



**BOISE STATE UNIVERSITY**

OFFICE OF INSTITUTIONAL RESEARCH

## **Do multi-year scholarships increase retention?**

In the past, Boise State has mainly offered one-year scholarships to new freshmen. Recently, however, the institution moved toward offering more two and four-year scholarships, based on the thinking that these types of scholarships might further improve the retention of well-prepared students. The purpose of this study is to see if students with multi-year scholarships (or waivers for non-residents) were more likely to return compared to students with one-year scholarships and students with no scholarships.

The fall 2012 term was the first year that a substantial group of scholarship recipients were offered multi-year scholarships. This study was limited to fall 2012 first-time full-time bachelor's degree-seeking students with admissions index scores and residency information. Residency information was important because prior studies have shown that non-resident and resident students receive different financial aid packages and that the effects of financial aid on retention are different for the two groups.<sup>1</sup> Admissions index scores provided an important control because scholarship recipients are typically more academically prepared and are more likely to be retained even without scholarships. Other factors which can also affect retention are the amount of money that the student received and the unmet financial need remaining after the total financial aid package had been offered.

The basic question of the study is this: Are students who receive multi-year scholarships (or waivers) more likely to be retained after accounting for differences in admissions index scores, scholarship or waiver dollars received, and unmet financial need compared to students who get a one-year scholarship and students without scholarships?

## **Results**

Table 1 below shows the average admissions index scores, scholarship and waiver dollars awarded, and unmet financial need for each of three groups: (1) those with no scholarships, (2) those with one-year scholarships, and (3) those with multi-year scholarships or waivers. The Idaho Promise scholarship was not considered when assigning students to the three scholarship groups due to the low dollar amount awarded (\$450) and the fact that 84% of the Idaho residents in the cohort received this scholarship. However, Promise scholarship dollars were accounted for as part of the model (see next section). All waivers for non-resident students covered four years so were considered as part of the multi-year scholarship category.

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<sup>1</sup> See Belcheir, M. (2012). *A description of financial aid offered to new fall 2010 students and the relationship to retention*. Boise, ID: Boise State University Office of Institutional Research. The report can be found at <http://ir.boisestate.edu/wp-content/uploads/2012/10/RR-2012-8-Financial-Aid-and-Retention.pdf>

**Table 1. Admissions index and financial aid information for fall 2012 first-time-in-college full-time bachelor's degree-seeking students**

Residency	Scholarship group	Average Admissions Index score (0-100)	Average Waiver amount	Average Scholarship amount	Average Promise Scholarship Amount	Average Federal Unmet Need
Non Resident	No scholarship (n=183)	43.8	\$0	\$0	\$0	\$6910
	1-yr scholarship (n=44)	45.8	\$0	\$2101	\$0	\$9371
	Multi-year scholarship or waiver (n=440)	65.7	\$10,334	\$870	\$0	\$5522
	Total (n=667)	58.4	\$6817	\$712	\$0	\$6157
Resident	No scholarship (n=696)	50.3	\$0	\$0	\$405	\$6899
	1-yr scholarship (n=303)	59.4	\$0	\$2549	\$431	\$5386
	Multi-year scholarship (n=214)	79.6	\$0	\$5371	\$438	\$3381
	Total (n=1213)	57.8	\$0	\$3717	\$418	\$5900

The average admissions index score increased from the “no scholarship” group to the “one-year scholarship” group to the “multi-year scholarship” group. This finding confirmed the need to control for entering academic preparation by using admissions index scores. Note, too, that multi-year scholarships and waivers had a higher award amount compared to one-year scholarships, indicating a need to control for dollar amount of the scholarship and waiver. Generally, too, the amount of unmet financial need declined so that those with no scholarships had the greatest amount of remaining need, and those with multi-year scholarships had the least remaining need. See Table 1 for details.

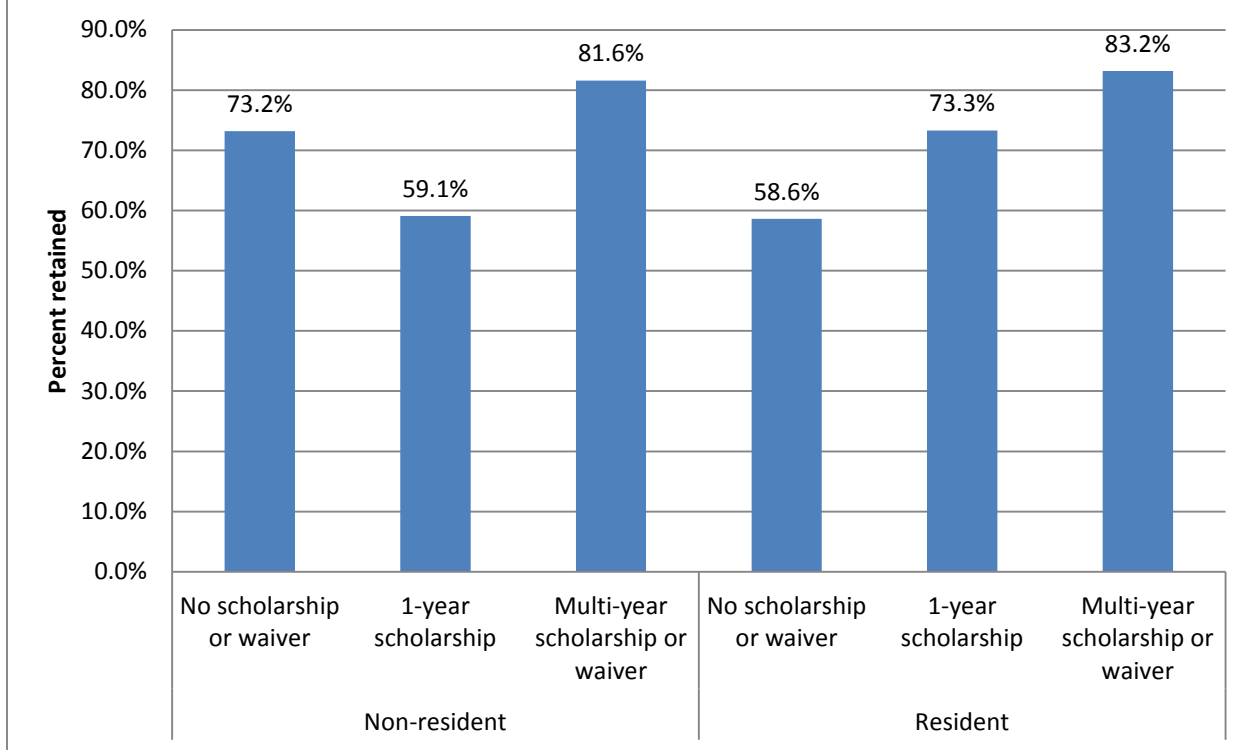
Table 2 displays the correlations among the variables. As expected, both the amount of the scholarship and the amount of the waiver were related to admissions index scores. Unmet need was also negatively related to admissions index scores but the relationship was decidedly weaker compared to scholarship and waiver amounts.

**Table 2. Correlations among variables used in the study**

		Scholarship amount	Unmet need	Admissions Index Score
Waiver amount	Pearson Correlation	-.06*	-.05*	.30**
	N	2,222	2,222	1,908
Scholarship amount	Pearson Correlation	1	-.18**	.46**
	N		2,222	1,908
Unmet need	Pearson Correlation		1	-.16**
	N			1,908

Figure 1 displays the retention rates by residency and scholarship group. For Idaho residents, the retention rates improved markedly from the non-scholarship group to one-year scholarship group to multi-year scholarship group. For non-residents, however, the group without any scholarships or waivers had a higher retention rate compared to the one-year group who obtained a scholarship but no waiver (because all waivers cover multiple years). The non-resident group with the multi-year scholarships or waivers had the highest retention rates.

**Figure 1. Percent retained after one year based on residency and scholarship group**



### Prediction of retention for Idaho residents

The analysis was conducted separately for Idaho residents and non-residents. The question of interest in both cases was the prediction of retention based on the length of the scholarship or waiver (no scholarship, one-year scholarship, multi-year scholarship or waiver). However, before testing for these differences, the effects of admissions index scores (a combination of test scores and high school GPA), amount of scholarship awards and waivers, and unmet financial need were considered.

The results of the analysis for Idaho residents can be found in Table 3. The length of the scholarship was not significant factor in retention for Idaho residents after the effects of all of the other variables were included. Note that scholarship dollars—from both the Promise Scholarships and other scholarship awards—had a positive impact on retention. Unmet financial need had a significantly negative impact on retention. Admissions index scores did *not* have a significant impact on retention after the financial aid variables were included.

**Table 3. Model to predict retention of Idaho residents**

	B	S.E.	Wald	df	Sig.	Odds ratio
Admissions Index Score	.009	.005	2.802	1	.094	1.009
<b>Scholarship dollars (in \$1000s)</b>	<b>.166</b>	<b>.056</b>	<b>8.903</b>	<b>1</b>	<b>.003</b>	<b>1.181</b>
<b>Idaho Promise Scholarship dollars</b>	<b>.003</b>	<b>.000</b>	<b>43.479</b>	<b>1</b>	<b>.000</b>	<b>1.003</b>
<b>Federal unmet need (in \$1000s)</b>	<b>-.023</b>	<b>.011</b>	<b>4.792</b>	<b>1</b>	<b>.029</b>	<b>.977</b>
Scholarship Group			.131	2	.937	
• No scholarship vs. multi-year	.053	.336	.025	1	.874	1.055
• 1-year scholarship vs. multi-year	.089	.277	.103	1	.749	1.093
Constant	-1.058	.523	4.093	1	.043	.347

Note: Significant effects are in **bold** and shaded

### Prediction of retention for non-residents

Table 4 shows the model for predicting retention for non-residents. Note that the amount of waiver dollars the student received has been added to the model and Promise scholarship dollars have been removed since non-residents cannot receive this scholarship.

**Table 4. Model to predict retention for non-residents**

	B	S.E.	Wald	df	Sig.	Odds ratio
Admissions Index Score	-.004	.010	.160	1	.689	.996
Scholarship dollars (in \$1000s)	-.062	.053	1.370	1	.242	.940
<b>Federal unmet need (in \$1000s)</b>	<b>-.026</b>	<b>.011</b>	<b>5.766</b>	<b>1</b>	<b>.016</b>	<b>.974</b>
<b>Waiver amount (in \$1000s)</b>	<b>.301</b>	<b>.073</b>	<b>17.135</b>	<b>1</b>	<b>.000</b>	<b>1.351</b>
Non-resident scholarship group			<b>13.315</b>	<b>2</b>	<b>.001</b>	
• No scholarship/ waiver vs. multi-year	<b>2.440</b>	<b>.686</b>	<b>12.651</b>	<b>1</b>	<b>.000</b>	<b>11.469</b>
• 1-year scholarship/ waiver vs. multi-year	<b>1.997</b>	<b>.744</b>	<b>7.203</b>	<b>1</b>	<b>.007</b>	<b>7.366</b>
Constant	-1.070	.738	2.102	1	.147	.343

Note: Significant effects are in **bold** and shaded

Unlike the results for residents, the length of the award continued to have an impact on retention, even after accounting for the effects of the other variables. The results, however, were counter to expectations. The findings indicated that after accounting for the effects of unmet need and the size of the waiver, students who did not receive either a scholarship or a waiver were more likely to be retained compared to students who received multi-year scholarships or waivers. The same result was found when comparing one-year scholarship students to multi-year scholarship recipients—the one-year group had a higher probability of being retained after the effects of unmet need and waiver amounts were considered.

The results also show that the amount of unmet need continued to negatively impact retention after accounting for the effects of the other variables, and the amount of the waiver positively impacted retention. Neither admissions index scores nor scholarship dollars were significant in this model after accounting for the effects of the other variables.

## Summary and conclusions

The purpose of this study was to discover if multi-year scholarships and waivers were related to higher retention after the effects of admissions index scores, award amounts, and remaining unmet financial need were considered. A simple look at the retention rates for three groups of new students—no scholarship or waiver, one-year scholarship, and multi-year scholarship or waiver—showed that those with longer awards had higher retention rates. However, that was no longer the case when amount of scholarship or waiver dollars awarded, unmet financial need remaining after the award, and admissions index scores were included in the analysis. For Idaho residents, the amount of scholarship dollars and remaining unmet need were related to retention, but the length of the scholarship was not. For non-residents, unmet need and the amount of the waiver awarded were significant predictors of retention. However, after accounting for the effects of the other variables, students who received less than a multi-year scholarship had higher predicted retention rates compared to students in the multi-year group.

It appears, therefore, that the amount of the award and the reduction in unmet financial need were more important factors than the length of the award in retaining students. Admissions index scores, which are used to award scholarship and waiver amounts and lengths, were not a significant predictor of retention after the effects of remaining financial need and award amounts were considered. Recall, however, that many factors remain outside the control of statistical analysis so decision-makers are urged to move with caution. Readers are reminded that this analysis was based on only a single cohort year so further study is warranted. Steps will be taken to re-visit the fall 2012 group in the fall of 2014 to look at two-year retention rates. Adding other fall cohorts to the analysis may also provide a clearer picture.