

**IMPACT OF TEST OPTIONAL ON THE HATHAWAY  
SCHOLARSHIP, ADMISSION TYPE, AND STUDENT SUCCESS  
OF NEW FIRST-TIME, IN-STATE STUDENTS AT UW**

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### **Executive Summary**

- Students submitted fewer test score attempts to get a higher test score and a higher Hathaway level.
- The percentage of students who received Hathaway awards dropped at all levels (Honors, Performance, Opportunity), and the percentage of students who did not receive Hathaway award increased (5.9% to 14.2%). This is not due to more students deferring the scholarship.
- The Hathaway Scholarship is a positive predictor for retention, but more students did not receive the Hathaway Scholarship due to not providing a test score since Fall 2021. The retention rate of Hathaway Scholarship awardees reached as high as 83.4% before Fall 2020, but it dropped to around 80% after Fall 2020.
- Significant decline in the number of students admitted with support after Fall 2020. The retention rate of students admitted with support was only 43% for Fall 2022 cohort.
- Test Optional policy is not showing a statistically significant effect on fall-to-fall retention for new first-time Hathaway-eligible students.

## Introduction

Since the changes of college admissions after COVID-19 pandemic, there was a significant increase of high school seniors' stress contributed by the uncertainty regarding the level of access to both financial and academic support (Anand & Bhatia, 2021). The University of Wyoming (UW) approved a temporary Test Optional admission policy for Fall 2020, and it has been extended through the 2025 academic year. While this policy has been referred to as "Test Optional," it behaves more as a "test-blind" policy since test scores are not considered for admission, even when submitted. However, standardized college entrance examination scores are still a requirement for the State of Wyoming's Hathaway scholarship and are also considered when awarding the UW's institutional admission scholarships (Hathaway Scholarship, 2023). The purpose of this research study is to explore the impacts of the Test Optional admission policy on scholarship awarding, access to support, and student success of new first-time, in-state students at UW.

The Hathaway Scholarship is a state-funded scholarship for qualified Wyoming high school graduates to pursue their post-secondary education at UW or Wyoming's Community Colleges with four levels of merit-based scholarship (Honors, Performance, Opportunity, and Provisional Opportunity), and a need-based scholarship (Hathaway Scholarship, 2023). State-funded scholarships and institutional merit awards are traditionally based on test scores (Schultz & Backstrom, 2021). The Hathaway Scholarship requires a standardized college entrance examination for scholarship eligibility, although the Test Optional admission policies have been administered at the UW for over three years. To better inform and adjust scholarship policies, it is important to measure student academic success under the Test Optional admission policies (Schultz & Backstrom, 2021).

Applicants who do not meet UW's requirements for Assured Admission may be considered for *Admission with Support* if they meet an expanded set of requirements as defined in UW Regulation 2-201(IV)(C) (2019). Students admitted with support are required to participate in the Fall Bridge program administered by the Learning Resource Network (LeaRN). Nicholas and Zhang's (2023) study suggested that many students could not receive additional support services after the test policies change, because they should have been assigned to Conditional Admissions under the old admission policy, but they were assigned to Good Standings after Test Optional. Their data showed that the fall-to-fall retention of this group of students declined from 2018 (72.4%) to 2021 (57.8%) considerably. Therefore, ensuring students receive appropriate academic support from the institution under Test Optional admissions is crucial.

For many universities, standardized test data were traditionally used as a predictor of first-year student success on academic performance and retention (Schultz & Backstrom, 2021). For UW, however, test score (ACT/SAT) was not found significant in the previous predictive models of new first-time students' retention (Singh, 2019; Zong & Koller, 2023). After the wide implementation of Test Optional admission policies, less test data is available for institutions to validate their previous predictive models of student success. Thus, predictive models must be adjusted with other available data to improve support systems for first-year students based on the new factors (Schultz & Backstrom, 2021).

In this study, student success was defined as fall-to-fall (1-year) retention of new first-time students at UW. The conceptual model of this study was developed based on Nicholas and Zhang's (2023) study of test-blind admissions at a 4-year public university, which includes nine independent variables to predict 1-year retention: High School GPA, Application Timing, Degree Type - Bachelor, Ethnicity, First Generation, and geographic information were found significant; but ACT, High School Units, and Gender were found non-significant. Due to the data availability, the base model includes six variables from the Nicholas and Zhang's (2023) model (i.e., ethnicity, gender, first generation, high school GPA, ACT/SAT,

application timing), and five additional variables related to student demographics, admission support and scholarship were selected based on UW's previous studies on first-time students. There are two research questions of this study:

- RQ1: What are the changes impacted by the Test Optional admission policy in regard to (a) Hathaway Scholarship, (b) admission type (assured admission or admission with support), and (c) fall-to-fall retention?
- RQ2: How well does the combination of the selected variables predict new first-time students' fall-to-fall retention?
  - Student demographics: ethnicity, gender, first generation
  - HS academic performance: high school GPA, test score (ACT & SAT converted to ACT scale), test attempts
  - UW Admission and Support: application timing (months from application submission to term), admission type (assured admission or admission with support), Hathaway Scholarship (paid or not), Test Optional policy (before or after)

## **Methodology**

### **Data Source and Sample**

To answer the research questions, this study includes only the students who were considered for the Hathaway Scholarship as Wyoming residents. The following filters were used to select the sample based on the Hathaway eligibility requirements (Wyoming Statutes, 21-16-1303):

- Included Wyoming residents at the time of application
- Included undergraduate students who were under 21 years of age at the time of entry as way to focus on the vast majority of students who met the 4-year Hathaway initiation timeframe since high school graduation
- Excluded non-degree students since they are not Title IV eligible
- Excluded incarcerated students participating in Pathways from Prison program
- Excluded international students who are not Title IV eligible

Based on the criteria, the data of 5,866 new first-time, resident students who entered UW in a fall semester between 2017 and 2023 were analyzed in this study, including 565 students who are Wyoming residents, but did not meet the Hathaway's academic requirements. The demographic information of the students is presented in Table 1.

Table 1

*Demographic Information*

Student Characteristics	Fall 2017	Fall 2018	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Total
<b>Race/Ethnicity</b>								
American Indian or Alaska Native	0	4	4	3	3	4	8	26
Asian	12	6	6	8	20	12	7	71
Black or African American	5	3	6	7	4	7	3	35
Hispanics of any race	63	73	45	36	107	95	92	511
Native Hawaiian or Other Pacific Islander	1	1	1	1	0	1	2	7
Race and Ethnicity unknown	65	51	73	49	12	36	26	312
Two or more races	46	50	30	32	35	36	32	261
White	677	661	639	633	680	707	646	4,643
<b>Gender</b>								
Female	441	449	414	424	467	469	423	3,087
Male	428	400	390	345	394	429	371	2,757
Unknown	--	--	--	--	--	--	22	22
<b>First Generation*</b>								
First Generation	298	286	276	255	282	303	266	1,966
Not First Generation	571	563	528	514	579	595	550	3,900
<b>Total</b>	<b>869</b>	<b>849</b>	<b>804</b>	<b>769</b>	<b>861</b>	<b>898</b>	<b>816</b>	<b>5,866</b>

\*First generation status is based on the question: Do either of your parents have a 4-year baccalaureate degree?

**Data Analysis**

To answer the first research question, the data of all the 5,866 new first-time, resident students who entered UW in a fall semester between 2017 and 2023 were analyzed using descriptive statistics to investigate the changes and trends of Hathaway scholarship, admission types, and fall-to-fall retention impacted by the Test Optional policy over the past seven years.

To answer the second research question, logistic regression was conducted to assess whether the selected 11 predictor variables significantly predict student fall-to-fall retention. The data of two cohorts before Test Optional (Fall 2017, Fall 2018) and two cohorts after Test Optional (Fall 2021, Fall 2022) were selected for the analysis ( $N = 3,477$ ). The cohorts of Fall 2019 and Fall 2020 were excluded because (a) they were the first two years or “transition years” of Test Optional policy, and many students had already taken their ACT or SAT before the policy change; (b) the retention rates were impacted by the COVID-19 pandemic (e.g., campus shutdown, remote learning, financial difficulties, grading optional, and probation not applied). The cohort of Fall 2023 was excluded because the fall-to-fall retention data is not available until the semester of Fall 2024. The definitions of variables are presented in Table 2.

Table 2

*Variable Definitions*

<b>Variable Name in Report</b>	<b>Definition</b>
Fall-to-Fall Ret	1 = Re-enrolled in the following fall 0 = Not Enrolled in the follow fall
Ethnicity	1 = White 0 = Underrepresented Minority: American Indian or Alaska Native; Asian; Black or African American; Hispanics of any race; Native Hawaiian or Other Pacific Islander; Two or more races Not coded = Nonresident Alien; Race and Ethnicity unknown
Gender	1 = Male, 0 = Female, Not coded = Not Available or NULL
First Gen	Based on the question: Do either of your parents have a 4-year baccalaureate degree? 1 = First Generation 0 = Not first generation
Pell Eligible	1 = Pell eligible in the student's first year 0 = Not Pell eligible in the student's first year
HS GPA	Unweighted high school cumulative GPA, used for admission purposes
Test Score	Maximum composite ACT, or SAT converted, score. For admission purposes.
Test Attempts	The total number of attempts of taking ACT and/or SAT tests
Application Timing	Timespan in months from the APPLICATION DATE to the start date of the semester
Admission Type	1 = Assured Admissions: Accepted 0 = Admissions with Support Not coded = Unknown: Deferred; Declined Offer/Was Admitted; NULL
Hathaway Award	1 = Hathaway award paid in entry year 0 = Hathaway not paid in entry year Not coded = Non-US Citizens and Non-WY Residents (Hathaway defined)
Test Optional	1 = Test Optional Semester: Fall 2021; Fall 2022; Fall 2023 0 = Test required: All semesters before Fall 2020; Fall 2020 included here because most students had submitted test scores before policy change was announced.

**Results**

**RQ1: What are the changes impacted by the Test Optional admission policy in regard to (a) Hathaway Scholarship, (b) admission type (assured admission or admission with support), and (c) fall-to-fall retention?**

**Overview of Fall-to-Fall Retention**

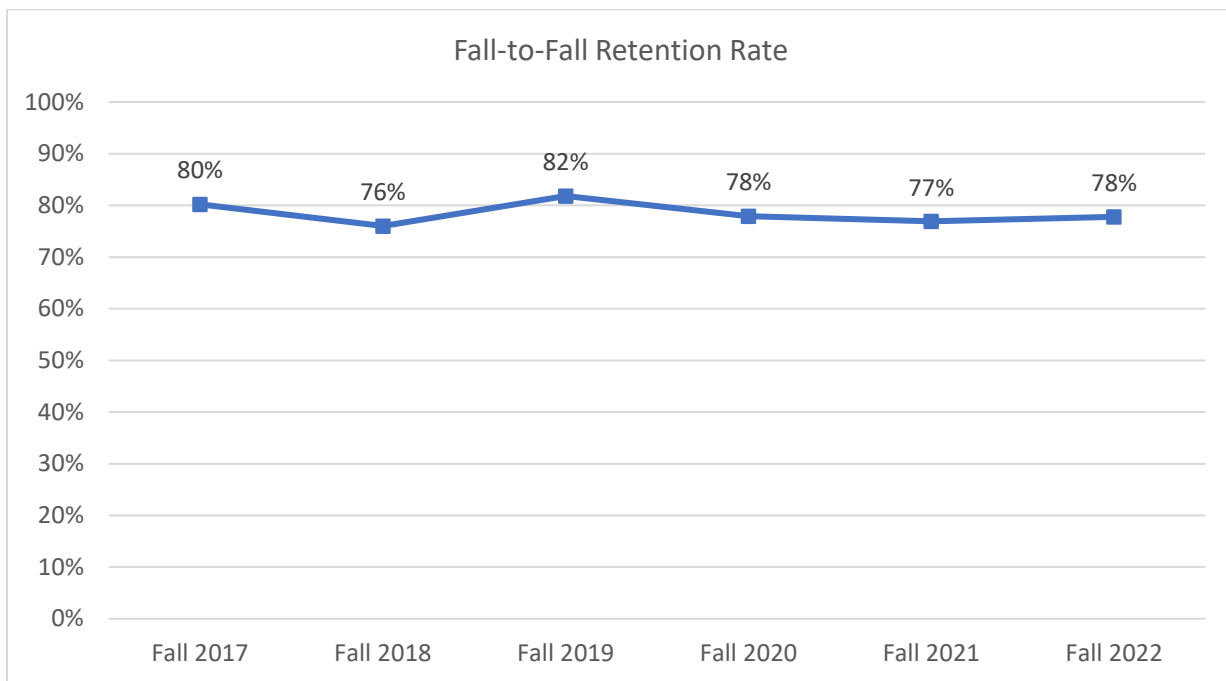
The numbers of students who retained fall-to-fall at UW were analyzed and compared by cohort years (Table 3). The percentage of students retained fluctuated over the past six years, with higher retention rates in Fall 2017 (80.2%) and Fall 2019 (81.8%), and lower retention rates in Fall 2018 (76.0%) and Fall 2021 (76.9%). However, the retention rates have never been as high as 80% since Fall 2020, which could be caused by the impact of the policies applied during the COVID-19 pandemic from Fall 2019 to Fall 2021.

Table 3

*Number and Percent of Students by Fall-to-Fall Retention Status at UW*

Cohort	Fall-to-Fall Retention		Total
	Count	Percent	Count
Fall 2017	697	80.2%	869
Fall 2018	645	76.0%	849
Fall 2019	658	81.8%	804
Fall 2020	599	77.9%	769
Fall 2021	662	76.9%	861
Fall 2022	699	77.8%	898
Total	3,960	78.4%	5,050

*Note:* The cohort of Fall 2023 was excluded because the fall-to-fall retention data is not available at the time of this study.



## Applications - Test Score, Attempts, and Application Timing

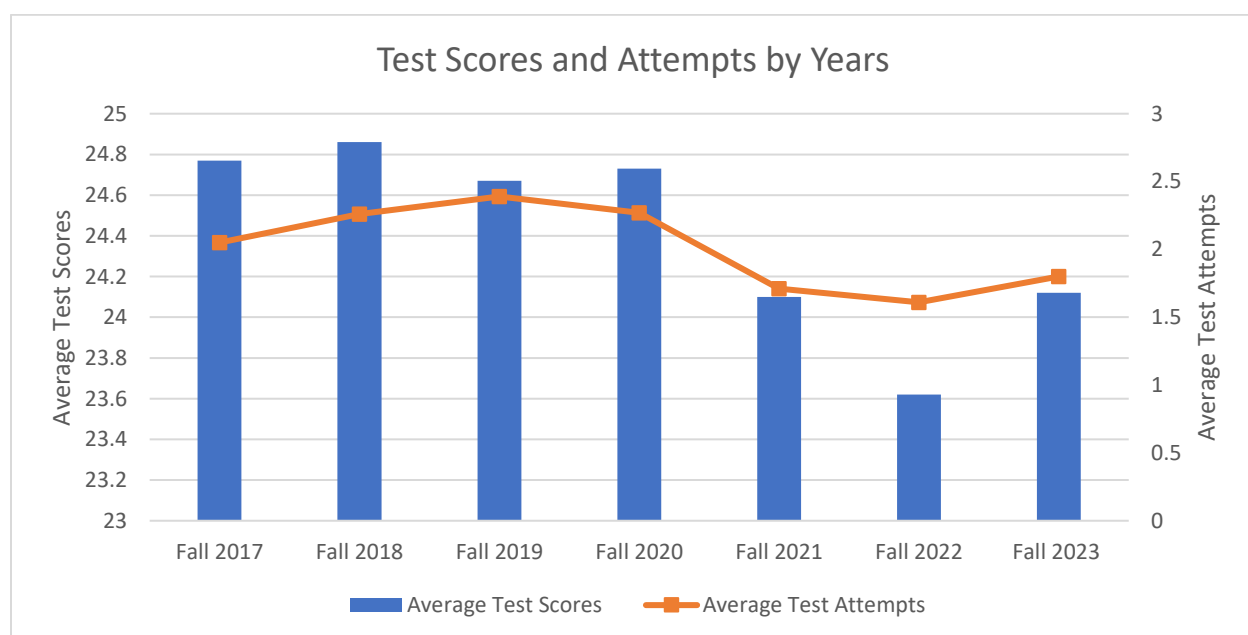
The ACT/SAT-converted test scores, test attempts, and application timing of all the 5,866 students were analyzed using descriptive statistics by cohort years (Table 4). Overall, the average test scores were above 24.6 before Fall 2020; and the average test scores declined to a range between 23.6 - 24.1 after Fall 2021. The average test attempts ranged between 2.1 - 2.4 before Fall 2020, and it dropped to 1.6 - 1.8 after Fall 2021. Before Fall 2020, there were no students without a test score; after Fall 2021, there were 59 students in total (about 2.3%) who did not submit a test score. The average months from application date to the start date of the semester (application timing) ranged between 9.1 – 9.4 months before Fall 2020, and it decreased to 8.3 – 8.9 months after Fall 2021. The comparisons based on student retention status show that the students who retained fall-to-fall had higher average test scores, test attempts, and application timing than the students who did not retain for all cohorts, and the trend of both retained and not retained groups align with the overall group.

Table 4

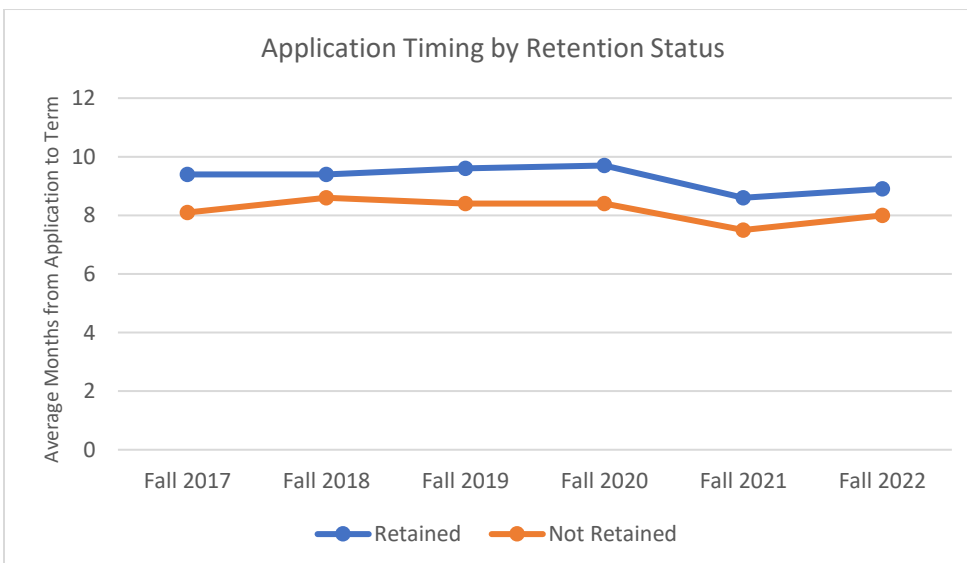
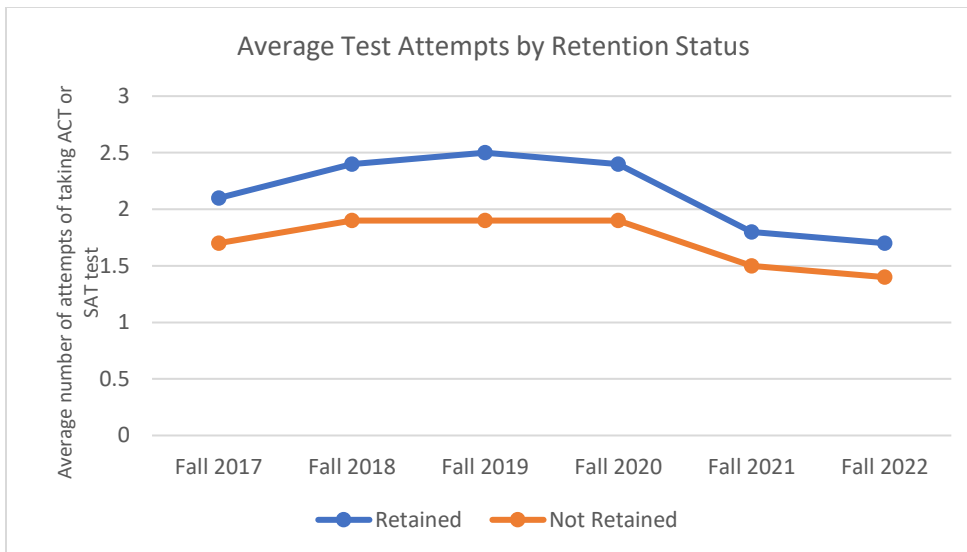
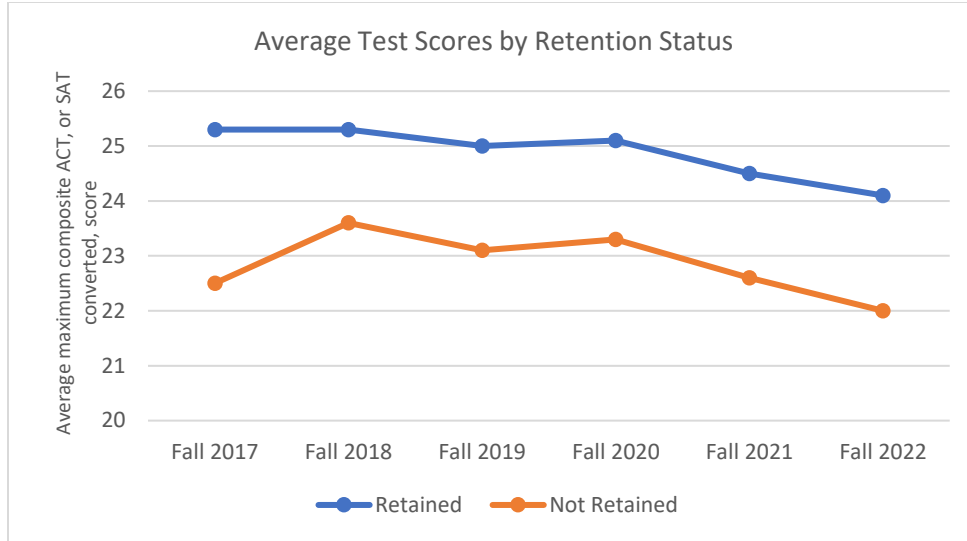
### *Test Score, Attempts, and Application Timing by Years*

Cohort	Average Test Scores			Average Test Attempts			Average Months from Application Submission to Term			Total #
	Retained	Not Retained	Total	Retained	Not Retained	Total	Retained	Not Retained	Total	
Fall 2017	25.3	22.5	24.8	2.1	1.7	2.0	9.4	8.1	9.1	869
Fall 2018	25.3	23.6	24.9	2.4	1.9	2.3	9.4	8.6	9.2	849
Fall 2019	25.0	23.1	24.7	2.5	1.9	2.4	9.6	8.4	9.4	804
Fall 2020	25.1	23.3	24.7	2.4	1.9	2.3	9.7	8.4	9.4	769
Fall 2021	24.5	22.6	24.1	1.8	1.5	1.7	8.6	7.5	8.3	861
Fall 2022	24.1	22.0	23.6	1.7	1.4	1.6	8.9	8.0	8.7	898
Fall 2023	--	--	24.1	--	--	1.8	--	--	8.9	816
Total	24.9	22.8	24.4	2.1	1.7	2.0	9.2	8.2	9.0	5,866

Note: The fall-to-fall retention data of Fall 2023 is not available at the time of this study.







## Hathaway Scholarship

The numbers of students awarded in three Hathaway scholarship levels were analyzed and compared using descriptive statistics by cohort years. Table 5A compares the headcounts and percentages of the students who received Hathaway scholarship versus those who did not receive any Hathaway scholarship. Before Fall 2020, the numbers of students who did not receive any Hathaway award were only about 6% to 8%, and the numbers increased greatly after Fall 2021 (13.6%) and reached 14.2% in Fall 2023.

Table 5B presents the headcounts and percentages in each level of Hathaway scholarship. The percentage of students who received Honors awards dropped slightly in Fall 2021 (47.3%) and Fall 2022 (44.2%), but it increased again in Fall 2023 (51.6%). The numbers of students who received Performance and Opportunity awards decreased slightly by 2% to 3% respectively.

Table 5A

*Number and Percent of Students by Hathaway Scholarship Award Status (Awarded vs No Award)*

Cohort	All Award Levels		No Award		Total #
	#	%	#	%	
Fall 2017	818	94.1%	51	5.9%	869
Fall 2018	780	91.9%	69	8.1%	849
Fall 2019	737	91.7%	67	8.3%	804
Fall 2020	715	93.0%	54	7.0%	769
Fall 2021	744	86.4%	117	13.6%	861
Fall 2022	772	86.0%	126	14.0%	898
Fall 2023	700	85.8%	116	14.2%	816
Total	5,266	89.8%	600*	10.2%	5,866

Note: \*Includes 35 students who were eligible but did not initiate the award in their first year. This represents between 0.2% and 1.2% of students per year in the study population.

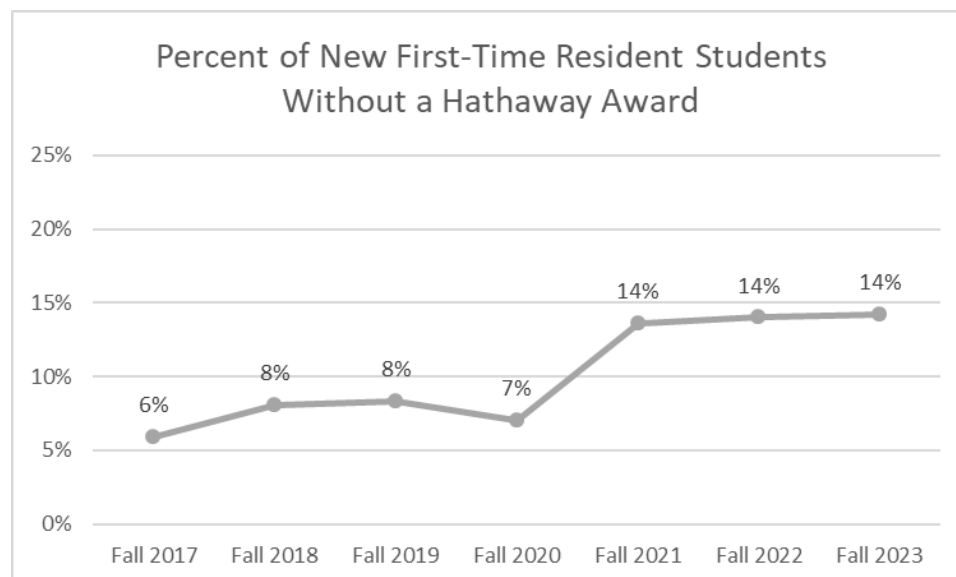


Table 5B

*Number and Percent of Students by Hathaway Scholarship Award Levels (Honors, Performance, Opportunity)*

Cohort	Honors		Performance		Opportunity		Total
	#	%	#	%	#	%	#
Fall 2017	378	46.2%	307	37.5%	133	16.3%	818
Fall 2018	385	49.4%	293	37.6%	102	13.1%	780
Fall 2019	369	50.1%	282	38.3%	86	11.7%	737
Fall 2020	362	50.6%	258	36.1%	95	13.3%	715
Fall 2021	352	47.3%	289	38.8%	103	13.8%	744
Fall 2022	341	44.2%	290	37.6%	141	18.3%	772
Fall 2023	361	51.6%	247	35.3%	92	13.1%	700
Total	2,548	48.4%	1,966	37.3%	752	14.3%	5,266

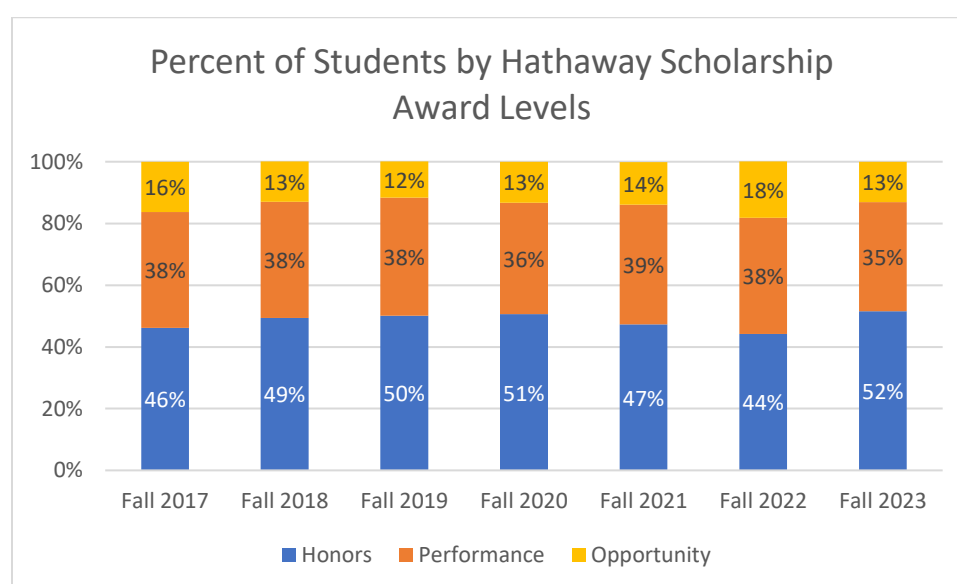
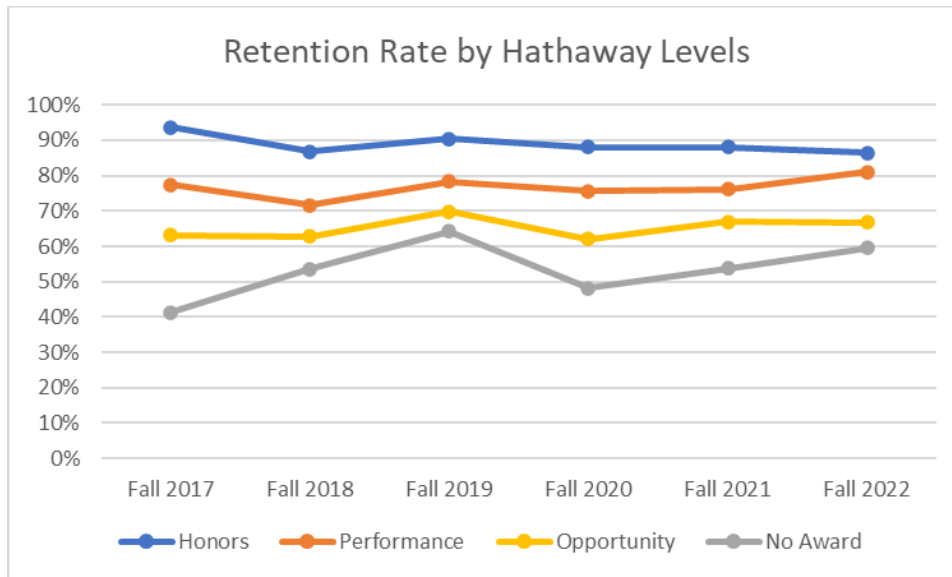


Table 6 presents the number of students retained and the retention rate of each Hathaway Scholarship level. The data indicates that students who were awarded with any Hathaway Scholarship levels had a higher retention rate than those without a Hathaway award as well as all Hathaway-eligible students (see Table 3) for all cohort years. Specifically, the retention rates of Honors students ranged from 86.5% (Fall 2022) to 93.7% (Fall 2017), the retention rates of Performance students ranged from 71.7% (Fall 2018) to 81.0% (Fall 2022), and the retention rates of Opportunity students ranged from 62.1% (Fall 2020) to 69.8% (Fall 2019). The retention rates of Honors students declined slightly after Fall 2020 with the lowest rate in Fall 2022, but both Performance and Opportunity students' retention rates increased after Fall 2020. The retention rate of students of all award levels reached as high as 83.4% and 82.6% before Fall 2020, but it dropped to around 80% after Fall 2020.

Table 6

*Retention Rate by Hathaway Levels*

Cohort	Honors		Performance		Opportunity		All Award Levels		No Award	
	# Retained	%	# Retained	%	# Retained	%	# Retained	%	# Retained	%
Fall 2017	354	93.7%	238	77.5%	84	63.2%	676	82.6%	21	41.2%
Fall 2018	334	86.8%	210	71.7%	64	62.7%	608	77.9%	37	53.6%
Fall 2019	334	90.5%	221	78.4%	60	69.8%	615	83.4%	43	64.2%
Fall 2020	319	88.1%	195	75.6%	59	62.1%	573	80.1%	26	48.1%
Fall 2021	310	88.1%	220	76.1%	69	67.0%	599	80.5%	63	53.8%
Fall 2022	295	86.5%	235	81.0%	94	66.7%	624	80.8%	75	59.5%
Total	1,946	89.0%	1,319	76.7%	430	65.2%	3,695	80.9%	265	54.8%



### Admission Type (Assured Admission or Admission with Support)

The numbers of students admitted with or without support were analyzed and compared using descriptive statistics by cohort years. Table 5 shows that the percentage of students admitted with *no* support increased greatly from about 80% (Fall 2017 – Fall 2020) to over 90% (Fall 2021 – Fall 2023), and the percentage of students admitted with support also decreased suddenly by about 10% from Fall 2020 (19.9%) to Fall 2021 (8.4%) and remained the same level for the later years.

Table 7

#### Number and Percent of Students by Admission Types

Cohort	Assured Admission (no support)		Admission with Support		Total
	#	%	#	%	
Fall 2017	688	79.2%	181	20.8%	869
Fall 2018	686	80.8%	163	19.2%	849
Fall 2019	653	81.2%	151	18.8%	804
Fall 2020	616	80.1%	153	19.9%	769
Fall 2021	789	91.6%	72	8.4%	861
Fall 2022	811	90.3%	87	9.7%	898
Fall 2023	740	90.7%	76	9.3%	816
Total	4,983	84.9%	883	15.1%	5,866

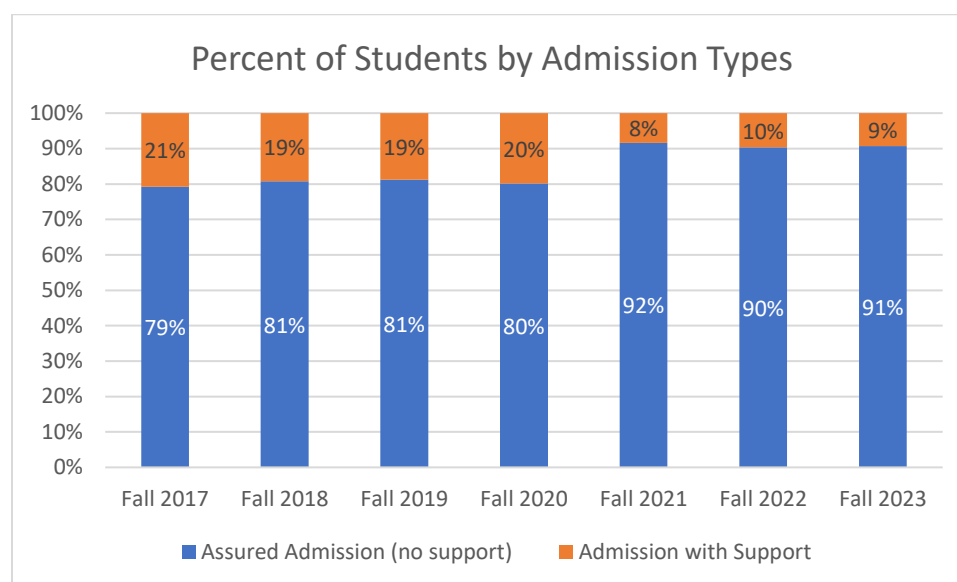


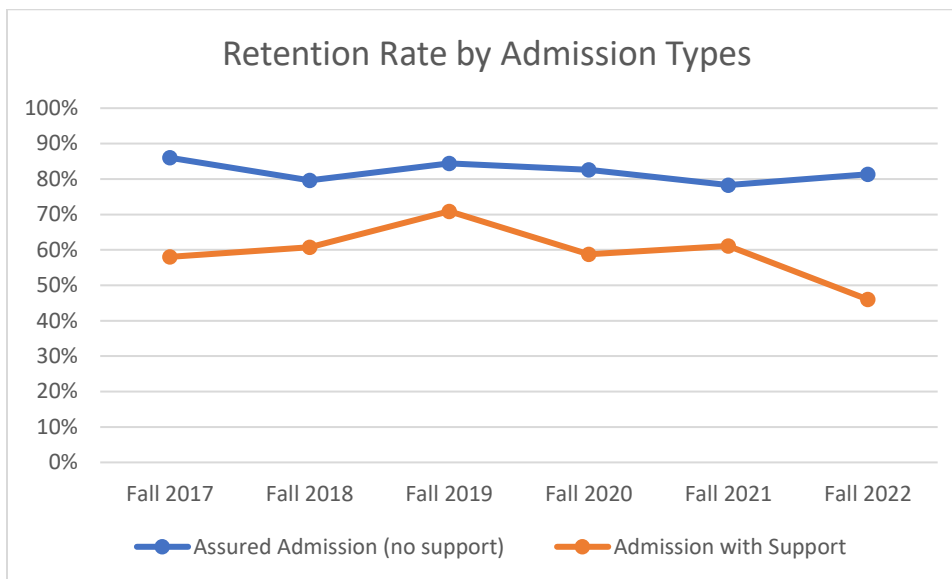
Table 8 presents the number of students retained and the retention rate of each Admission Type (Assured Admission, Admission with Support). The data indicates that students who were fully admitted (Assured Admission) had a higher retention rate than those who were admitted with support as well as the overall students showed in Table 3. The retention rate of Assured Admission students reached as high as 86.0% and 84.4% before Fall 2020, but it dropped slightly after Fall 2020 with the lowest rate in Fall 2021 cohort (78.3%). The retention rate of Admission with Support students fluctuated over the past six

years – before Fall 2022, the retention rates were all above 58% with the highest rate 70.9% (Fall 2019); in Fall 2022, the retention rate dropped to 46% which was the lowest rate.

Table 8

*Retention Rate by Admission Types*

Cohort	Assured Admission (no support)		Admission with Support	
	# Retained	%	# Retained	%
Fall 2017	592	86.0%	105	58.0%
Fall 2018	546	79.6%	99	60.7%
Fall 2019	551	84.4%	107	70.9%
Fall 2020	509	82.6%	90	58.8%
Fall 2021	618	78.3%	44	61.1%
Fall 2022	659	81.3%	40	46.0%
Total	3,475	81.9%	485	60.1%



## RQ2: How well does the combination of the selected variables predict new first-time students' fall-to-fall retention?

To address RQ2, first, a correlation matrix was computed to examine the intercorrelations (i.e., bivariate/one-to-one correlation) of fall-to-fall retention and all the 11 selected independent variables. Table 9 shows that ethnicity and Test Optional policy were not significantly correlated with fall-to-fall retention. The top predictor variables with the highest significant correlations with fall-to-fall retention were: high school GPA ( $r = .342$ ), admission type ( $r = .203$ ), test score ( $r = .199$ ), and Hathaway award ( $r = .195$ ).

Logistic regression was conducted to assess whether the predictor variables significantly predicted whether or not a student retained fall-to-fall at UW. When all 11 predictor variables are **considered together**, they significantly predict whether or not a student retained fall-to-fall,  $\chi^2 = 414.43$ ,  $df = 11$ ,  $N = 3,266$ ,  $p < .001$  (Table 10). Table 10 shows that the significant predictors include: Ethnicity, First Generation, HS GPA, Application Timing and Admission Type.

It is noticeable that some variables were significant predictors when used alone in the correlation matrix (e.g., Gender, Pell Eligible, Test Score, Test Attempts, Hathaway Award), but not a significant predictor in the logistic regression model. This suggests that even though tolerances were acceptable, there was sufficient correlation between some predictors to keep them from making a significant contribution once the other predictors were included (Leech et al., 2015).

Table 10

### *Logistic Regression Predicting Fall-to-Fall Retention*

Variable	<i>B</i>	<i>SE</i>	<i>Odds ratio</i>	<i>p</i>
Ethnicity	-.309	.122	.734	.012
Gender	-.176	.096	.839	.066
First Gen	-.274	.101	.760	.006
Pell Eligible	-.181	.106	.835	.088
HS GPA	1.801	.166	6.055	<.001
Test Score	.023	.014	1.023	.105
Test Attempts	.054	.049	1.056	.272
Application Timing	.087	.020	1.091	<.001
Admission Type	-.433	.159	.648	.006
Hathaway Award	.263	.161	1.300	.103
Test Optional	.021	.099	1.021	.832
Constant	-5.842	.508	.003	<.001

*Note:* With SPSS, the odds are for the outcome that is coded as “1,” which refers to fall-to-fall retention status (1 = retained, 0 = not retained). For odds ratios that are greater than 1, there is an increase in the likelihood of fall-to-fall retention for every increase in the predictor variable; for odds ratios that are less than 1, there is a decrease in the likelihood of fall-to-fall retention for every increase in the predictor variable. (Leech et al., 2015)

Table 9

*Intercorrelations for the Predictor Variables and Fall-to-Fall Retention*

	Fall-to-Fall Ret	Ethnicity	Gender	First Gen	Pell Eligible	HS GPA	Test Score	Test Attempts	Application Timing	Admission Type	Hathaway Award	Test Optional
Fall-to-Fall Ret	1											
Ethnicity	0.024	1										
Gender	-.091**	-0.009	1									
First Gen	-.136**	-.149**	-0.02	1								
Pell Eligible	-.097**	-.129**	-0.022	.307**	1							
HS GPA	.342**	.149**	-.198**	-.226**	-.160**	1						
Test Score	.199**	.168**	.045**	-.217**	-.147**	.497**	1					
Test Attempts	.127**	.047**	-.074**	-.093**	-.089**	.248**	.076**	1				
Application Timing	.179**	.066**	-.123**	-.067**	-.091**	.286**	.245**	.194**	1			
Admission Type	.203**	.108**	-.100**	-.156**	-.107**	.641**	.415**	.060**	.151**	1		
Hathaway Award	.195**	.137**	-0.012	-.163**	-.098**	.428**	.469**	.147**	.200**	.372**	1	
Test Optional	-0.009	-0.032	-0.014	-0.008	0.016	.041*	-.110**	-.227**	-.143**	.156**	-.112**	1

Note: \* $p < .05$  \*\* $p < .01$

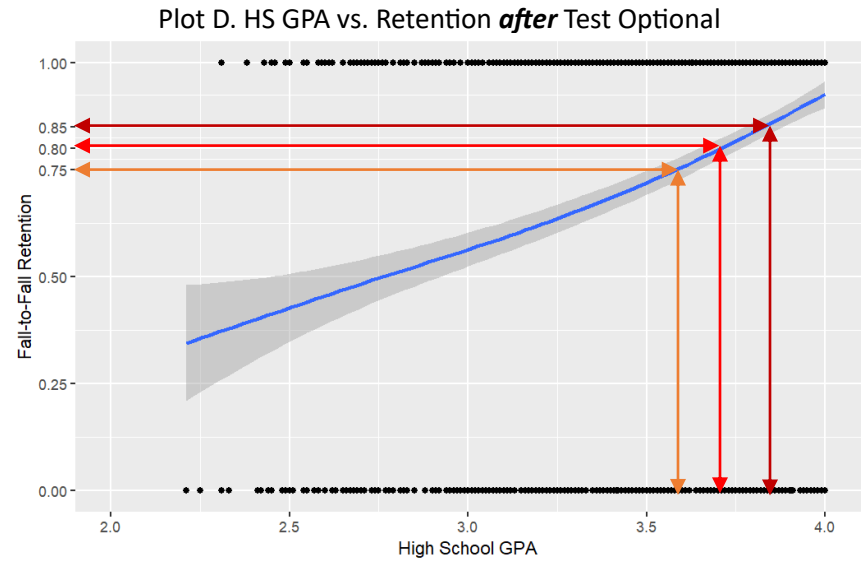
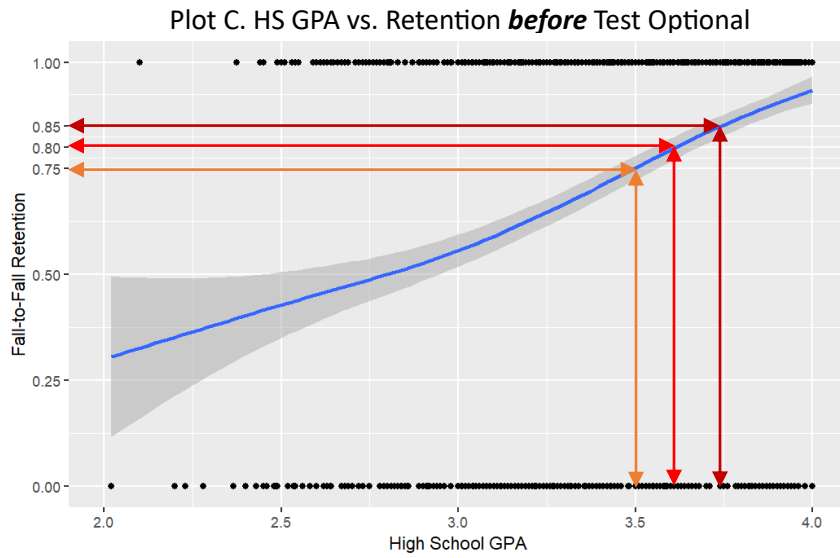
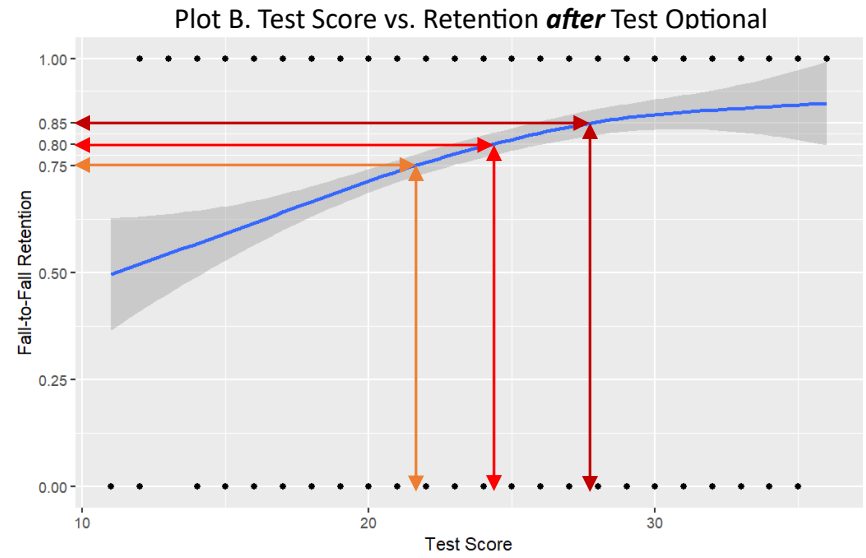
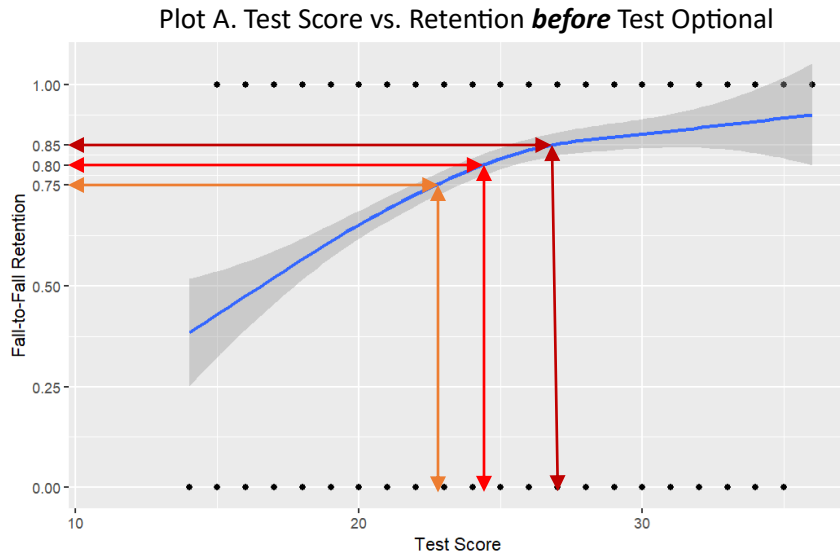
Correlation effect size: small  $r = 0.10$ , moderate  $r = 0.30$ , large  $r = 0.50$  (Cohen, 1988)



The relationships between ACT/SAT score, high school GPA and fall-to-fall retention before and after Test Optional policy were visualized and compared using logistic regression curve plots to determine how the Test Optional policy impacted the two most important factors for admission decisions. Figure 1 shows that before Test Optional policy (Fall 2017, Fall 2018), students with an ACT/SAT-converted test score over 23 tend to have a 75% or higher probability to retain, students with a score over 24.5 tend to have 80% or higher probability to retain, and students with a score over 27 tend to have 85% or higher probability to retain (Plot A). After Test Optional policy (Fall 2021, Fall 2022), students with an ACT/SAT-converted test score over 21.5 tend to have a 75% or higher probability to retain, students with a score over 24.5 tend to have 80% or higher probability to retain, students with a score over 28 tend to have 85% or higher probability to retain (Plot B). Before Test Optional policy, students who have a high school GPA higher than 3.5 tend to have a 75% or higher probability to retain, students with a high school GPA higher than 3.6 tend to have 80% or higher probability to retain, and students with a high school GPA higher than 3.75 tend to have 85% or higher probability to retain (Plot C). After Test Optional policy, students who have a high school GPA higher than 3.6 tend to have a 75% or higher probability to retain, students with a high school GPA higher than 3.7 tend to have 80% or higher probability to retain, students with a high school GPA higher than 3.85 tend to have 85% or higher probability to retain (Plot D).

Figure 1

Logistic Regression Curve Plots for Fall-to-Fall Retention



## Conclusion

This research report examined the impact of Test Optional policy on Hathaway scholarship, admission types, and student success of new first-time, resident students at the University of Wyoming. Overall, the fall-to-fall retention rates of Hathaway-eligible students fluctuated throughout the past six years, with higher retention rates in Fall 2017 (80.2%) and Fall 2019 (81.8%), and lower retention rates in Fall 2018 (76.0%) and Fall 2021 (76.9%). The retention rates had not reached 80% since Fall 2020, which could be caused by the practices during COVID-19 pandemic where grading was allowed to be S/U and no students were placed on probation. The key findings include:

### Applications - Test Score, Attempts, and Application Timing

- Students took fewer attempts of ACT or SAT tests after Test Optional policy (2.39 to 1.61 times), and the test scores declined (24.86 to 23.62).
- The average months from application date to the start date of the semester (application timing) ranged between 9.1 – 9.4 months before Test Optional, and it decreased to 8.3 – 8.9 months after Test Optional.
- Students who retained fall-to-fall had higher average test scores, test attempts, and application timing than the students who did not retain for all cohorts.

### Hathaway Scholarship

- The percentage of students who received Hathaway awards dropped at all three levels (Honors, Performance, Opportunity), and the percentage of students who did not receive Hathaway award increased (5.9% to 14.2%). This is not due to more students deferring the scholarship.
- Students who were awarded with any Hathaway Scholarship levels had a higher retention rate than those without a Hathaway award, as well as the overall students. The retention rates of Honors students declined slightly after Fall 2020, but both Performance and Opportunity students' retention rates increased after Fall 2020. The retention rate of students of all award levels reached as high as 83.4% and 82.6% before Fall 2020, but it dropped to around 80% after Fall 2020.

### Admission Types (Assured Admission or Admission with Support)

- The percentage of students admitted with support decreased suddenly by about 10% from Fall 2020 (19.9%) to Fall 2021 (8.4%) and remained the same level for the later years.
- Students who were fully admitted (assured admission) had a higher retention rate than those who were admitted with support as well as the overall students. The retention rates of both Assured Admission students (lowest rate: 78.3% Fall 2021) and Admission with Support students (lowest rate: 43.0% Fall 2022) decreased after Test Optional policy.

### Predictors of Fall-to-Fall Retention

- Bivariate/one-to-one correlation: high school GPA ( $r = .342$ ), admission type ( $r = .203$ ), test score ( $r = .199$ ), and Hathaway award ( $r = .195$ ). Test Optional policy was not a significant predictor.
- Logistic Regression: When considering all 11 predictor variables *together*, the model significantly predicted fall-to-fall retention overall, and the significant predictors include: ethnicity, first generation, HS GPA, application timing and admission type. Again, Test Optional policy was not a significant predictor.

- Before Test Optional policy, students with an ACT/SAT-converted test score over 23, 24.5, 27 tend to have 75%, 80%, 85% or higher probability to retain. After Test Optional policy, students with test score over 21.5, 24.5, 28 had a 75%, 80%, 85% or higher probability to retain.
- Before Test Optional policy, students with a high school GPA at 3.5, 3.6, 3.75 tend to have a 75%, 80%, 85% probability to retain. After Test Optional policy, students need a high school GPA at least 3.6, 3.7, 3.85 to have a 75%, 80%, 85% or higher probability to retain.

### **Practical Recommendations**

This research study provided useful information about applications, Hathaway scholarship, admissions, and retention rates of new first-time students at UW, and compared the differences in rates for UW leadership and other departments to work on this topic together to improve retention rates. The practical recommendations based on the research findings are discussed as following:

- Encourage applicants taking ACT or SAT tests to work for a higher score and submit applications earlier to gain a better opportunity to earn the Hathaway Scholarship and a higher probability to retain/succeed in the first year at UW.
- Consider asking the legislature to change the Hathaway Scholarship's requirements to ensure students who do not have a test score still have a chance to get the scholarship. These students might be more in need of financial support due to the cost of testing (low-income students) or the lack of knowledge about the scholarship requirements from high school (rural area), etc.
- Consider the admissions with support category and how to distinguish students needing support when not using test scores.
- Explore admissions standards to ensure student success at UW.
- Recently, some institutions are returning to require standardized test scores in admissions, including Yale, Dartmouth, Massachusetts Institute of Technology, Georgetown, Purdue, and University of Texas Austin; while other schools including Harvard, Cornell and Princeton are extending test-optional policies; and Columbia University made it permanent (Rubin, 2024; Saul, 2024). Therefore, it is recommended to keep following up on the literature and whether it would be useful for UW.

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