Gacha Pull Simulation Results

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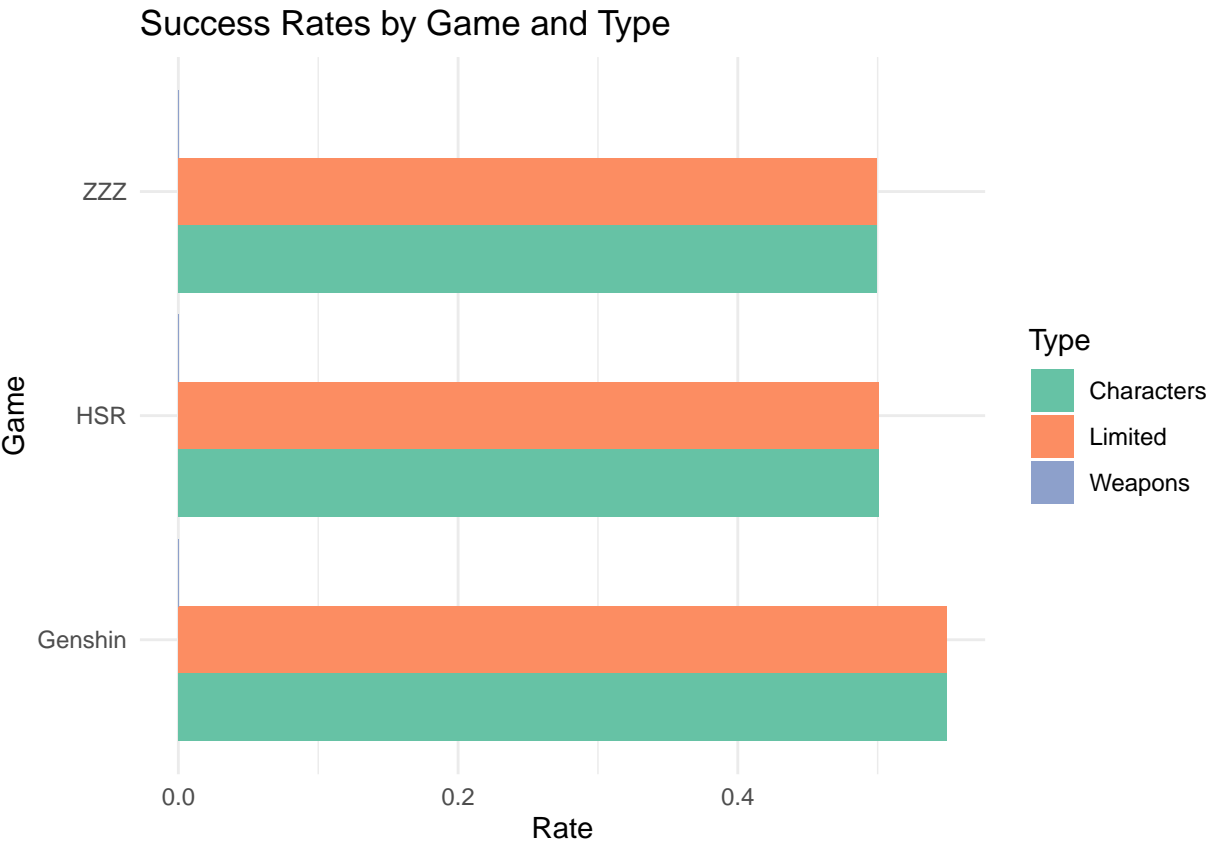# Cumulative Probability Analysis

Cumulative Probability of Success
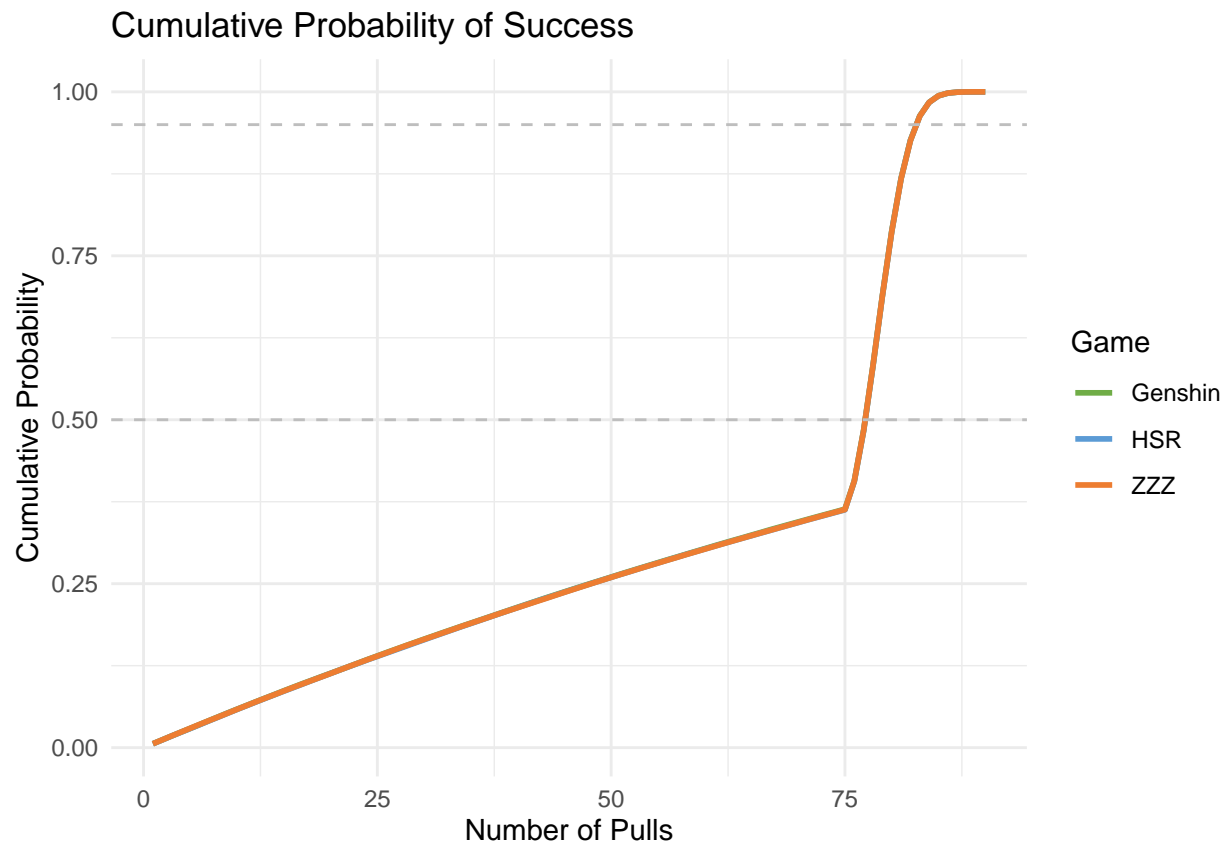
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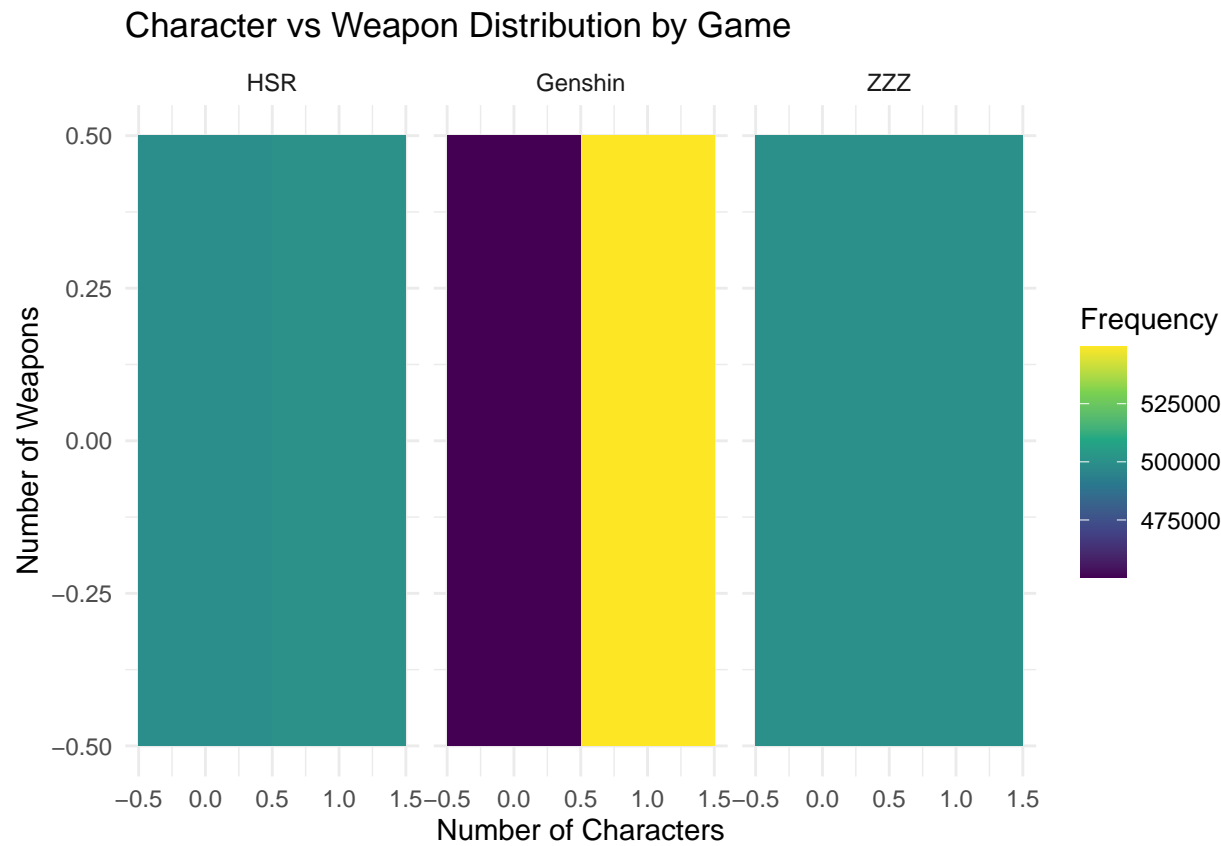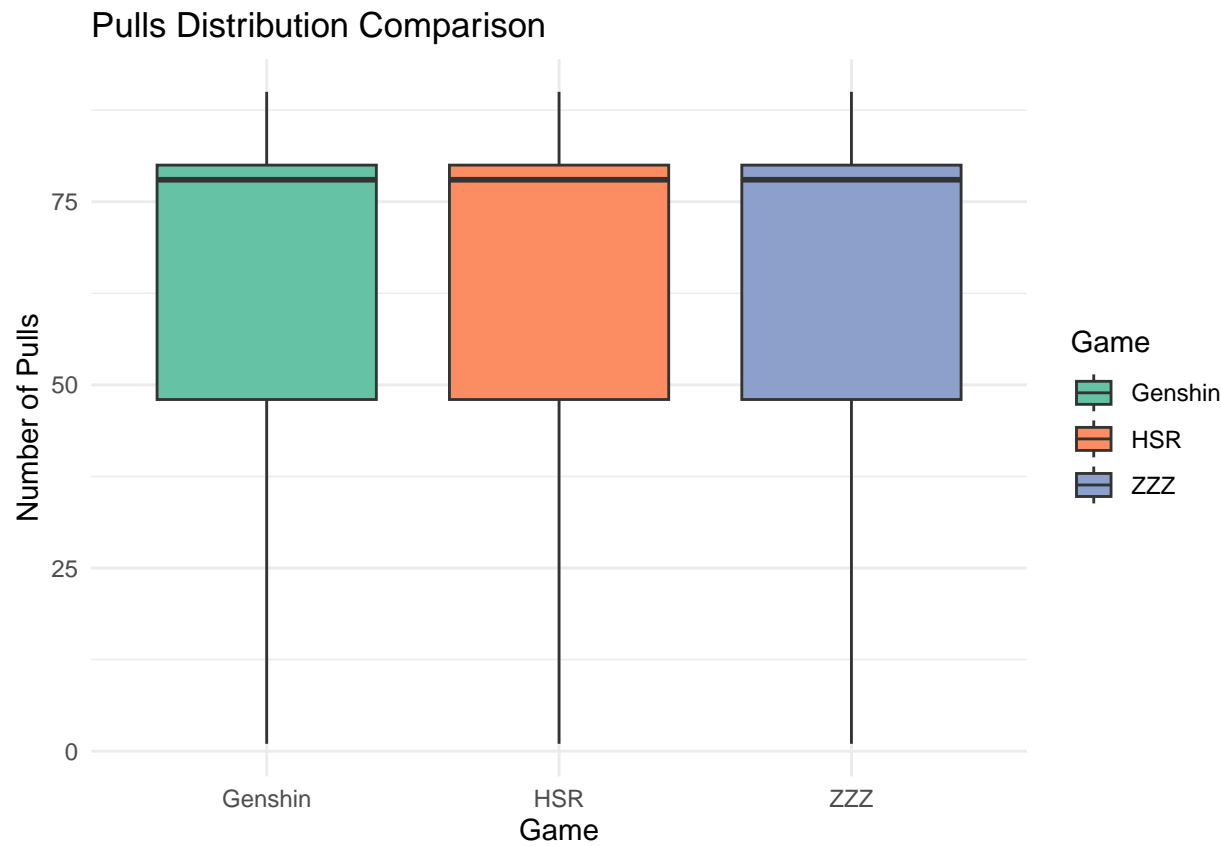
Game-Specific Statistics

Honkai: Star Rail

Metric	Value
Total Simulations	1.000e+06
Average Pulls	6.352e+01
Median Pulls	7.800e+01
Standard Deviation	2.506e+01
Min Pulls	1.000e+00
Max Pulls	9.000e+01
Limited Rate	5.000e-01
Weapon Rate	0.000e+00
Character Rate	5.000e-01

HSR Pull Distribution
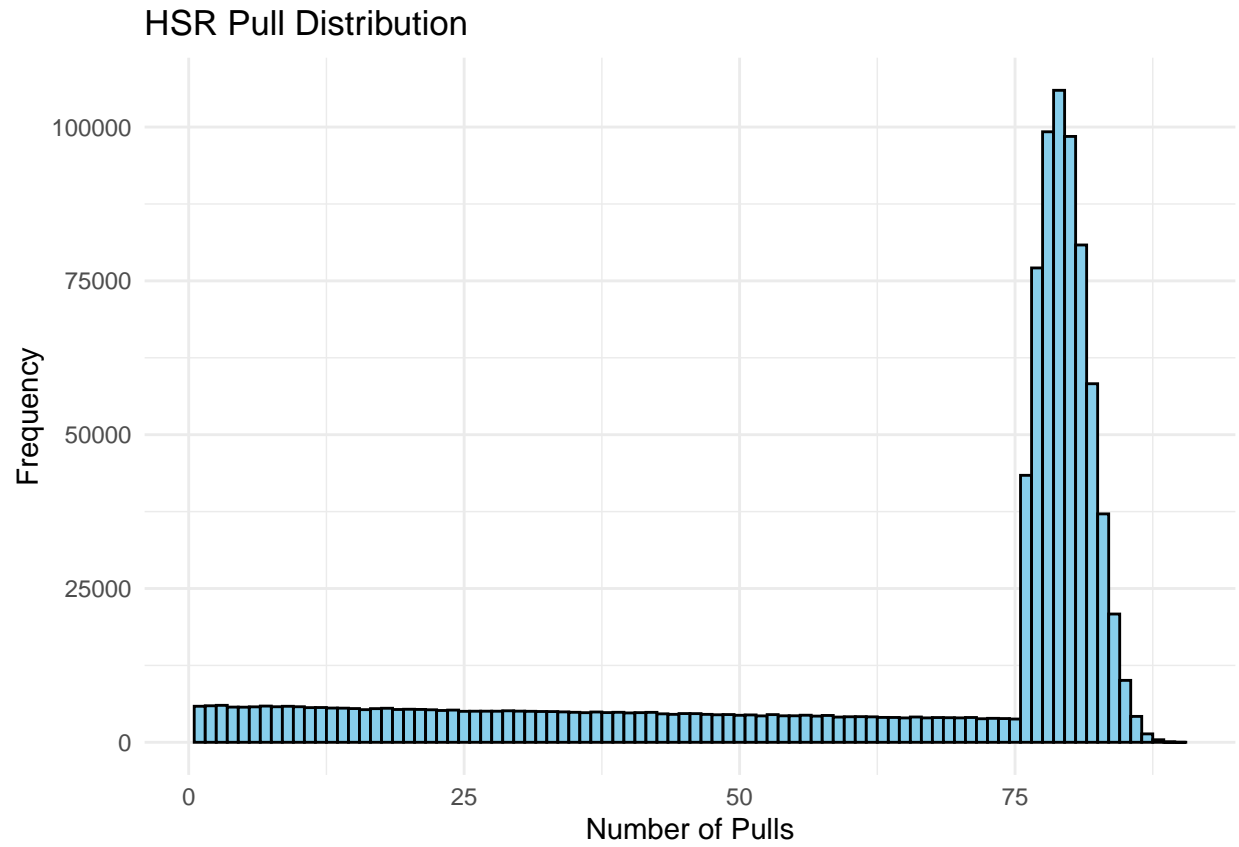
Genshin Impact

Metric	Value
Total Simulations	1.000e+06
Average Pulls	6.347e+01
Median Pulls	7.800e+01
Standard Deviation	2.509e+01
Min Pulls	1.000e+00
Max Pulls	9.000e+01
Limited Rate	5.500e-01
Weapon Rate	0.000e+00
Character Rate	5.500e-01

Genshin Pull Distribution

Frequency

90000

60000

30000

0

0   25   50   75

Number of Pulls
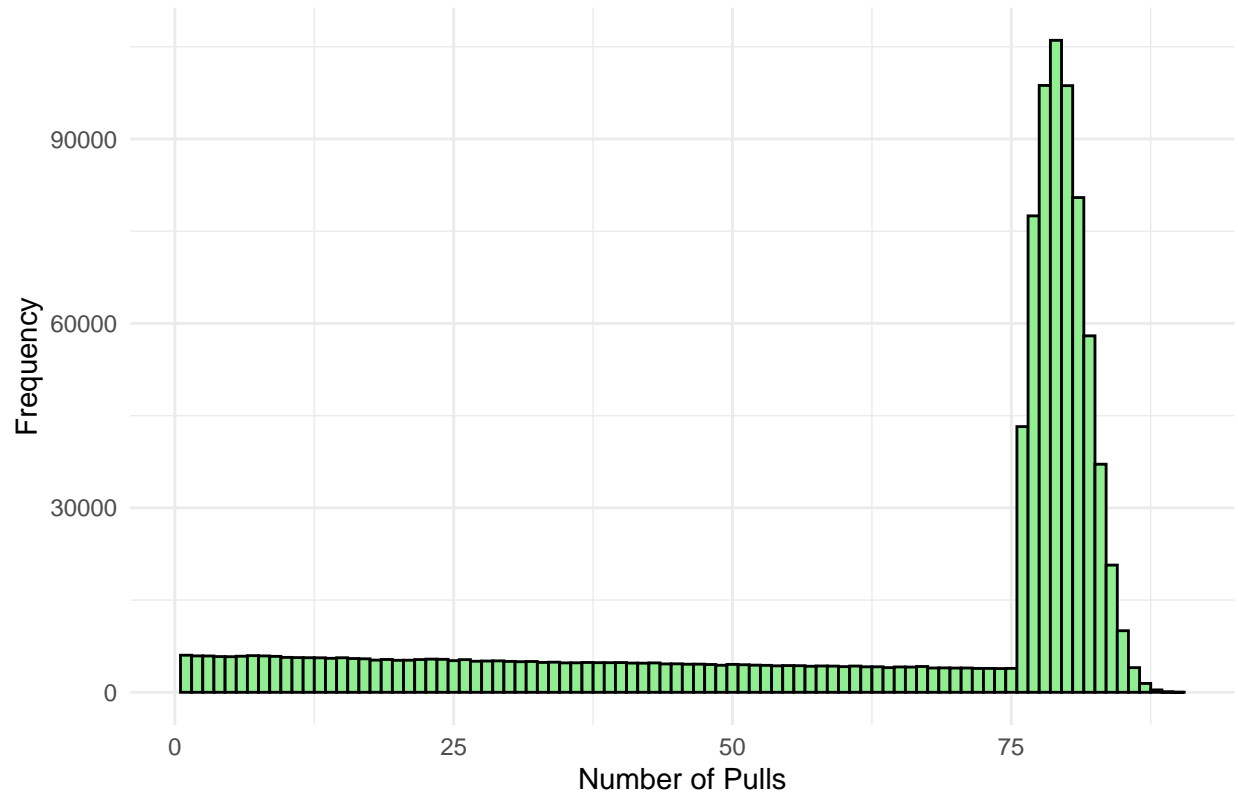
ZZZ

Metric	Value
Total Simulations	1.000e+06
Average Pulls	6.351e+01
Median Pulls	7.800e+01
Standard Deviation	2.507e+01
Min Pulls	1.000e+00
Max Pulls	9.000e+01
Limited Rate	5.000e-01
Weapon Rate	0.000e+00
Character Rate	5.000e-01

ZZZ Pull Distribution
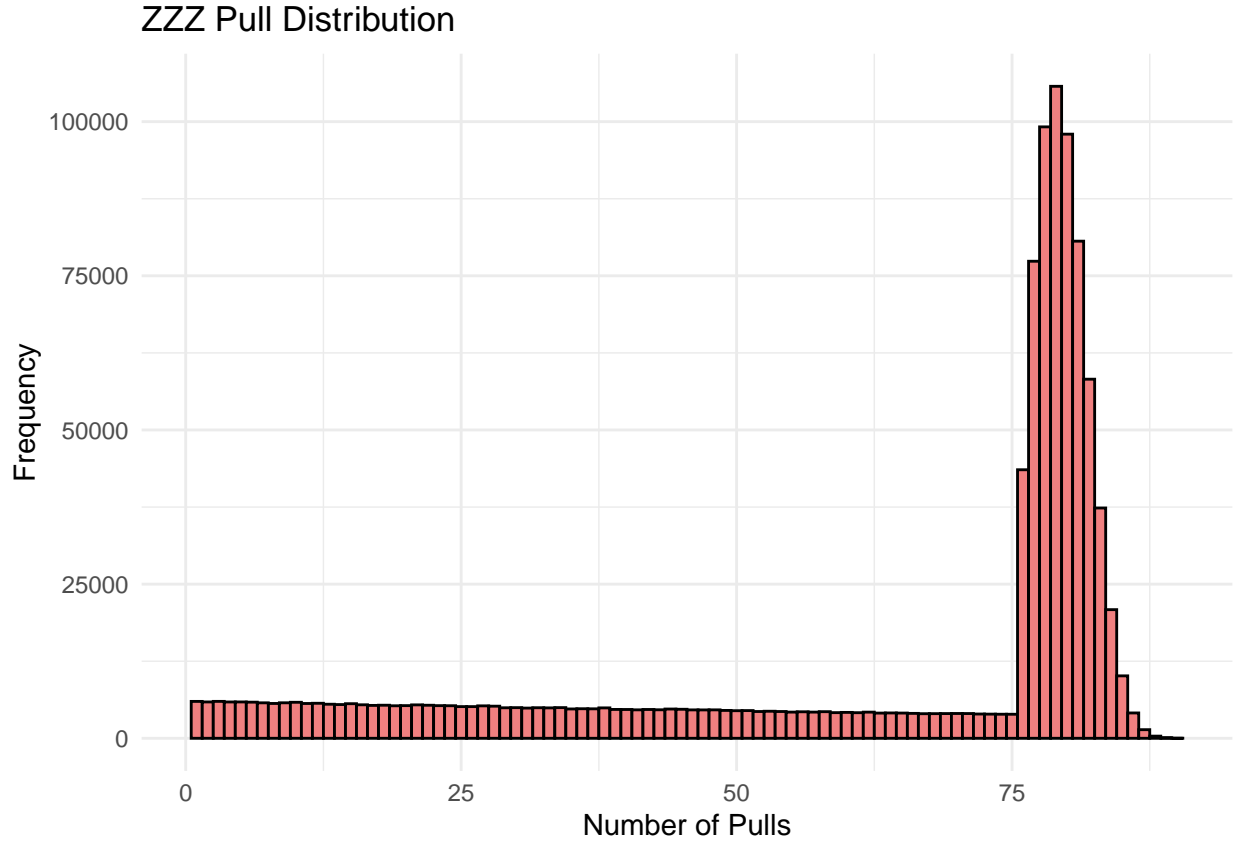
Success Rates Comparison

Table 4: Average Success Rates per Game

Game	Limited	Weapons	Characters
HSR	0.501	0	0.501
Genshin	0.549	0	0.549
ZZZ	0.500	0	0.500

Detailed Pull Statistics

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## Warning in styling_latex_scale(out, table_info, "down"): Longtable cannot be
## resized.
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Table 5: Detailed Pull Statistics by Game

Game	Pulls	Count	Probability	Cumulative_Prob	Limited_Rate	Weapon_Rate	Character_Rate
HSR	1	5855	0.0059	0.0059	0.5117	0	0.5117
HSR	2	5933	0.0059	0.0059	0.5014	0	0.5014
HSR	3	6007	0.0060	0.0060	0.4941	0	0.4941
HSR	4	5722	0.0057	0.0057	0.5023	0	0.5023
HSR	5	5708	0.0057	0.0057	0.4961	0	0.4961
HSR	6	5759	0.0058	0.0058	0.4997	0	0.4997

Table 5: Detailed Pull Statistics by Game *(continued)*

Game	Pulls	Count	Probability	Cumulative_Prob	Limited_Rate	Weapon_Rate	Character_Rate
HSR	7	5884	0.0059	0.0059	0.4985	0	0.4985
HSR	8	5776	0.0058	0.0058	0.4952	0	0.4952
HSR	9	5851	0.0059	0.0059	0.5045	0	0.5045
HSR	10	5776	0.0058	0.0058	0.4971	0	0.4971
HSR	11	5635	0.0056	0.0056	0.5083	0	0.5083
HSR	12	5650	0.0056	0.0056	0.5104	0	0.5104
HSR	13	5567	0.0056	0.0056	0.4909	0	0.4909
HSR	14	5548	0.0055	0.0055	0.4904	0	0.4904
HSR	15	5482	0.0055	0.0055	0.5080	0	0.5080
HSR	16	5304	0.0053	0.0053	0.4957	0	0.4957
HSR	17	5468	0.0055	0.0055	0.4982	0	0.4982
HSR	18	5530	0.0055	0.0055	0.5145	0	0.5145
HSR	19	5330	0.0053	0.0053	0.5030	0	0.5030
HSR	20	5371	0.0054	0.0054	0.5183	0	0.5183
HSR	21	5338	0.0053	0.0053	0.4968	0	0.4968
HSR	22	5285	0.0053	0.0053	0.5061	0	0.5061
HSR	23	5173	0.0052	0.0052	0.5043	0	0.5043
HSR	24	5234	0.0052	0.0052	0.5048	0	0.5048
HSR	25	5032	0.0050	0.0050	0.4982	0	0.4982
HSR	26	5049	0.0050	0.0050	0.5094	0	0.5094
HSR	27	5054	0.0051	0.0051	0.4953	0	0.4953
HSR	28	5048	0.0050	0.0050	0.5044	0	0.5044
HSR	29	5118	0.0051	0.0051	0.5094	0	0.5094
HSR	30	5062	0.0051	0.0051	0.5043	0	0.5043
HSR	31	5037	0.0050	0.0050	0.4941	0	0.4941
HSR	32	5005	0.0050	0.0050	0.5043	0	0.5043
HSR	33	4994	0.0050	0.0050	0.4892	0	0.4892
HSR	34	4943	0.0049	0.0049	0.5031	0	0.5031
HSR	35	4875	0.0049	0.0049	0.5013	0	0.5013
HSR	36	4815	0.0048	0.0048	0.5101	0	0.5101
HSR	37	4926	0.0049	0.0049	0.5016	0	0.5016
HSR	38	4830	0.0048	0.0048	0.4988	0	0.4988
HSR	39	4876	0.0049	0.0049	0.4961	0	0.4961
HSR	40	4773	0.0048	0.0048	0.4880	0	0.4880
HSR	41	4819	0.0048	0.0048	0.5173	0	0.5173
HSR	42	4866	0.0049	0.0049	0.4982	0	0.4982
HSR	43	4626	0.0046	0.0046	0.5026	0	0.5026
HSR	44	4541	0.0045	0.0045	0.5138	0	0.5138
HSR	45	4667	0.0047	0.0047	0.5018	0	0.5018
HSR	46	4661	0.0047	0.0047	0.4999	0	0.4999
HSR	47	4539	0.0045	0.0045	0.5047	0	0.5047
HSR	48	4475	0.0045	0.0045	0.5151	0	0.5151
HSR	49	4508	0.0045	0.0045	0.4953	0	0.4953
HSR	50	4390	0.0044	0.0044	0.5005	0	0.5005
HSR	51	4447	0.0044	0.0044	0.4886	0	0.4886
HSR	52	4289	0.0043	0.0043	0.4861	0	0.4861
HSR	53	4501	0.0045	0.0045	0.5070	0	0.5070
HSR	54	4303	0.0043	0.0043	0.4973	0	0.4973
HSR	55	4310	0.0043	0.0043	0.4995	0	0.4995
HSR	56	4399	0.0044	0.0044	0.4976	0	0.4976
HSR	57	4255	0.0043	0.0043	0.4851	0	0.4851
HSR	58	4361	0.0044	0.0044	0.4889	0	0.4889
HSR	59	4101	0.0041	0.0041	0.4923	0	0.4923
HSR	60	4147	0.0041	0.0041	0.5083	0	0.5083
HSR	61	4165	0.0042	0.0042	0.5056	0	0.5056
HSR	62	4133	0.0041	0.0041	0.5069	0	0.5069
HSR	63	4046	0.0040	0.0040	0.5101	0	0.5101
HSR	64	4036	0.0040	0.0040	0.4923	0	0.4923
HSR	65	3961	0.0040	0.0040	0.5049	0	0.5049

Table 5: Detailed Pull Statistics by Game *(continued)*

Game	Pulls	Count	Probability	Cumulative_Prob	Limited_Rate	Weapon_Rate	Character_Rate
HSR	66	4108	0.0041	0.0041	0.4934	0	0.4934
HSR	67	3964	0.0040	0.0040	0.5217	0	0.5217
HSR	68	4022	0.0040	0.0040	0.4948	0	0.4948
HSR	69	3997	0.0040	0.0040	0.5021	0	0.5021
HSR	70	3965	0.0040	0.0040	0.5016	0	0.5016
HSR	71	4032	0.0040	0.0040	0.4973	0	0.4973
HSR	72	3829	0.0038	0.0038	0.4967	0	0.4967
HSR	73	3893	0.0039	0.0039	0.5037	0	0.5037
HSR	74	3857	0.0039	0.0039	0.5076	0	0.5076
HSR	75	3779	0.0038	0.0038	0.4938	0	0.4938
HSR	76	43391	0.0434	0.0434	0.4967	0	0.4967
HSR	77	77098	0.0771	0.0771	0.5017	0	0.5017
HSR	78	99230	0.0992	0.0992	0.4958	0	0.4958
HSR	79	105970	0.1060	0.1060	0.5013	0	0.5013
HSR	80	98477	0.0985	0.0985	0.5009	0	0.5009
HSR	81	80832	0.0808	0.0808	0.5006	0	0.5006
HSR	82	58282	0.0583	0.0583	0.5020	0	0.5020
HSR	83	37122	0.0371	0.0371	0.4996	0	0.4996
HSR	84	20847	0.0208	0.0208	0.5035	0	0.5035
HSR	85	10064	0.0101	0.0101	0.5011	0	0.5011
HSR	86	4209	0.0042	0.0042	0.5108	0	0.5108
HSR	87	1366	0.0014	0.0014	0.5066	0	0.5066
HSR	88	413	0.0004	0.0004	0.5157	0	0.5157
HSR	89	75	0.0001	0.0001	0.4267	0	0.4267
HSR	90	9	0.0000	0.0000	0.3333	0	0.3333
Genshin	1	6030	0.0060	0.0060	0.5514	0	0.5514
Genshin	2	5922	0.0059	0.0059	0.5432	0	0.5432
Genshin	3	5908	0.0059	0.0059	0.5401	0	0.5401
Genshin	4	5809	0.0058	0.0058	0.5424	0	0.5424
Genshin	5	5790	0.0058	0.0058	0.5506	0	0.5506
Genshin	6	5866	0.0059	0.0059	0.5486	0	0.5486
Genshin	7	5958	0.0060	0.0060	0.5510	0	0.5510
Genshin	8	5912	0.0059	0.0059	0.5350	0	0.5350
Genshin	9	5842	0.0058	0.0058	0.5481	0	0.5481
Genshin	10	5678	0.0057	0.0057	0.5574	0	0.5574
Genshin	11	5644	0.0056	0.0056	0.5567	0	0.5567
Genshin	12	5626	0.0056	0.0056	0.5419	0	0.5419
Genshin	13	5609	0.0056	0.0056	0.5425	0	0.5425
Genshin	14	5528	0.0055	0.0055	0.5456	0	0.5456
Genshin	15	5615	0.0056	0.0056	0.5411	0	0.5411
Genshin	16	5490	0.0055	0.0055	0.5488	0	0.5488
Genshin	17	5446	0.0054	0.0054	0.5452	0	0.5452
Genshin	18	5236	0.0052	0.0052	0.5491	0	0.5491
Genshin	19	5334	0.0053	0.0053	0.5435	0	0.5435
Genshin	20	5199	0.0052	0.0052	0.5495	0	0.5495
Genshin	21	5220	0.0052	0.0052	0.5596	0	0.5596
Genshin	22	5320	0.0053	0.0053	0.5504	0	0.5504
Genshin	23	5397	0.0054	0.0054	0.5623	0	0.5623
Genshin	24	5363	0.0054	0.0054	0.5488	0	0.5488
Genshin	25	5147	0.0051	0.0051	0.5553	0	0.5553
Genshin	26	5310	0.0053	0.0053	0.5527	0	0.5527
Genshin	27	5047	0.0050	0.0050	0.5455	0	0.5455
Genshin	28	5085	0.0051	0.0051	0.5459	0	0.5459
Genshin	29	5109	0.0051	0.0051	0.5508	0	0.5508
Genshin	30	5023	0.0050	0.0050	0.5523	0	0.5523
Genshin	31	4975	0.0050	0.0050	0.5435	0	0.5435
Genshin	32	5008	0.0050	0.0050	0.5629	0	0.5629
Genshin	33	4853	0.0049	0.0049	0.5504	0	0.5504
Genshin	34	4895	0.0049	0.0049	0.5491	0	0.5491

Table 5: Detailed Pull Statistics by Game *(continued)*

Game	Pulls	Count	Probability	Cumulative_Prob	Limited_Rate	Weapon_Rate	Character_Rate
Genshin	35	4786	0.0048	0.0048	0.5437	0	0.5437
Genshin	36	4799	0.0048	0.0048	0.5530	0	0.5530
Genshin	37	4848	0.0048	0.0048	0.5497	0	0.5497
Genshin	38	4820	0.0048	0.0048	0.5552	0	0.5552
Genshin	39	4817	0.0048	0.0048	0.5510	0	0.5510
Genshin	40	4835	0.0048	0.0048	0.5539	0	0.5539
Genshin	41	4749	0.0047	0.0047	0.5418	0	0.5418
Genshin	42	4737	0.0047	0.0047	0.5501	0	0.5501
Genshin	43	4779	0.0048	0.0048	0.5386	0	0.5386
Genshin	44	4614	0.0046	0.0046	0.5472	0	0.5472
Genshin	45	4627	0.0046	0.0046	0.5505	0	0.5505
Genshin	46	4561	0.0046	0.0046	0.5391	0	0.5391
Genshin	47	4576	0.0046	0.0046	0.5610	0	0.5610
Genshin	48	4518	0.0045	0.0045	0.5480	0	0.5480
Genshin	49	4397	0.0044	0.0044	0.5497	0	0.5497
Genshin	50	4537	0.0045	0.0045	0.5376	0	0.5376
Genshin	51	4480	0.0045	0.0045	0.5629	0	0.5629
Genshin	52	4417	0.0044	0.0044	0.5558	0	0.5558
Genshin	53	4381	0.0044	0.0044	0.5446	0	0.5446
Genshin	54	4302	0.0043	0.0043	0.5516	0	0.5516
Genshin	55	4347	0.0043	0.0043	0.5572	0	0.5572
Genshin	56	4325	0.0043	0.0043	0.5551	0	0.5551
Genshin	57	4233	0.0042	0.0042	0.5408	0	0.5408
Genshin	58	4280	0.0043	0.0043	0.5386	0	0.5386
Genshin	59	4261	0.0043	0.0043	0.5475	0	0.5475
Genshin	60	4171	0.0042	0.0042	0.5418	0	0.5418
Genshin	61	4267	0.0043	0.0043	0.5435	0	0.5435
Genshin	62	4146	0.0041	0.0041	0.5335	0	0.5335
Genshin	63	4148	0.0041	0.0041	0.5557	0	0.5557
Genshin	64	4011	0.0040	0.0040	0.5542	0	0.5542
Genshin	65	4120	0.0041	0.0041	0.5461	0	0.5461
Genshin	66	4101	0.0041	0.0041	0.5564	0	0.5564
Genshin	67	4193	0.0042	0.0042	0.5457	0	0.5457
Genshin	68	3951	0.0040	0.0040	0.5437	0	0.5437
Genshin	69	3970	0.0040	0.0040	0.5557	0	0.5557
Genshin	70	3942	0.0039	0.0039	0.5520	0	0.5520
Genshin	71	3951	0.0040	0.0040	0.5573	0	0.5573
Genshin	72	3876	0.0039	0.0039	0.5436	0	0.5436
Genshin	73	3884	0.0039	0.0039	0.5409	0	0.5409
Genshin	74	3859	0.0039	0.0039	0.5605	0	0.5605
Genshin	75	3886	0.0039	0.0039	0.5507	0	0.5507
Genshin	76	43213	0.0432	0.0432	0.5516	0	0.5516
Genshin	77	77494	0.0775	0.0775	0.5486	0	0.5486
Genshin	78	98706	0.0987	0.0987	0.5498	0	0.5498
Genshin	79	106045	0.1060	0.1060	0.5481	0	0.5481
Genshin	80	98674	0.0987	0.0987	0.5491	0	0.5491
Genshin	81	80468	0.0805	0.0805	0.5511	0	0.5511
Genshin	82	57977	0.0580	0.0580	0.5504	0	0.5504
Genshin	83	37098	0.0371	0.0371	0.5539	0	0.5539
Genshin	84	20691	0.0207	0.0207	0.5484	0	0.5484
Genshin	85	10017	0.0100	0.0100	0.5387	0	0.5387
Genshin	86	4009	0.0040	0.0040	0.5617	0	0.5617
Genshin	87	1438	0.0014	0.0014	0.5438	0	0.5438
Genshin	88	385	0.0004	0.0004	0.5429	0	0.5429
Genshin	89	76	0.0001	0.0001	0.5526	0	0.5526
Genshin	90	13	0.0000	0.0000	0.4615	0	0.4615
ZZZ	1	5981	0.0060	0.0060	0.5014	0	0.5014
ZZZ	2	5896	0.0059	0.0059	0.4998	0	0.4998
ZZZ	3	5987	0.0060	0.0060	0.4926	0	0.4926

Table 5: Detailed Pull Statistics by Game *(continued)*

Game	Pulls	Count	Probability	Cumulative_Prob	Limited_Rate	Weapon_Rate	Character_Rate
ZZZ	4	5891	0.0059	0.0059	0.4840	0	0.4840
ZZZ	5	5895	0.0059	0.0059	0.5055	0	0.5055
ZZZ	6	5860	0.0059	0.0059	0.4973	0	0.4973
ZZZ	7	5753	0.0058	0.0058	0.5039	0	0.5039
ZZZ	8	5648	0.0056	0.0056	0.5035	0	0.5035
ZZZ	9	5758	0.0058	0.0058	0.4941	0	0.4941
ZZZ	10	5840	0.0058	0.0058	0.5067	0	0.5067
ZZZ	11	5642	0.0056	0.0056	0.5074	0	0.5074
ZZZ	12	5679	0.0057	0.0057	0.4962	0	0.4962
ZZZ	13	5522	0.0055	0.0055	0.5053	0	0.5053
ZZZ	14	5472	0.0055	0.0055	0.4984	0	0.4984
ZZZ	15	5607	0.0056	0.0056	0.4996	0	0.4996
ZZZ	16	5431	0.0054	0.0054	0.5097	0	0.5097
ZZZ	17	5333	0.0053	0.0053	0.5014	0	0.5014
ZZZ	18	5362	0.0054	0.0054	0.4944	0	0.4944
ZZZ	19	5271	0.0053	0.0053	0.4976	0	0.4976
ZZZ	20	5296	0.0053	0.0053	0.5068	0	0.5068
ZZZ	21	5420	0.0054	0.0054	0.5031	0	0.5031
ZZZ	22	5356	0.0054	0.0054	0.4985	0	0.4985
ZZZ	23	5292	0.0053	0.0053	0.5043	0	0.5043
ZZZ	24	5282	0.0053	0.0053	0.5015	0	0.5015
ZZZ	25	5139	0.0051	0.0051	0.4927	0	0.4927
ZZZ	26	5139	0.0051	0.0051	0.4954	0	0.4954
ZZZ	27	5259	0.0053	0.0053	0.5005	0	0.5005
ZZZ	28	5206	0.0052	0.0052	0.5065	0	0.5065
ZZZ	29	4949	0.0049	0.0049	0.4932	0	0.4932
ZZZ	30	4969	0.0050	0.0050	0.5035	0	0.5035
ZZZ	31	4901	0.0049	0.0049	0.4964	0	0.4964
ZZZ	32	4958	0.0050	0.0050	0.5018	0	0.5018
ZZZ	33	4931	0.0049	0.0049	0.4954	0	0.4954
ZZZ	34	4974	0.0050	0.0050	0.5026	0	0.5026
ZZZ	35	4757	0.0048	0.0048	0.4898	0	0.4898
ZZZ	36	4791	0.0048	0.0048	0.5059	0	0.5059
ZZZ	37	4780	0.0048	0.0048	0.4975	0	0.4975
ZZZ	38	4930	0.0049	0.0049	0.4992	0	0.4992
ZZZ	39	4678	0.0047	0.0047	0.4938	0	0.4938
ZZZ	40	4669	0.0047	0.0047	0.4896	0	0.4896
ZZZ	41	4614	0.0046	0.0046	0.5002	0	0.5002
ZZZ	42	4671	0.0047	0.0047	0.5142	0	0.5142
ZZZ	43	4621	0.0046	0.0046	0.5053	0	0.5053
ZZZ	44	4746	0.0047	0.0047	0.5145	0	0.5145
ZZZ	45	4704	0.0047	0.0047	0.4928	0	0.4928
ZZZ	46	4605	0.0046	0.0046	0.5077	0	0.5077
ZZZ	47	4600	0.0046	0.0046	0.5074	0	0.5074
ZZZ	48	4610	0.0046	0.0046	0.5037	0	0.5037
ZZZ	49	4520	0.0045	0.0045	0.4912	0	0.4912
ZZZ	50	4477	0.0045	0.0045	0.5037	0	0.5037
ZZZ	51	4493	0.0045	0.0045	0.5057	0	0.5057
ZZZ	52	4343	0.0043	0.0043	0.5029	0	0.5029
ZZZ	53	4384	0.0044	0.0044	0.5075	0	0.5075
ZZZ	54	4342	0.0043	0.0043	0.5085	0	0.5085
ZZZ	55	4248	0.0042	0.0042	0.5111	0	0.5111
ZZZ	56	4298	0.0043	0.0043	0.5093	0	0.5093
ZZZ	57	4248	0.0042	0.0042	0.4906	0	0.4906
ZZZ	58	4316	0.0043	0.0043	0.5030	0	0.5030
ZZZ	59	4159	0.0042	0.0042	0.5030	0	0.5030
ZZZ	60	4198	0.0042	0.0042	0.4943	0	0.4943
ZZZ	61	4152	0.0042	0.0042	0.5128	0	0.5128
ZZZ	62	4244	0.0042	0.0042	0.4986	0	0.4986

Table 5: Detailed Pull Statistics by Game *(continued)*

Game	Pulls	Count	Probability	Cumulative_Prob	Limited_Rate	Weapon_Rate	Character_Rate
ZZZ	63	4088	0.0041	0.0041	0.5064	0	0.5064
ZZZ	64	4109	0.0041	0.0041	0.4889	0	0.4889
ZZZ	65	4093	0.0041	0.0041	0.4938	0	0.4938
ZZZ	66	4040	0.0040	0.0040	0.5111	0	0.5111
ZZZ	67	3987	0.0040	0.0040	0.5061	0	0.5061
ZZZ	68	3994	0.0040	0.0040	0.5075	0	0.5075
ZZZ	69	4007	0.0040	0.0040	0.4886	0	0.4886
ZZZ	70	4023	0.0040	0.0040	0.4964	0	0.4964
ZZZ	71	4014	0.0040	0.0040	0.4975	0	0.4975
ZZZ	72	3936	0.0039	0.0039	0.4919	0	0.4919
ZZZ	73	3916	0.0039	0.0039	0.4967	0	0.4967
ZZZ	74	3901	0.0039	0.0039	0.4994	0	0.4994
ZZZ	75	3896	0.0039	0.0039	0.5054	0	0.5054
ZZZ	76	43546	0.0435	0.0435	0.5026	0	0.5026
ZZZ	77	77359	0.0774	0.0774	0.4988	0	0.4988
ZZZ	78	99151	0.0992	0.0992	0.4992	0	0.4992
ZZZ	79	105728	0.1057	0.1057	0.4989	0	0.4989
ZZZ	80	97970	0.0980	0.0980	0.4988	0	0.4988
ZZZ	81	80616	0.0806	0.0806	0.4985	0	0.4985
ZZZ	82	58233	0.0582	0.0582	0.4999	0	0.4999
ZZZ	83	37345	0.0373	0.0373	0.4982	0	0.4982
ZZZ	84	20862	0.0209	0.0209	0.4987	0	0.4987
ZZZ	85	10125	0.0101	0.0101	0.5014	0	0.5014
ZZZ	86	4110	0.0041	0.0041	0.5063	0	0.5063
ZZZ	87	1396	0.0014	0.0014	0.5036	0	0.5036
ZZZ	88	349	0.0003	0.0003	0.4613	0	0.4613
ZZZ	89	93	0.0001	0.0001	0.4516	0	0.4516
ZZZ	90	16	0.0000	0.0000	0.7500	0	0.7500