.9	-5.0
matayae1318	161.1	79.1	-82.0
mike dale	84.4	55.7	-28.7
mikemikemike	90.1	110.0	19.9

The biggest improvement in times goes to matayae1318, with an average 82-second improvement in this 5th period.

Change in Average Z-Score

	Avg Z-Score Pre-02/04	Avg Z-Score Post-02/04	Change In Z-Score
addieavery	-0.30		
annabeans	-0.28	-0.22	0.06
Bahsdaddy	-0.46	-0.43	0.03
cnewt	1.70		
crossword spank	0.83	0.84	0.02
elliefich	0.61	0.95	0.34
Els59	0.05	-0.29	-0.33
grapefruit jones	-0.33		
jakewal99	-0.31	-0.51	-0.20
katherine	0.18	-0.04	-0.22
liam	-0.83	-0.66	0.17
matayae1318	1.35	0.54	-0.81
mike dale	-0.01	-0.24	-0.23
mikemikemike	0.18	0.85	0.67

matayae1318 also holds the biggest improvement in z-scores, with an average of a 0.81 z-score improvement per puzzle.

Change in Average Rank

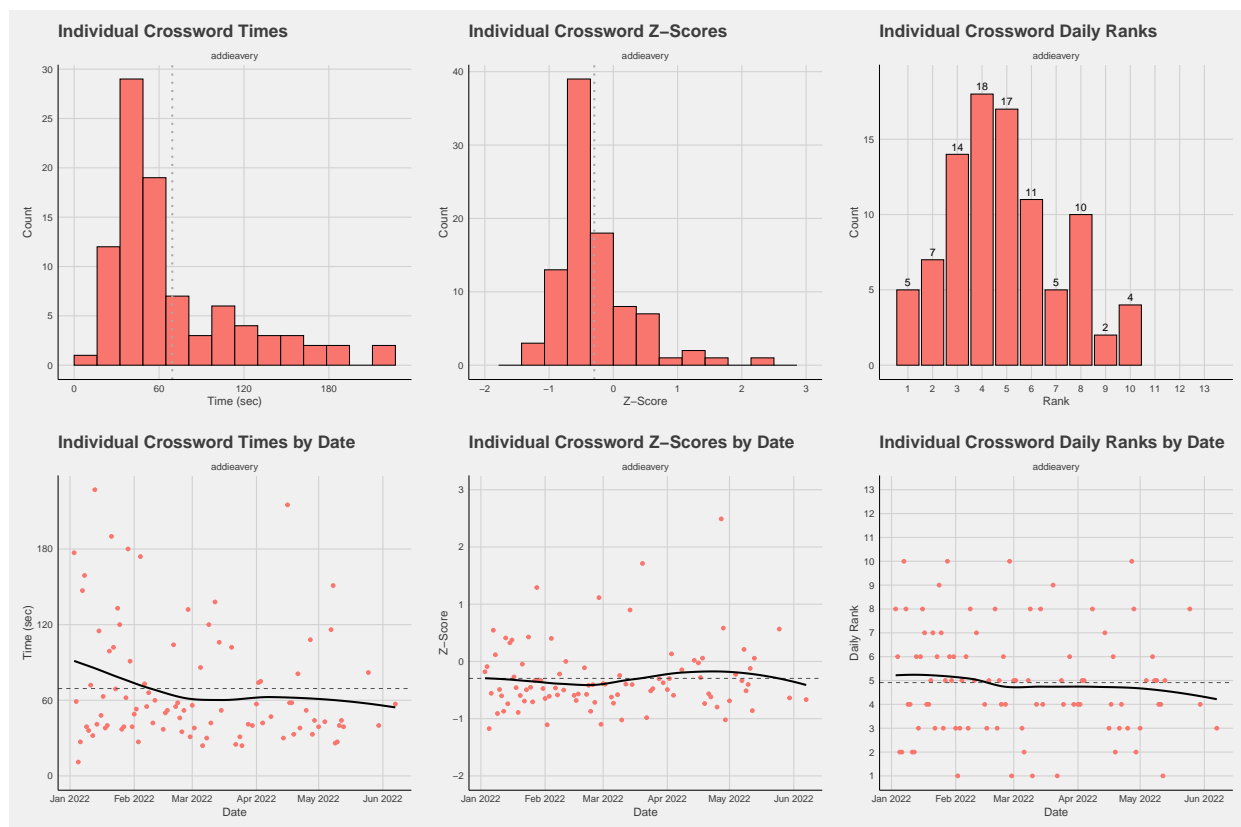
	Avg Rank Pre-02/04	Avg Rank Post-02/04	Change In Rank
addieavery	4.9		
annabeans	4.2	3.4	-0.8
Bahsdaddy	3.6	2.9	-0.7
cnewt	9.3		
crossword spank	7.9	5.8	-2.1
elliefich	6.6	5.9	-0.8
Els59	5.4	3.4	-2.0
grapefruit jones	4.2		
jakewal99	4.2	3.5	-0.6
katherine	5.3	4.3	-1.0
liam	2.3	2.5	0.2
matayae1318	6.8	5.2	-1.6
mike dale	4.9	3.3	-1.5
mikemikemike	6.0	5.0	-1.0

In terms of rank, crossword spank again showed the biggest average movement up the standings, with an average improvement per day of 2.1.

4) Profiles

As with previous editions, everyone has their own page with statistics and graphs. Note that in all the plots in this section, the dotted and dashed lines represent the person's personal average. The *Personal Best Week by Average Z-Score* tables refer to an individual's best week in which they completed a puzzle every day (Sunday through Saturday), and is the week in which their average z-score per puzzle was their lowest.

4.1) addieavery



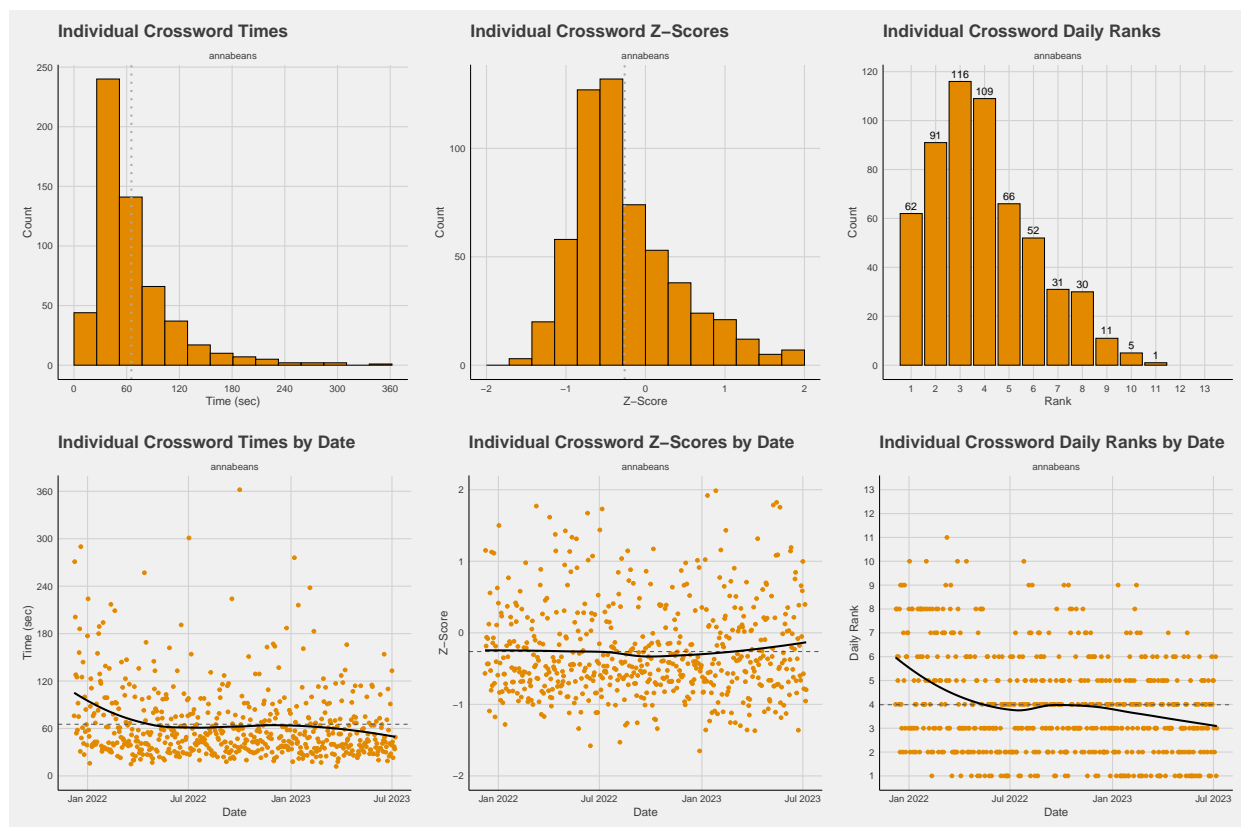
Summary Statistics

	Min.	1st Qu.	Median	Mean	Trimmed Mean	3rd Qu.	Max.
Time	11.00	39.00	52.00	69.32	65.31	86.00	227.00
Z-Score	-1.17	-0.62	-0.45	-0.30	-0.35	-0.11	2.49
Rank	1.00	3.00	5.00	4.91		6.00	10.00

Personal Best Week by Average Z-Score

	Weekday	Time (Week Avg: 80.3)	Z-Score (Week Avg: -0.4)	Rank (Week Avg: 3.9)
Jan 09, 2022	Sunday	39	-0.91	4
Jan 10, 2022	Monday	36	-0.49	4
Jan 11, 2022	Tuesday	72	-0.60	2
Jan 12, 2022	Wednesday	32	-0.87	2
Jan 13, 2022	Thursday	227	0.41	6
Jan 14, 2022	Friday	41	-0.74	3
Jan 15, 2022	Saturday	115	0.32	6

4.2) annabeans



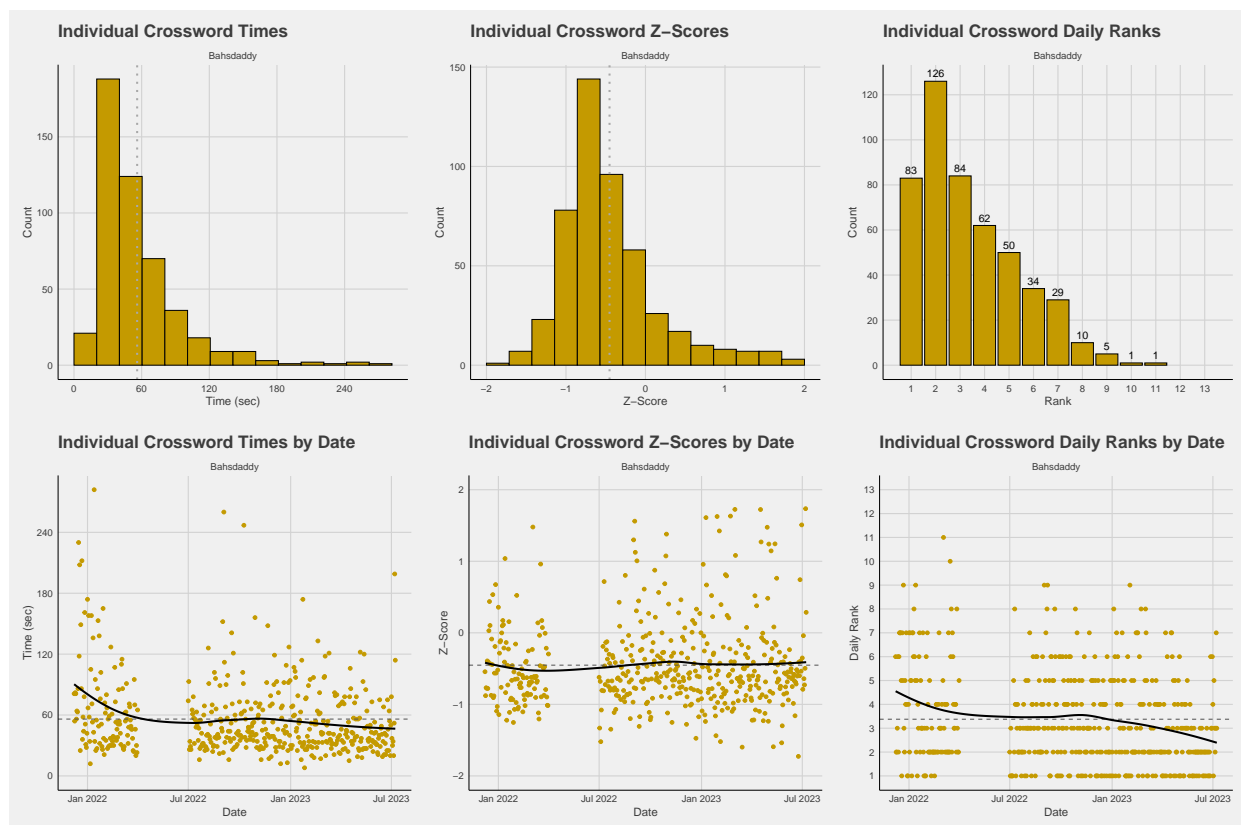
Summary Statistics

	Min.	1st Qu.	Median	Mean	Trimmed Mean	3rd Qu.	Max.
Time	12.00	36.00	52.00	65.34	59.91	79.00	362.00
Z-Score	-1.65	-0.69	-0.42	-0.26	-0.30	0.08	1.99
Rank	1.00	2.00	4.00	3.98		5.00	11.00

Personal Best Week by Average Z-Score

	Weekday	Time (Week Avg: 45.4)	Z-Score (Week Avg: -0.8)	Rank (Week Avg: 3.3)
Aug 14, 2022	Sunday	26	-0.63	4
Aug 15, 2022	Monday	28	-0.93	1
Aug 16, 2022	Tuesday	61	-0.41	5
Aug 17, 2022	Wednesday	28	-1.29	2
Aug 18, 2022	Thursday	57	-0.30	6
Aug 19, 2022	Friday	65	-0.59	4
Aug 20, 2022	Saturday	53	-1.26	1

4.3) Bahsdaddy



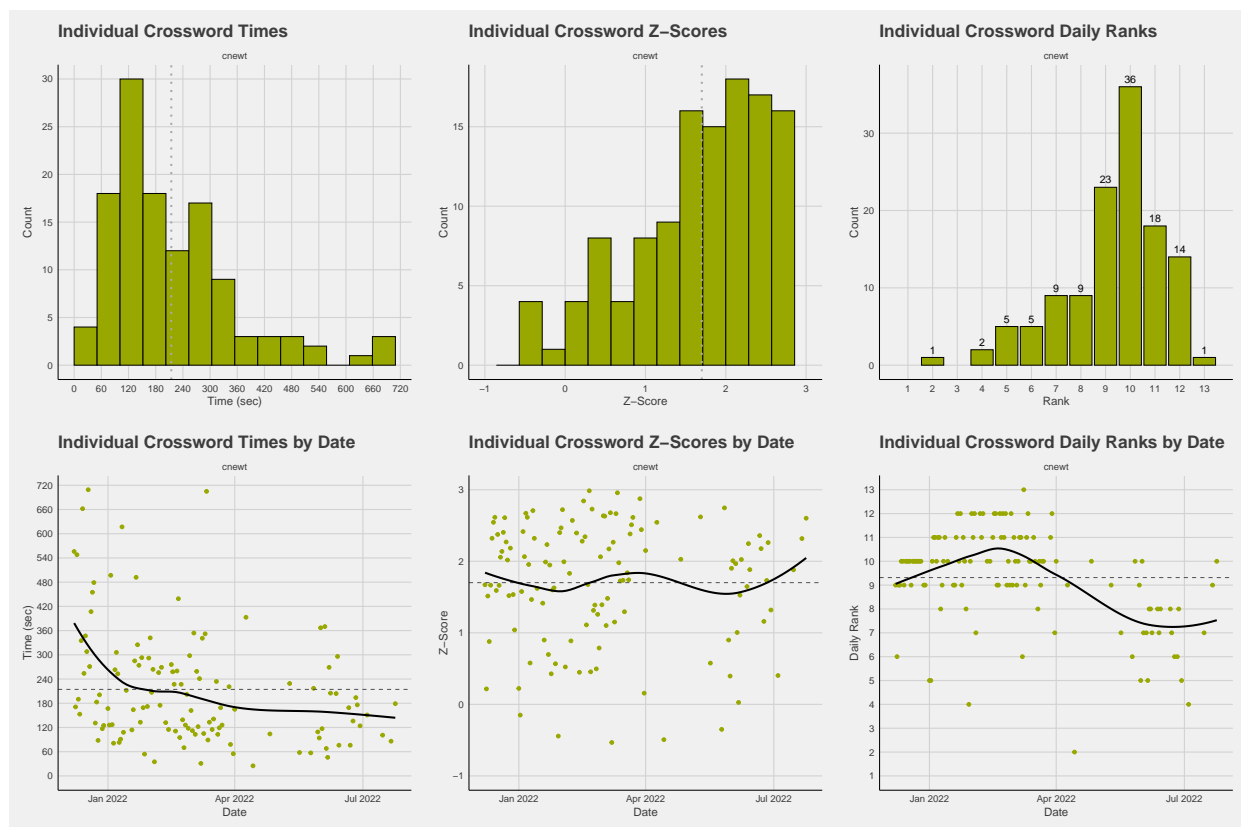
Summary Statistics

	Min.	1st Qu.	Median	Mean	Trimmed Mean	3rd Qu.	Max.
Time	8.00	32.00	44.0	56.00	51.62	68.00	282.00
Z-Score	-1.73	-0.82	-0.6	-0.45	-0.50	-0.23	1.74
Rank	1.00	2.00	3.0	3.38		5.00	11.00

Personal Best Week by Average Z-Score

	Weekday	Time (Week Avg: 44.9)	Z-Score (Week Avg: -0.9)	Rank (Week Avg: 2.3)
May 21, 2023	Sunday	34	-0.27	4
May 22, 2023	Monday	37	-0.78	2
May 23, 2023	Tuesday	48	-0.75	3
May 24, 2023	Wednesday	50	-0.41	3
May 25, 2023	Thursday	29	-1.54	1
May 26, 2023	Friday	43	-1.30	1
May 27, 2023	Saturday	73	-1.01	2

4.4) cnewt



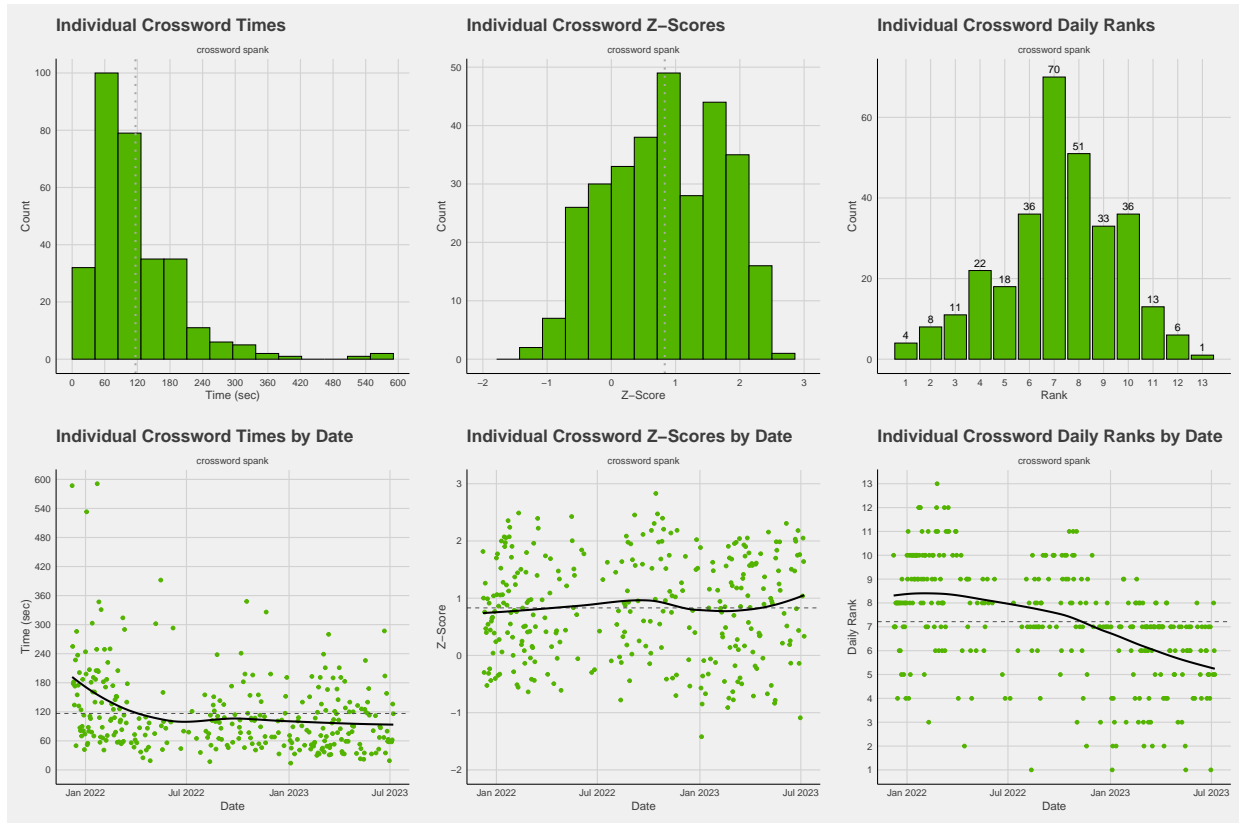
Summary Statistics

	Min.	1st Qu.	Median	Mean	Trimmed Mean	3rd Qu.	Max.
Time	25.00	114.50	172.00	214.31	201.05	272.50	709.00
Z-Score	-0.53	1.21	1.88	1.70	1.75	2.37	2.99
Rank	2.00	8.50	10.00	9.32		11.00	13.00

Personal Best Week by Average Z-Score

	Weekday	Time (Week Avg: 185.4)	Z-Score (Week Avg: 1.5)	Rank (Week Avg: 11)
Feb 20, 2022	Sunday	439	2.99	12
Feb 21, 2022	Monday	95	0.46	11
Feb 22, 2022	Tuesday	227	2.73	12
Feb 23, 2022	Wednesday	139	1.31	11
Feb 24, 2022	Thursday	70	1.39	12
Feb 25, 2022	Friday	126	0.50	9
Feb 26, 2022	Saturday	202	1.26	10

4.5) crossword spank



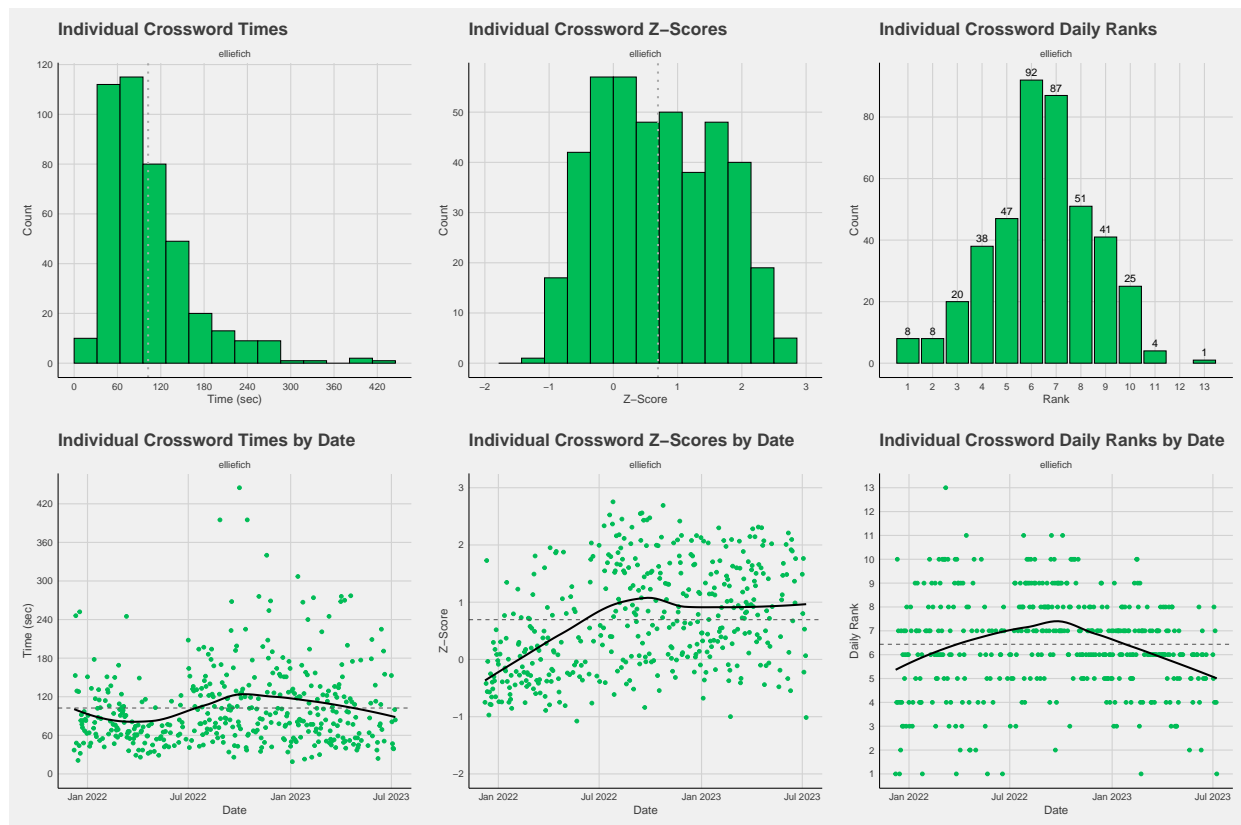
Summary Statistics

	Min.	1st Qu.	Median	Mean	Trimmed Mean	3rd Qu.	Max.
Time	14.00	59.00	97.00	116.54	107.83	151.00	591.00
Z-Score	-1.42	0.16	0.85	0.83	0.84	1.57	2.83
Rank	1.00	6.00	7.00	7.22		9.00	13.00

Personal Best Week by Average Z-Score

	Weekday	Time (Week Avg: 124.3)	Z-Score (Week Avg: 0.4)	Rank (Week Avg: 7.3)
Dec 19, 2021	Sunday	175	0.91	8
Dec 20, 2021	Monday	132	-0.23	6
Dec 21, 2021	Tuesday	201	0.44	8
Dec 22, 2021	Wednesday	87	-0.44	5
Dec 23, 2021	Thursday	81	0.60	9
Dec 24, 2021	Friday	124	0.65	8
Dec 25, 2021	Saturday	70	0.67	7

4.6) elliefich



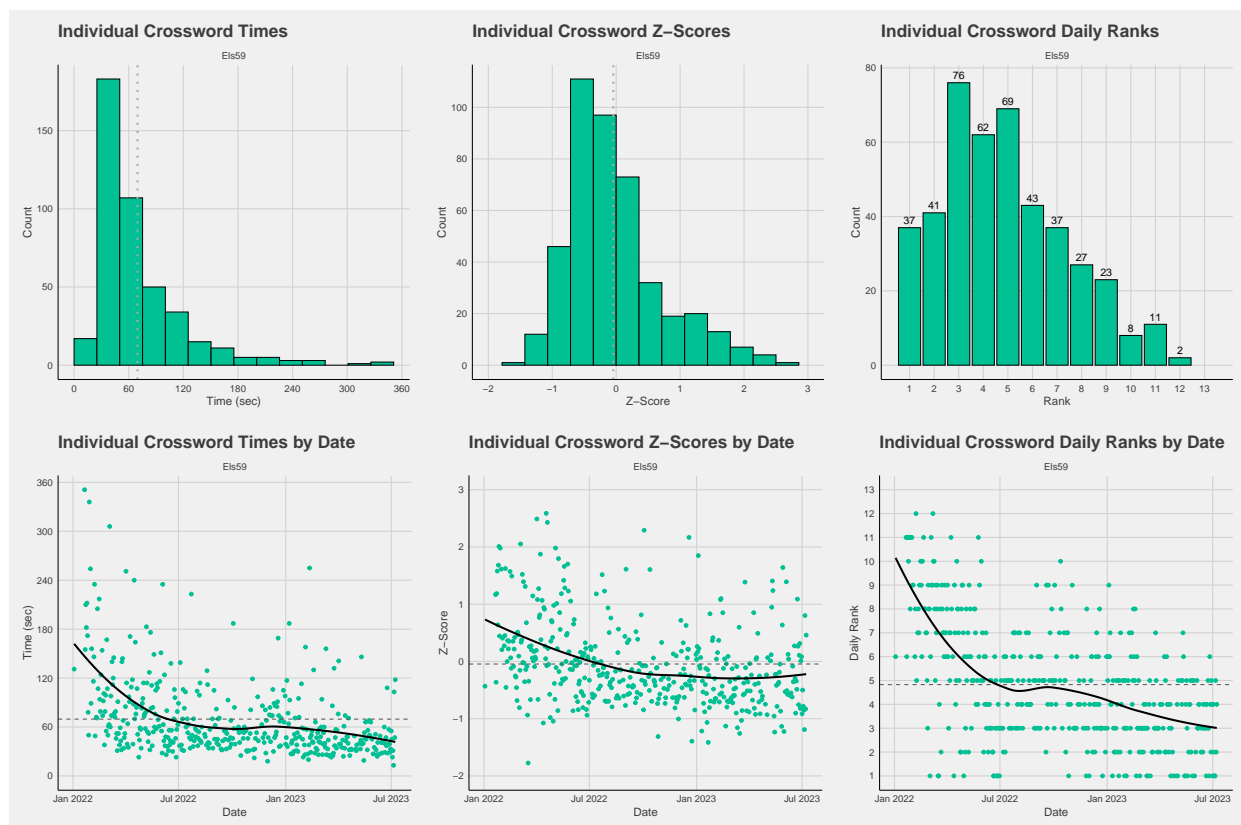
Summary Statistics

	Min.	1st Qu.	Median	Mean	Trimmed Mean	3rd Qu.	Max.
Time	19.00	60.00	84.50	102.46	96.23	127.00	445.00
Z-Score	-1.08	-0.07	0.59	0.69	0.68	1.49	2.75
Rank	1.00	5.00	6.00	6.44		8.00	13.00

Personal Best Week by Average Z-Score

	Weekday	Time (Week Avg: 69.6)	Z-Score (Week Avg: -0.4)	Rank (Week Avg: 4.9)
Dec 19, 2021	Sunday	32	-0.79	4
Dec 20, 2021	Monday	83	-0.66	3
Dec 21, 2021	Tuesday	92	-0.40	6
Dec 22, 2021	Wednesday	77	-0.52	3
Dec 23, 2021	Thursday	72	0.30	7
Dec 24, 2021	Friday	83	-0.30	5
Dec 25, 2021	Saturday	48	-0.37	6

4.7) Els59



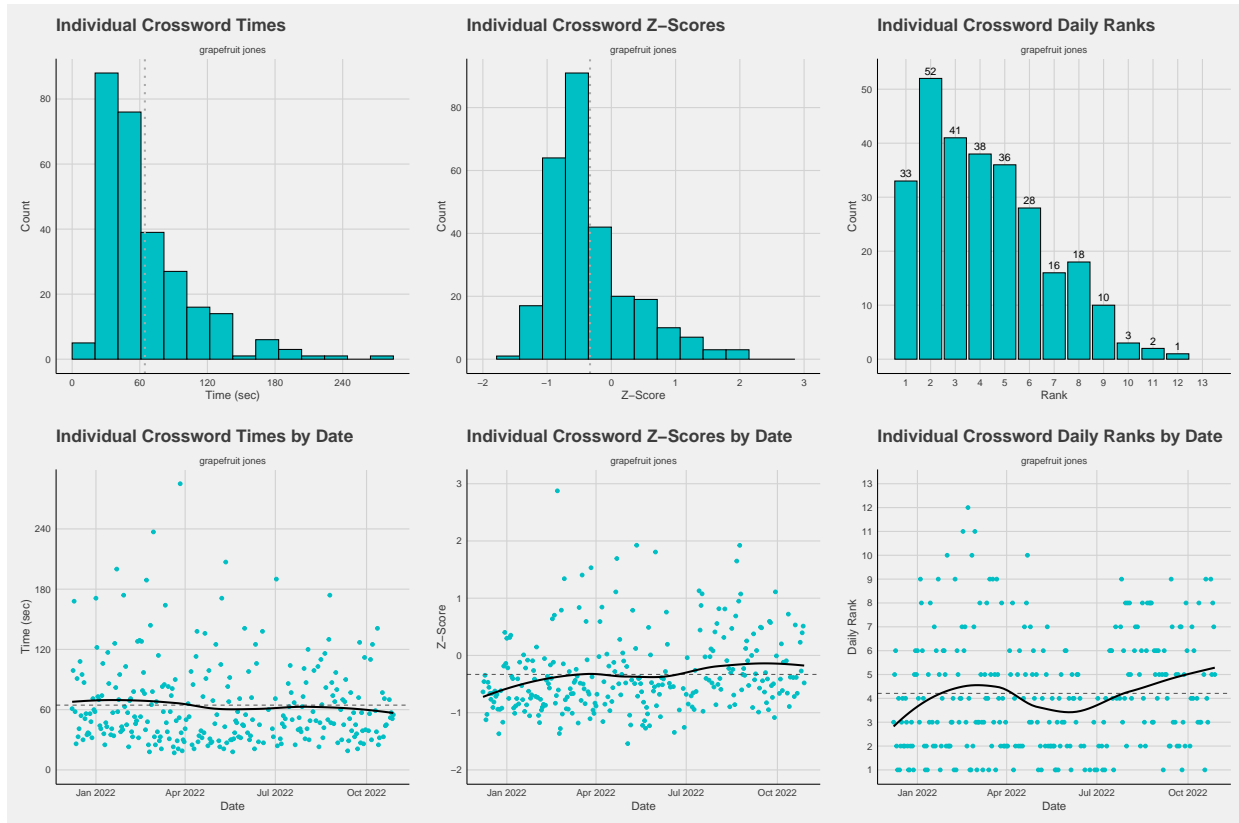
Summary Statistics

	Min.	1st Qu.	Median	Mean	Trimmed Mean	3rd Qu.	Max.
Time	13.00	39.00	53.00	69.67	63.72	84.00	351.00
Z-Score	-1.77	-0.57	-0.18	-0.04	-0.09	0.27	2.59
Rank	1.00	3.00	5.00	4.83		6.00	12.00

Personal Best Week by Average Z-Score

	Weekday	Time (Week Avg: 45.7)	Z-Score (Week Avg: -0.7)	Rank (Week Avg: 3.1)
Jan 15, 2023	Sunday	30	-0.88	2
Jan 16, 2023	Monday	51	-0.40	3
Jan 17, 2023	Tuesday	71	-0.12	5
Jan 18, 2023	Wednesday	46	-0.56	4
Jan 19, 2023	Thursday	31	-1.07	2
Jan 20, 2023	Friday	38	-0.15	5
Jan 21, 2023	Saturday	53	-1.41	1

4.8) grapefruit jones



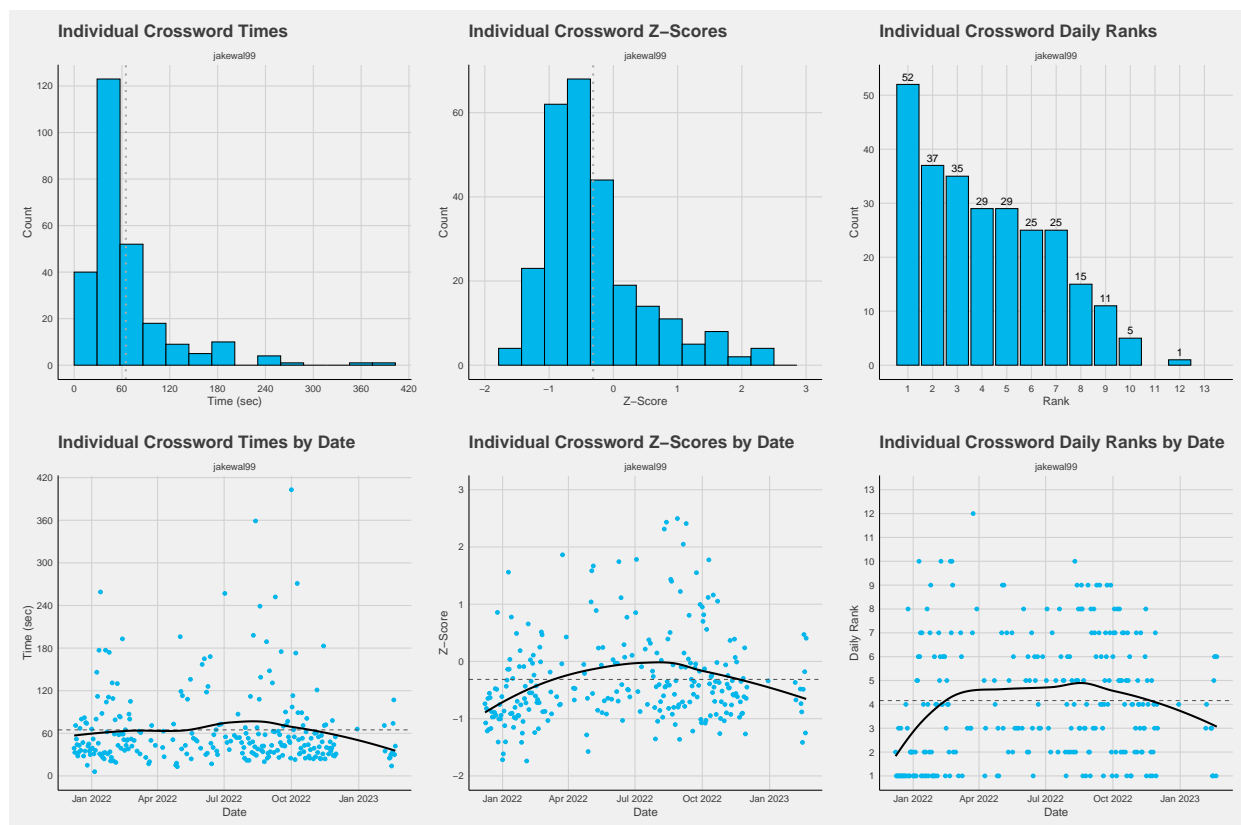
Summary Statistics

	Min.	1st Qu.	Median	Mean	Trimmed Mean	3rd Qu.	Max.
Time	17.00	35.00	52.00	64.51	60.31	81.75	285.00
Z-Score	-1.54	-0.77	-0.49	-0.33	-0.38	-0.08	2.88
Rank	1.00	2.00	4.00	4.21		6.00	12.00

Personal Best Week by Average Z-Score

	Weekday	Time (Week Avg: 47.4)	Z-Score (Week Avg: -0.9)	Rank (Week Avg: 2.1)
Dec 19, 2021	Sunday	30	-0.81	2
Dec 20, 2021	Monday	87	-0.62	4
Dec 21, 2021	Tuesday	51	-0.71	3
Dec 22, 2021	Wednesday	56	-0.68	2
Dec 23, 2021	Thursday	35	-0.94	1
Dec 24, 2021	Friday	37	-1.37	1
Dec 25, 2021	Saturday	36	-0.94	2

4.9) jakewal99



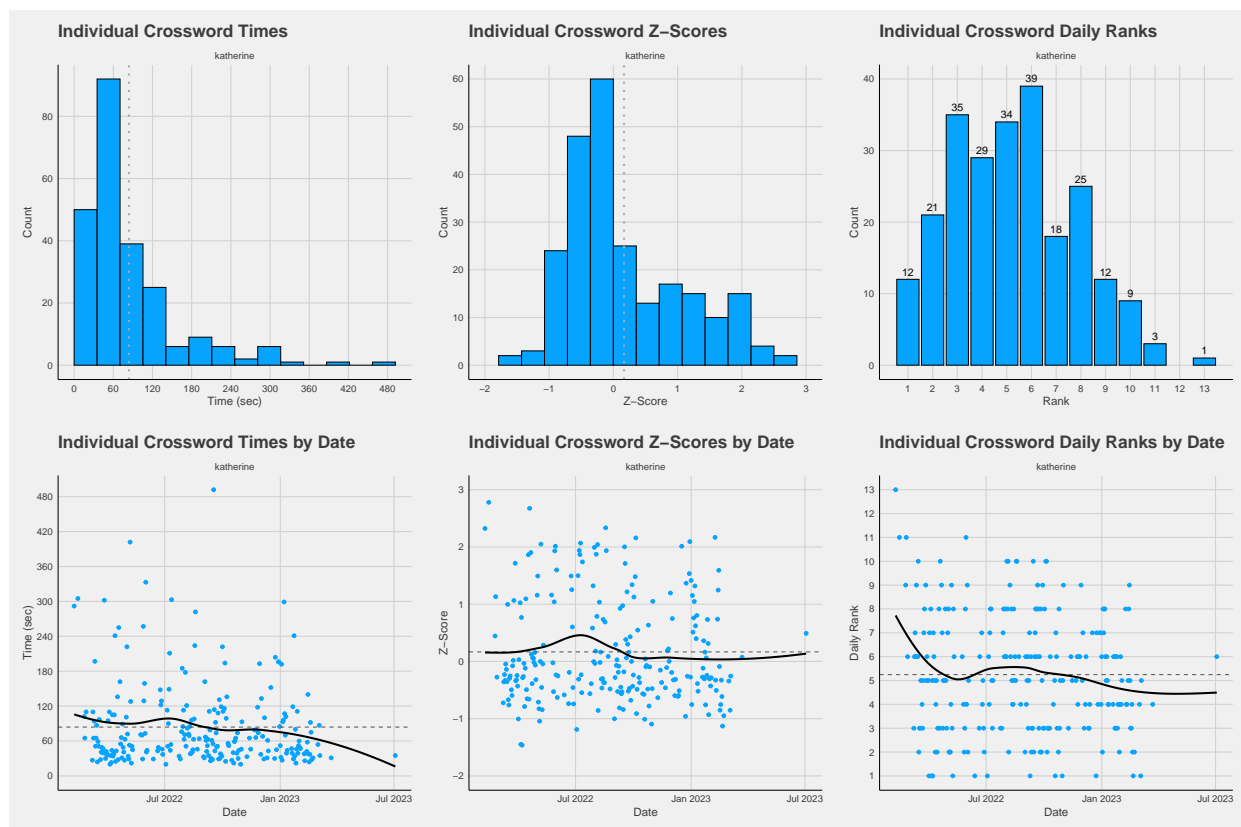
Summary Statistics

	Min.	1st Qu.	Median	Mean	Trimmed Mean	3rd Qu.	Max.
Time	6.00	33.00	47.00	64.83	57.66	72.00	403.0
Z-Score	-1.74	-0.86	-0.49	-0.31	-0.38	-0.03	2.5
Rank	1.00	2.00	4.00	4.16		6.00	12.0

Personal Best Week by Average Z-Score

	Weekday	Time (Week Avg: 38.7)	Z-Score (Week Avg: -1.1)	Rank (Week Avg: 1.6)
Dec 26, 2021	Sunday	15	-1.41	1
Dec 27, 2021	Monday	42	-1.01	1
Dec 28, 2021	Tuesday	45	-0.75	2
Dec 29, 2021	Wednesday	35	-1.00	2
Dec 30, 2021	Thursday	30	-0.94	2
Dec 31, 2021	Friday	38	-0.62	2
Jan 01, 2022	Saturday	66	-1.72	1

4.10) katherine



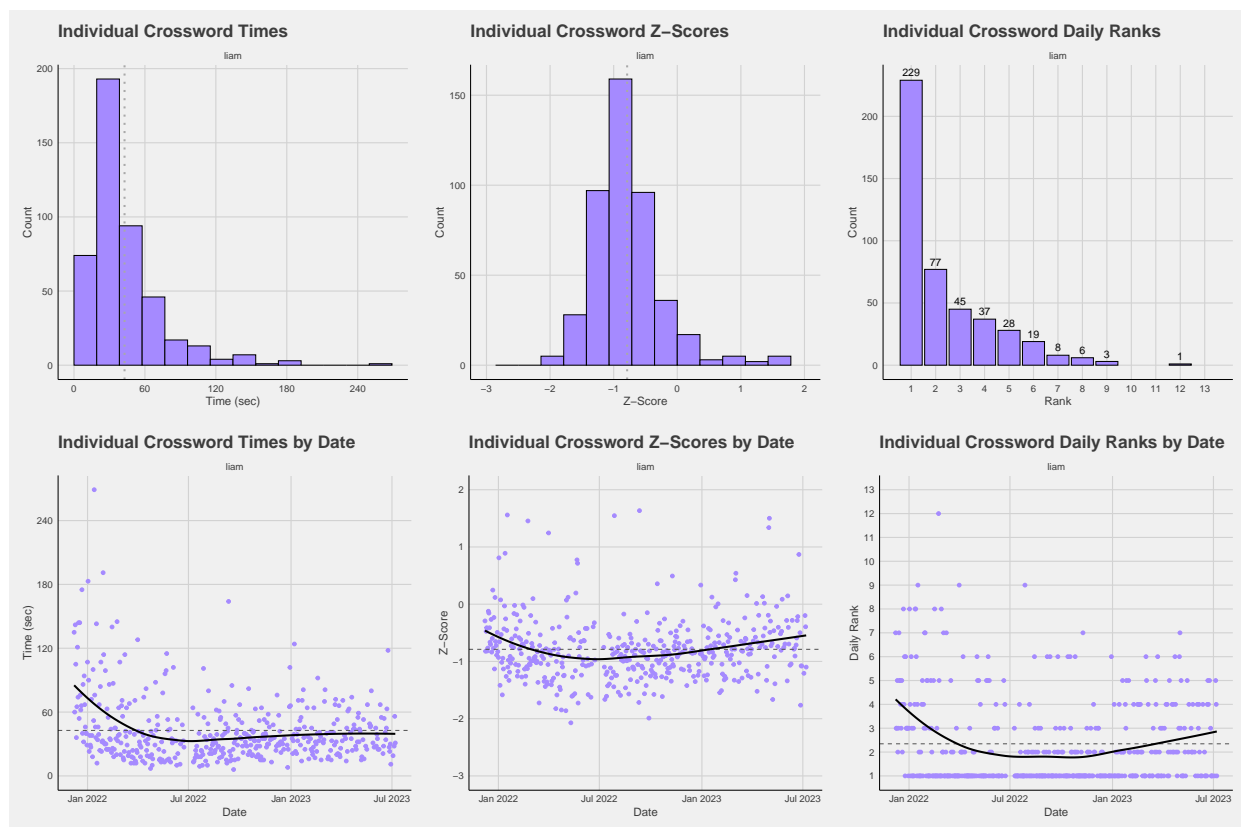
Summary Statistics

	Min.	1st Qu.	Median	Mean	Trimmed Mean	3rd Qu.	Max.
Time	20.00	39.00	59.00	83.95	75.05	102.00	492.00
Z-Score	-1.46	-0.47	-0.12	0.17	0.13	0.75	2.78
Rank	1.00	3.00	5.00	5.25		7.00	13.00

Personal Best Week by Average Z-Score

	Weekday	Time (Week Avg: 62)	Z-Score (Week Avg: -0.2)	Rank (Week Avg: 5)
Mar 13, 2022	Sunday	51	-0.14	6
Mar 14, 2022	Monday	65	-0.35	6
Mar 15, 2022	Tuesday	87	1.00	10
Mar 16, 2022	Wednesday	24	-0.67	2
Mar 17, 2022	Thursday	59	-0.76	3
Mar 18, 2022	Friday	51	-0.30	3
Mar 19, 2022	Saturday	97	-0.25	5

4.11) liam



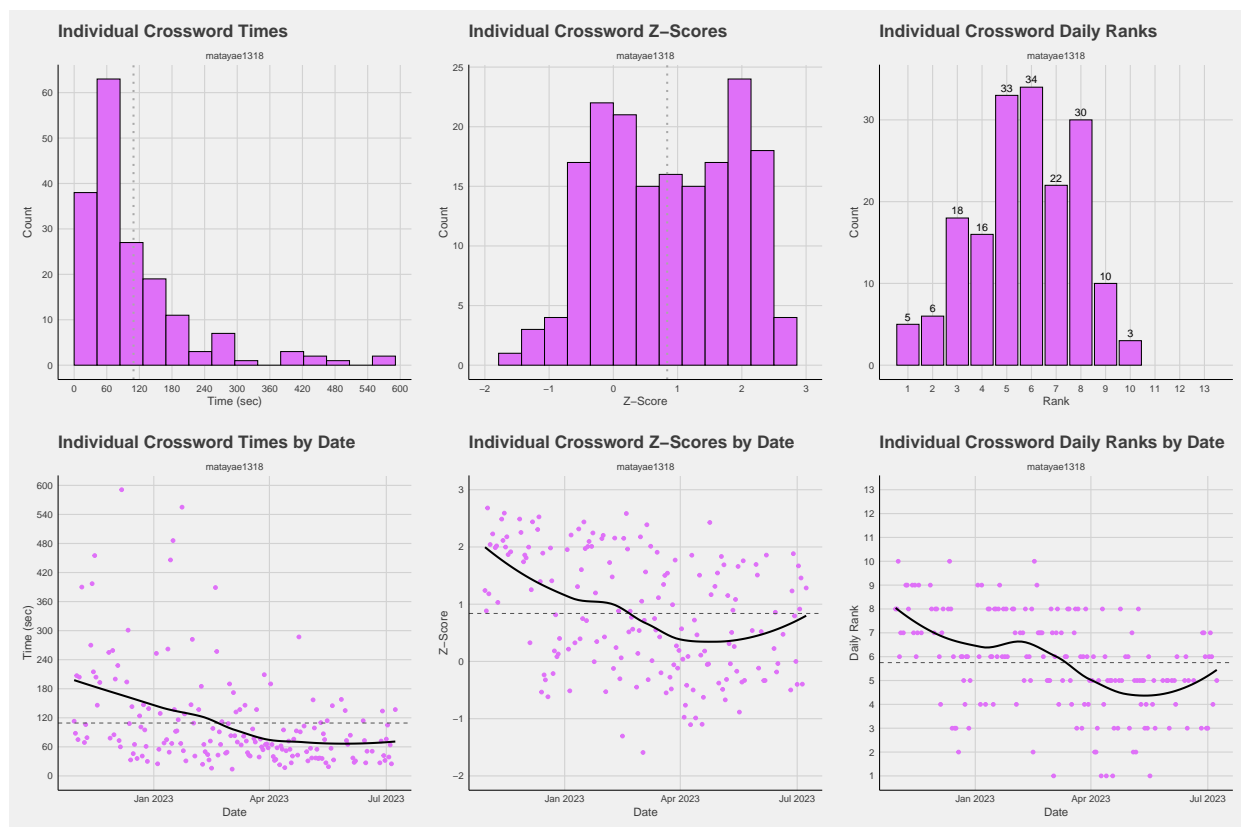
Summary Statistics

	Min.	1st Qu.	Median	Mean	Trimmed Mean	3rd Qu.	Max.
Time	6.00	24.00	34.00	42.75	39.11	52.00	269.00
Z-Score	-2.07	-1.11	-0.84	-0.79	-0.82	-0.58	1.63
Rank	1.00	1.00	1.00	2.35		3.00	12.00

Personal Best Week by Average Z-Score

	Weekday	Time (Week Avg: 34.1)	Z-Score (Week Avg: -1.1)	Rank (Week Avg: 1.6)
Feb 05, 2023	Sunday	35	-1.51	1
Feb 06, 2023	Monday	25	-1.05	1
Feb 07, 2023	Tuesday	45	-1.22	1
Feb 08, 2023	Wednesday	23	-0.29	4
Feb 09, 2023	Thursday	20	-0.71	2
Feb 10, 2023	Friday	27	-1.32	1
Feb 11, 2023	Saturday	64	-1.26	1

4.12) matayae1318



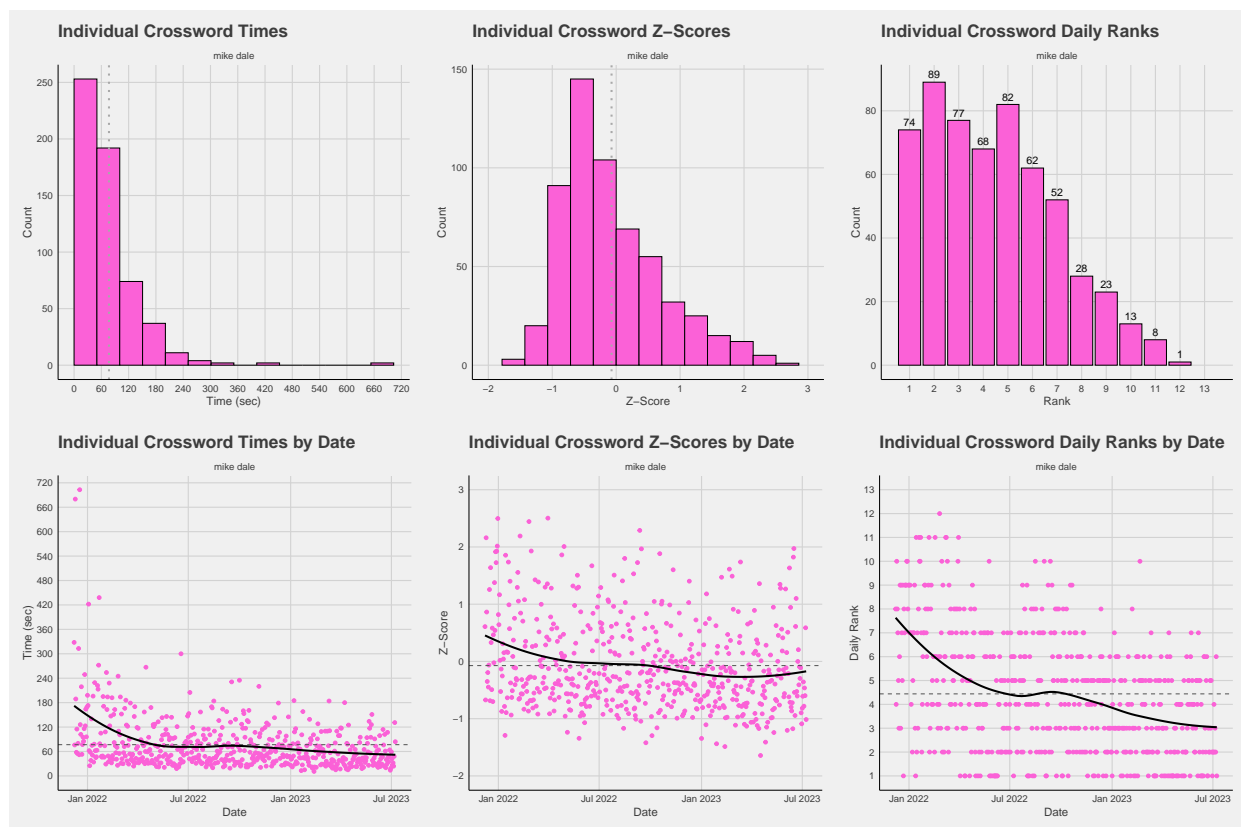
Summary Statistics

	Min.	1st Qu.	Median	Mean	Trimmed Mean	3rd Qu.	Max.
Time	14.00	48.00	75.00	109.20	96.01	135.00	591.00
Z-Score	-1.59	-0.04	0.79	0.84	0.85	1.83	2.68
Rank	1.00	4.00	6.00	5.75		7.00	10.00

Personal Best Week by Average Z-Score

	Weekday	Time (Week Avg: 94.7)	Z-Score (Week Avg: 0.4)	Rank (Week Avg: 5.3)
Feb 26, 2023	Sunday	47	-0.45	5
Feb 27, 2023	Monday	49	0.14	5
Feb 28, 2023	Tuesday	108	0.54	5
Mar 01, 2023	Wednesday	190	2.18	8
Mar 02, 2023	Thursday	83	1.05	7
Mar 03, 2023	Friday	14	-1.59	1
Mar 04, 2023	Saturday	172	0.72	6

4.13) mike dale



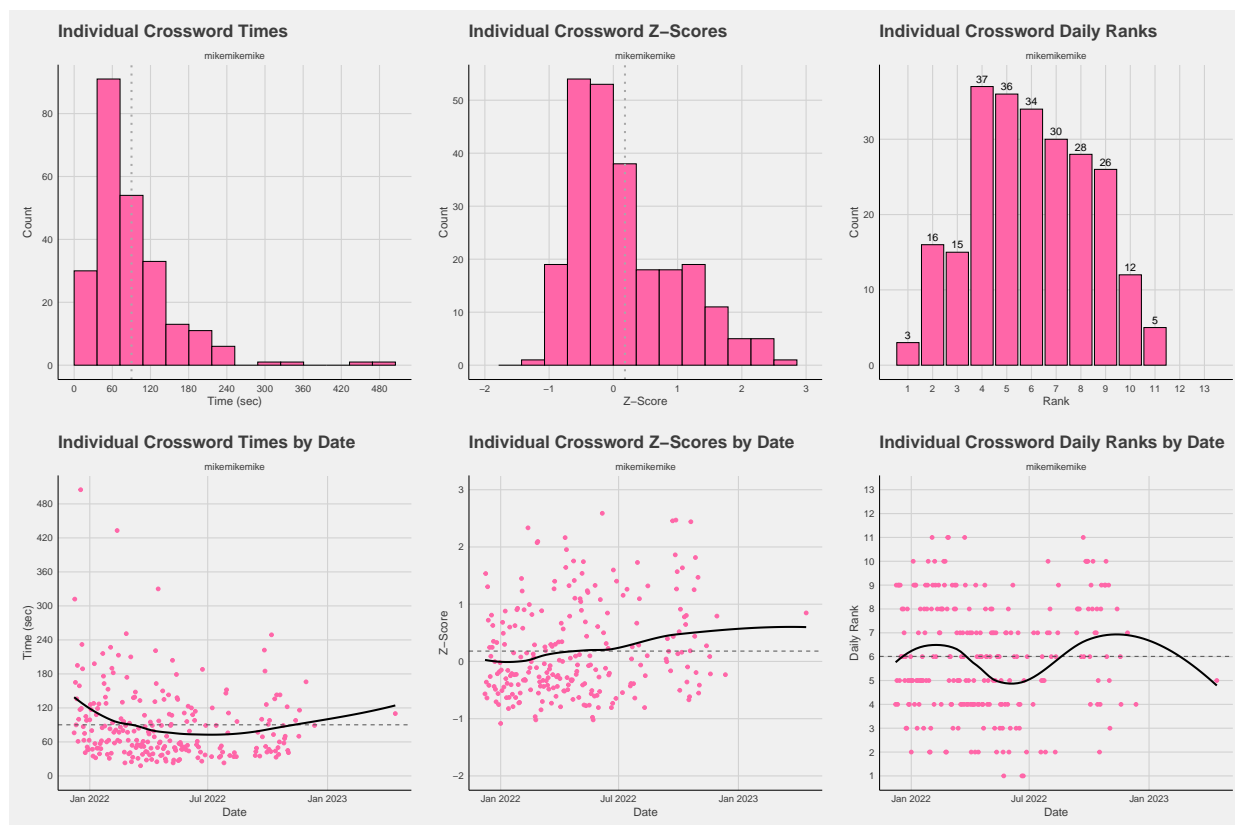
Summary Statistics

	Min.	1st Qu.	Median	Mean	Trimmed Mean	3rd Qu.	Max.
Time	11.00	37.00	58.00	76.76	68.97	95.00	703.0
Z-Score	-1.64	-0.63	-0.27	-0.07	-0.12	0.36	2.5
Rank	1.00	2.00	4.00	4.44		6.00	12.0

Personal Best Week by Average Z-Score

	Weekday	Time (Week Avg: 38.9)	Z-Score (Week Avg: -0.7)	Rank (Week Avg: 1.9)
Apr 16, 2023	Sunday	19	-0.74	2
Apr 17, 2023	Monday	30	-1.64	1
Apr 18, 2023	Tuesday	64	0.01	5
Apr 19, 2023	Wednesday	31	-0.75	1
Apr 20, 2023	Thursday	32	-0.92	1
Apr 21, 2023	Friday	23	-0.58	1
Apr 22, 2023	Saturday	73	-0.43	2

4.14) mikemikemike



Summary Statistics

	Min.	1st Qu.	Median	Mean	Trimmed Mean	3rd Qu.	Max.
Time	18.00	47.00	71.50	90.15	83.05	116.75	505.00
Z-Score	-1.08	-0.42	-0.06	0.18	0.13	0.68	2.59
Rank	1.00	4.00	6.00	6.01		8.00	11.00

Personal Best Week by Average Z-Score

	Weekday	Time (Week Avg: 72.7)	Z-Score (Week Avg: -0.4)	Rank (Week Avg: 4.9)
Dec 26, 2021	Sunday	105	0.33	8
Dec 27, 2021	Monday	98	-0.21	5
Dec 28, 2021	Tuesday	51	-0.56	4
Dec 29, 2021	Wednesday	46	-0.75	4
Dec 30, 2021	Thursday	47	-0.18	5
Dec 31, 2021	Friday	63	-0.02	6
Jan 01, 2022	Saturday	99	-1.08	2

5) Declarations of Funding and Competing Interests

My Venmo is Michael-Hymowitz, if anyone is interested in bribery!

6) Acknowledgements

The 5th Edition is dedicated to [Hadley Wickham](#), the creator of the [tidyverse R package](#), which is unironically probably the most beautiful thing I've ever seen.

7) Appendix: Z-Score Explanation, Summary Stats, and Graphs for Each Weekday

7.1) Z-Score Explanation

The main statistics I look at in this analysis are time to crossword completion, z-scores of time to completion, and daily ranks. For those who do not know, a z-score is a data transformation that standardizes data to a [Standard Normal Gaussian distribution](#). Many distributions found in nature are assumed (correctly) to follow a Normal distribution. To amend a canonical example, consider:

- Puzzle A
 - Average solve time of 60 seconds to complete
 - You complete in 70 seconds
 - Your z-score is positive, as your solve time is above the mean
- Puzzle B
 - Average solve time of 150 seconds to complete
 - You complete in 130 seconds
 - Your z-score is negative, as your solve time is below the mean

Despite Puzzle B taking you longer to complete, you actually did *better* on that puzzle once we account for its observed difficulty, as you had a lower z-score on Puzzle B than Puzzle A. For further reading, if your into statistical theory and that whole jazz, take STATS 250 or 280, read the [standard score Wikipedia page](#), or write me a letter. **The tl;dr of this is that a z-score transformation standardizes the data to allow for comparison of completion times across different crossword puzzles relative to the mean and variance of each individual crossword puzzle.**

7.2) Summary Stats

The following tables give each person's quartiles with respect to time, z-score, and daily rank. These are the same data presented individually in each person's subsection of the "Profiles" Section.

7.2.1) Summary Stats for Time

	Min.	1st Qu.	Median	Mean	Trimmed Mean	3rd Qu.	Max.
addieavery	11	39.0	52.0	69.3	65.3	86.0	227
annabeans	12	36.0	52.0	65.3	59.9	79.0	362
Bahsdaddy	8	32.0	44.0	56.0	51.6	68.0	282
cnewt	25	114.5	172.0	214.3	201.1	272.5	709
crossword spank	14	59.0	97.0	116.5	107.8	151.0	591
elliefich	19	60.0	84.5	102.5	96.2	127.0	445
Els59	13	39.0	53.0	69.7	63.7	84.0	351
grapefruit jones	17	35.0	52.0	64.5	60.3	81.8	285
jakewal99	6	33.0	47.0	64.8	57.7	72.0	403
katherine	20	39.0	59.0	83.9	75.0	102.0	492
liam	6	24.0	34.0	42.8	39.1	52.0	269
matayae1318	14	48.0	75.0	109.2	96.0	135.0	591
mike dale	11	37.0	58.0	76.8	69.0	95.0	703
mikemikemike	18	47.0	71.5	90.1	83.0	116.8	505

7.2.2) Summary Stats for Z-Score

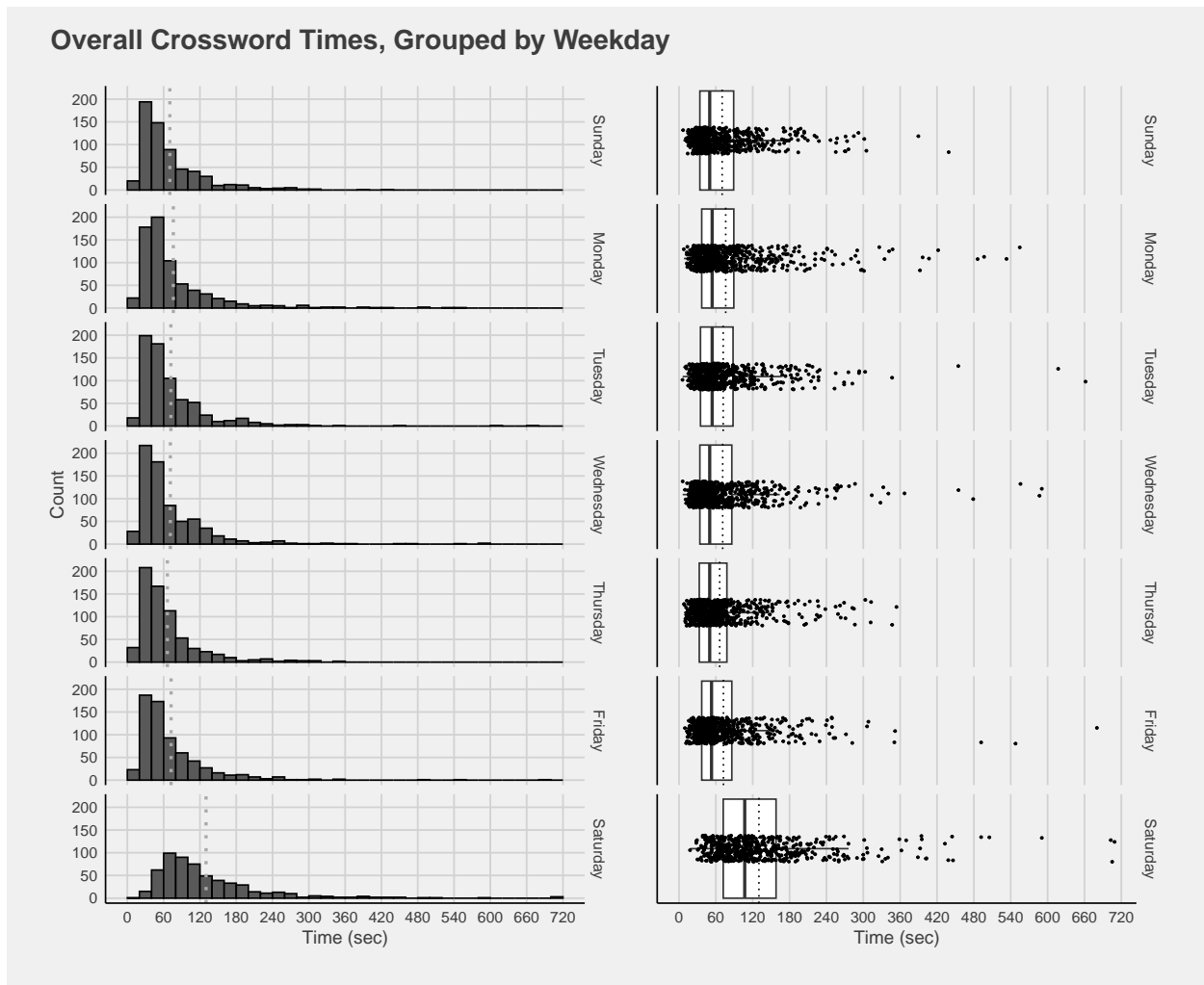
	Min.	1st Qu.	Median	Mean	Trimmed Mean	3rd Qu.	Max.
addieavery	-1.17	-0.62	-0.45	-0.30	-0.35	-0.11	2.49
annabeans	-1.65	-0.69	-0.42	-0.26	-0.30	0.08	1.99
Bahsdaddy	-1.73	-0.82	-0.60	-0.45	-0.50	-0.23	1.74
cnewt	-0.53	1.21	1.88	1.70	1.75	2.37	2.99
crossword spank	-1.42	0.16	0.85	0.83	0.84	1.57	2.83
elliefich	-1.08	-0.07	0.59	0.69	0.68	1.49	2.75
Els59	-1.77	-0.57	-0.18	-0.04	-0.09	0.27	2.59
grapefruit jones	-1.54	-0.77	-0.49	-0.33	-0.38	-0.08	2.88
jakewal99	-1.74	-0.86	-0.49	-0.31	-0.38	-0.03	2.50
katherine	-1.46	-0.47	-0.12	0.17	0.13	0.75	2.78
liam	-2.07	-1.11	-0.84	-0.79	-0.82	-0.58	1.63
matayae1318	-1.59	-0.04	0.79	0.84	0.85	1.83	2.68
mike dale	-1.64	-0.63	-0.27	-0.07	-0.12	0.36	2.50
mikemikemike	-1.08	-0.42	-0.06	0.18	0.13	0.68	2.59

7.2.3) Summary Stats for Rank

	Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
addieavery	1	3.0	5	4.9	6	10
annabeans	1	2.0	4	4.0	5	11
Bahsdaddy	1	2.0	3	3.4	5	11
cnewt	2	8.5	10	9.3	11	13
crossword spank	1	6.0	7	7.2	9	13
elliefich	1	5.0	6	6.4	8	13
Els59	1	3.0	5	4.8	6	12
grapefruit jones	1	2.0	4	4.2	6	12
jakewal99	1	2.0	4	4.2	6	12
katherine	1	3.0	5	5.2	7	13
liam	1	1.0	1	2.3	3	12
matayae1318	1	4.0	6	5.8	7	10
mike dale	1	2.0	4	4.4	6	12
mikemikemike	1	4.0	6	6.0	8	11

7.3) Graphs for Each Weekday

7.3.1) Distribution of Overall Times per Weekday



7.3.2) Distribution of Individual Ranks per Weekday

