DIFFERING GENDER CHARACTERISTICS AND ASSOCIATED NEEDS AND COLLEGE STUDENT RETENTION

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Abstract

The purpose of this study was to explore the relationship between religiosity and undergraduate student retention at Idaho State University (ISU). With only 50% of college students consistently persisting to graduation, attrition is a problem that plagues colleges and universities. Research shows that students who are more integrated in education (both in and out of class) are more likely to remain enrolled. For this study, religious involvement was examined as an avenue of educational integration. Data for this study were obtained from 103 respondents to mail surveys. Factor analysis revealed three useable factors regarding religious attitudes and behaviors. These factors were analyzed along with demographic variables to explore the relationship between religiosity and retention. The demographic analysis showed that the sample was representative of the ISU undergraduate student population. Although statistically significant differences based on demographics in terms of enrollment were not found, significant differences were noted between males and females across some enrollment related demographic variables. These differences were largely associated with heavier familial responsibilities borne by the female respondents, and are the focus of this paper, providing important evidence-based insights regarding gender-specific student characteristics and associated needs.

Introduction

Because of the importance of retention in higher education and the difficulty shown in retaining college students there is a rich body of literature studying the retention/attrition phenomenon and attempting to identify why some students persist and others do not (Astin, 1975, Porter, 1990; Tinto, 1987). Despite efforts to study and understand retention/attrition and thereby increase the number of students who persist in college, the U.S. postsecondary undergraduate retention rate has consistently held at around 50 percent (Seidman, 2005). Further, since 2002 the postsecondary enrollment rate for students who have just graduated from high school has fluctuated between 64% and 69% (NCES, 2009). This is up from a 2004 report that noted fewer than half of high school graduates pursued post-secondary education (Stoops, 2004). This combination of a low percentage of high school students attending college and half of college students dropping out, means that a high percentage of the population lacks the benefits derived from a college education; and correspondingly society is denied the benefits of the contributions that persons with a college education can make; not to mention the negative economic impact on colleges/universities in terms of enrollment and associated revenue (Tierney, 1992).

In order to address and thereby ameliorate problems associated with retention/attrition, Swail, Redd, and Perna (2003) wrote, “Given the resources and effort that must go into a campus-wide retention program, the final plan must be based on solid, proven evidence of success” (para. 2). In other words, in order to retain students it is vital to know why some students persist and others do not. Vincent Tinto, in his 1987 book *Leaving College* developed a theory of retention and attrition that has informed numerous other models (Berger & Braxton,

1998; Hartley, 2004; Liu & Liu, 1999; Longwell-Grice & Longwell-Grice, 2008; Sichivitsa, 2003). Tinto's model, as well as those influenced by it, examined students' academic and social integration into the institution as predictors of retention, and argued that students who were more socially and academically integrated into the life of the institution were more likely to persist. As a corollary to this claim, Tinto hypothesized that students who felt isolated, particularly from professors, or incongruent (i.e., students who felt that their school choice was not right for them) were more likely to not persist.

While there has been considerable research regarding the retention/attrition phenomenon (Astin, 1975, 1993; Berger & Braxton, 1998; Mallincrodt & Sedlacek, 1987; Seidman, 2005; Tinto, 1987) there are some important aspects of students' college life and its relation to retention and integration that still need to be fleshed-out. Two such aspects are the differentiated student characteristics and associated needs of males and females in relation to retention. According to Sax (2008):

> Too often the focus is on the relative numbers of women and men on campus—with women constituting nearly 60 percent of student bodies nationwide—and not on how college-enrolled women and men differ from each other in potentially important ways. Though they are enrolled in classes together, use the same campus services, and often live in the same residence halls, the backgrounds and needs of college women and men are not the same. Information about these student characteristics is valuable to the campus because it enables planning and programming that addresses incoming students' needs and interests. (p. 13)

These differences could have a powerful impact on retention. It was therefore deemed useful to disaggregate and examine the data from this study based on gender.

The broader study from which these data were derived explored enrolled and non-enrolled student perceptions about the relationship between religiosity and retention at Idaho State University (ISU), a state-run institution in the Intermountain West. Religious involvement was specified and examined as an avenue of educational integration (Berger & Braxton, 1998; Hartley, 2004; Liu & Liu, 1999; Longwell-Grice & Longwell-Grice, 2008; Sichivitsa, 2003). The analysis showed that the sample was representative of the ISU undergraduate student population; and that although statistically significant differences based on demographics in terms of enrollment were not found, significant differences were noted between males and females across some enrollment related demographic variables. This paper focuses on the demographic data disaggregated by gender (i.e., Research Questions 1 and 2 of the broader study), in terms of gender, age, race/ethnicity, marital/family status, school/student status, and education-related financial support; and then explores the influence, if any, on student retention. Research Questions 1 and 2 were stated as follows:

1. What are the demographics of the sample as far as ethnicity, gender, number of semesters completed, age, and high school grade point average?
2. What influence, if any, do student demographics have on retention/attrition as ISU?

Methodology

This study was designed to yield quantitative data, with some short qualitative queries included to allow respondents to elaborate and/or clarify quantitative responses. Using the ISU telephone directory, participants were randomly selected from the 2006 undergraduate student population. ISU was a good choice for this study because, historically, it has had relatively low retention and degree completion rates. ISU reported that 23% of the 1998 cohort had graduated by 2004 (ISU, 2005). In comparison, according to the National Center for Education Statistics

(NCES) Fast Facts, "[a]pproximately 57 percent of first-time students seeking a bachelor's degree or its equivalent and attending a 4-year institution full time in 2001-02 completed a bachelor's degree or its equivalent at that institution in 6 years or less" (2010, Response para. 1). Because of this it was anticipated that some of the students listed in the ISU campus directory had dropped out at the time of the study. As a result, the random selection process sampled both enrolled students and individuals who had been, but were not currently enrolled.

Because freshman and sophomore students quit school at higher rates than others (Tinto, 1993) precautions needed to be taken to prevent over sampling of persistent students. A post-stratified random sampling strategy which "involves weighting a sample to match the known population profile. . ." (Lynn, 2002, p. 193) was employed. At the time of this study, ISU reported its student demographics by academic class as: 53% freshman, 25% sophomores, and 22% juniors. The post-stratified sampling was designed to match these percentages, resulting in 265 freshmen, 125 sophomore, and 110 junior students being included in the sample. No senior students were sampled since by the time a student is a senior he/she has already demonstrated persistence. When surveys were returned as undeliverable, another student of the same class was randomly sampled.

The basis for survey development was a 2004 study by Hartley, with adaptations based on the literature review. The draft instrument consisted of 17 demographic items and 30 Likert scale items organized around the following three themes: campus-based religious involvement (12 items), personal religiosity (8 items), and campus religious environment (10 items). Once drafted, the instrument underwent expert and researcher review to ensure content validity (Patten, 2005). Following the reviews the instrument was pilot tested during the fall 2006 semester. Cronbach's alpha, a measure of homogeneity used to assess inter-item reliability

(Patten, 2005), was employed. According to Leedy (1997) alpha values over .70 are considered acceptable in terms of demonstrating inter-item reliability. This analysis revealed acceptable inter-item reliability for both the pilot and actual survey data, and was further validated when Likert scale survey data were analyzed using a factor analysis with varimax rotation and principal components analysis. The surveys were disseminated to the post-stratified random sample by mail, along with a postage paid return envelope. A cover letter, which included instructions and Informed Consent was also included.

For purposes of this paper demographic quantitative data were analyzed descriptively and by using *t* tests and Chi Square analyses. Qualitative data were analyzed using a General Inductive method, whereby emergent themes were identified (Thomas, 2006).

Findings

The findings reported in this paper are delimited to the first two research questions, disaggregated by gender. Research Question 1 described the response rate, personal and student-related demographics, and enrollment status. Research Question 2 explored the disaggregated demographics relative to retention.

Research Question 1 – Descriptive Data

Response rate. A total of 547 surveys were mailed out, with 103 returned, resulting in an overall response rate of 18.83%. While lower than desired, the response rate was close to what Patten (1998) identified as acceptable for this type of survey: 20-60%.

Personal demographics. Personal demographics (i.e., gender, age, race/ethnicity, gender, and marital/family status) are displayed in Tables 1 and 2.

Table 1: *Personal Demographics*

Demographic Item	Participants (*N*=103)	Frequency percent	Number(%) male	Number(%) female
Gender				
Female	65	63.11%		
Male	38	36.89%		
Age*				
18-24	51	51.00%	19(51.35%)	32(50.79%)
25-31	22	22.00%	11(29.73%)	11(17.46%)
32-44	17	17.00%	6(16.22%)	11(17.46%)
45 and above	10	10.00%	1(02.70%)	9(14.29%)
Race/Ethnicity				
African American/Black	1	1.00%	0	1(01.54%)
American Indian/Alaska Native	1	1.00%	0	1(01.54%)
Caucasian/White	96	93.20%	37(97.36%)	59(90.77%)
Mexican American/Chicano	2	1.90%	1 (02.63%)	1(01.54%)
Native Hawaiian/Pacific Islander	2	1.90%	0	2(03.08%)
Other Latino	1	1.00%	0	1(01.54%)

**N* not equal to 103 because some respondents elected to omit these questions. Percentage calculations are based on the response *N* per question.

Just over 63% (*n*=65) of the respondents were female, while 36.89% (*n*=38) were male. Among those who supplied age-data the overall mean age was computed as 27.66 years. Among males a majority of respondents (51.35%) were between 18 and 24 years of age, 29.73% (*n*=11) were 25-31 years of age, six indicated they were within the 32-44 year age-range, and only one respondent indicated he was over 45. In contrast, among female respondents, while similarly just over 50% were between 18 and 24 years of age, females were more evenly dispersed across the age-ranges with just over 17% between 25-31 (*n*=11) and 32-44 (*n*=11) years of age, and 14.29% (*n*=9) indicating they were over 45 years of age. In terms of race/ethnicity, respondents of both sexes were overwhelmingly Caucasian/White.

Overall, these data revealed that almost twice as many females as males responded, with a slight overall majority (51.00%) between 18 and 24 years of age (i.e., traditional college-age students [Senter & Senter, 1998]). It was noteworthy that for the upper age-ranges (above 32

years old), females outnumbered males 20 to 7. Only 18.91% of male respondents were over 32, compared to 31.75% of females. With regard to gender, these findings were reflective of national trends that increasingly reveal not only that female undergraduates constitute a greater percentage of enrolled undergraduate students, but that a sizable majority of undergraduates are over 25 years of age (King, 2006; NCES, 2010a).

Table 2: *Marital/Family Status*

Demographic Item	Participants (*N*=103)	Frequency percent	Number(%) male	Number (%) female
Marital status*				
Married	37	43.02%	18(54.54%)	19(35.84%)
Not married	49	56.98%	15(45.45%)	34(64.15%)
Number of children				
0	53	62.35%	23(71.87%)	30(56.60%)
1	10	11.76%	5(15.62%)	5(09.43%)
2	10	11.76%	2(06.25%)	8(15.09%)
3 or more	12	14.12%	2(06.25%)	10(18.87%)
Children's age-range				
Younger than 5	14	43.75%	7(77.78%)	7(30.43%)
Between 5 and 18	10	31.25%	1(11.11%)	9(39.13%)
Adult	8	25.00%	1(11.11%)	7(30.43%)

**N* not equal to 103 because some respondents elected to omit these questions.
Percentage calculations are based on the response *N* per question.

Relative to marital/family status, of those who responded to this question (33 males and 53 females) 54.54% of the males indicated they were married, while just over a third (35.84%) of the females noted that they were married. In terms of children, overall over 60% indicated they did not have children. Among males over 70% indicated they did not have children, with only four indicating they had two or more children. In contrast, among the females, 43.39% indicated they had children and over a third indicated they had two or more, most of which (almost 70%) were school-age or younger. According to NCES 2007-08 data these percentages were slightly higher than national norms. NCES data indicated that 24% of male undergraduates were married

and 18.4% had children. In contrast 36.9% of females were married and 30.7% had children (NCES, 2010a).

Overall, school-age children between 5 and 18 years old, comprised almost a third (male *n*=1, female *n*=9) of respondents' children (and almost 40% of the female respondents' children). Also of note was that as both the number and ages of children progressed from low to high the numbers associated with the female respondents increased. Consistent with broader national data, these data demonstrate heavier familial responsibilities characterizing the female respondents in this study (King, 2006; NCES, 2010a).

Student demographics. Student demographics are reported in terms of high school GPA, enrollment status, semesters completed, and options for financing education. Tables 3, 4, 5 and 8 display these data.

Table 3: *Student Demographics*

Demographic Item	Participants (*N*=103)	Frequency percent	Number(%) male	Number(%) female
Number of semesters completed*				
0-2 (Freshman)	11	11.00%	2(02.00%)	9(09.00%)
3-4 (Sophomore)	36	36.00%	9(09.00%)	27(27.00%)
5-6 (Junior)	24	24.00%	12(12.00%)	12(12.00%)
7 and above (Junior+)	29	29.00%	14(14.00%)	15(15.00%)
Enrollment status				
Enrolled Overall	77	74.76%	28(73.68%)	49(75.39%)
Enrolled Part-time	14	18.18%	2(2.60%)	12(15.58%)
Enrolled Full-time	63	81.82%	26(33.77%)	37(48.05%)
Not-enrolled	26	25.24%	10(26.33%)	16(24.61%)
Enrollment plans				
Transfer to another institution	9	36.00%	3(30.00%)	6(42.86%)
Enroll for a few classes	4	16.00%	2(20.00%)	2(14.29%)
Not plan to return to ISU	3	12.00%	2(20.00%)	1(07.14%)
Plan to return to ISU	9	36.00%	4(40.00%)	5(35.71%)

**N* not equal to 103 because some respondents elected to omit these questions.
Percentage calculations are based on the response *N* per question.

Because high school GPA is often used as a factor associated with who receives scholarships and has been linked to retention in college (Cambiano, Denny,& DeVore, 2000; DeBerard, Speilmans, & Julka, 2004), high school GPA was queried. The male mean was 3.3289, while the female mean was slightly higher at 3.3644. This difference was not statistically significant (t=-.287, p=.775) (See Table 8). The semesters completed data revealed that overall, consistent with and reflective of the stratified sampling employed, 47.00% of respondents (male n=11, female n=36) had completed 0-4 semesters. Among those who had completed five or more semesters, 40% (male n= 18, female n=22) indicated they had completed 5-8 semesters, while 10.00%, (male n= 7, female n=3) indicated they had completed 9-12 semesters, and just 3.00% (male n= 1, female n=2) noted they had completed 13-16 semesters. The overall range of semesters completed was 0 to 16, with a respondent mean of 5.27 semesters. As these data imply, some respondents (13.00%) had been enrolled in more semesters than a full-time student would typically take to graduate, and were therefore, at some point in their education journey likely either part-time students or non-degree seeking.

In terms of average semesters completed there was a statistically significant difference between male and female respondents (Male M=6.1892, Female M=4.7143, t=2.381, p=.019, see Table 8) with males completing a significantly higher number of semesters than females. This finding was not surprising given that among the respondents who were enrolled, females were three times as likely as males to be enrolled part-time, were more dispersed among the upper, non-traditional student age-ranges, and had heavier familial responsibilities than did the male respondents.

Approximately three-quarters of respondents (N=77) were enrolled, with 26 respondents indicating they were not-enrolled. Female/Male responses similarly indicated approximately

three-quarters of each were enrolled at the time of this study. This finding reflected a higher rate of respondent enrollment than actual ISU demographics (ISU 2005); and was probably an artifact of the sample identification strategy (i.e., use of the ISU phone directory) in terms of its publication timing and how this could relate to student drop-out/stop-out timing. In addition, it would be reasonable to expect enrolled students to be more interested in completing a survey about their university than non-enrolled former students. These associations were not, however, explored in this study and could be examined in future studies of this type.

For the purpose of this study enrolled status was delimited to enrolled part-time and enrolled full-time. Of the 77 respondents who were enrolled 18.18% (*n*=14) indicated they were enrolled on a part-time basis. When disaggregated by gender 12 of the 14 part-time student respondents were female; with nearly a quarter of enrolled female respondents noting they were enrolled on a part-time basis. Related to enrollment status, respondents were queried regarding different methods used to finance their education. Tables 4 and 5 display these data, and reveal that an overwhelming majority (83.48%) of respondents were employed at least part-time, with female respondents twice as likely as male respondents to not be employed while enrolled. This finding was consistent with both the personal demographic data in terms of familial responsibilities (i.e., children) and the broader literature (King, 2006; NCES, 2010a; Sax, 2008).

Table 4: *Financial Support*

Financial Support	% Yes	% No	Number male, %yes	Number female, %yes
Scholarship	41.74%	58.26%	Y=7, N=31 (18.42%)	Y=36, N=29 (55.38%)
Grants	49.51%	50.49%	Y=17, N=21 (44.74%)	Y=34, N=31 (52.31%)
Student Loans	58.25%	41.75%	Y=23, N=15 (60.53%)	Y=37, N=28 (56.92%)
Work Study	13.59%	86.41%	Y=6, N=32 (15.79%)	Y=8, N=57 (12.31%)
Parental Support	15.53%	84.47%	Y=5, N=33 (13.16%)	Y=11, N=54(16.92%)
Paying for Self	52.43%	47.57%	Y=24, N=14 (63.16%)	Y=30, N=35(46.15%)
Other Monetary Support	13.59%	86.41%	Y=6, N=32 (15.79%)	Y=8, N=57(12.31%)
Employment	83.49%	16.51%	Y=34, N=4 (89.47%)	Y=52, N=13 (80.00%)
Employment status and type	Number	Percentage		
Not employed	17	16.50%	4(10.53%)	13(20.00%)
On campus	14	13.59%	5(13.16%)	9(13.85%)
Part time	39	37.86%	15(39.47%)	24(36.92%)
Full time	33	32.03%	14(36.84%)	19(29.23%)

When further disaggregated by gender (See Tables 5 and 6) two methods of financing education were found to be significant in terms of retention: scholarships and employment. Findings revealed that females who received scholarships were significantly more likely to be enrolled than were females without scholarships (75.38%, *n*=36, Chi Square=12.789, *p*=.002), as were those who were employed (29.38%, *n*=49, Chi Square=14.793, *p*=.022). There were no such findings for male respondents (see Table 6).

Because of the heavier familial responsibilities borne by the female respondents in this study, this finding was further considered in terms of females who had children and whether or not they were employed. As indicated in Table 2 just over half (*n*=30) of the female respondents indicated they did not have children. Among those without children, five indicated they were not employed, 18 were employed on-campus or part-time, and seven indicated they were employed full-time. For females with one child (*n*=5) one was not employed, one was employed part-time, and three were employed full-time. For females with two or more children (*n*=18) almost a third

were not employed, eight were employed either on-campus or part-time, and almost a third were employed on a full-time basis. Despite relatively small *n*'s, an employment child-care trend emerged. Among female respondents who reported having zero to one child, over 80% were employed at least part-time. In contrast, notably less, just over 70% of females who reported having two or more children indicated they were employed at least part-time.

Though not significant statistically, findings relative to finances could have very real individual effects on different students. For example, fewer than half of the overall respondents (41.74%) and over three-quarters of the female respondents reported that they received scholarships. Similarly, nearly half the overall respondents (49.51%) and just over half the female respondents reported receiving grants. Nearly 60% of respondents indicated they were financing their education (at least in part) with loans (60.53% male *n*=23; 56.92% female *n*=37); with relatively few noting they earned financial support through on-campus work-study employment (15.79% male *n*=6; 12.31% female *n*=8) and/or received parental monetary support (13.16% male, *n*=5; 16.92% female, *n*=11). Table 5 displays the percentages of respondents who employed each method of financing their education in combination with other methods. Among those enrolled full-time, in addition to self-funding (approximately 20%) combined scholarships (52.38%), grants (53.97%), and loans (60.32%) to finance their education. In contrast, among those not enrolled over 60% indicated they had been paying for their education themselves, less than a third noted they had received scholarships, 50% reported receiving grants, and like their enrolled peers, over 60% reported using loans.

Table 5: *Financial Support Combinations*

Enrollment Status	Employment	Scholarship	Grant	Student Loans	Work Study	Parent	Self	Other	Total
Not enrolled	n=1	n=8,	n=13	n=16	n=2	n=3	n=16	n=3	n=26
Percent in group	3.84%	30.77%	50.00%	61.54%	7.69%	11.54%	61.54%	11.54%	
Part-time	n=1	n=2	n=4	n=6	n=0	n=1	n=6	n=3	n=14
Percent in group	7.14%	14.29%	28.57%	42.86%	0.00%	7.14%	42.86%	21.43%	
Full-time	n=12	n=33	n=34	n=38	n=12	n=12	n=32	n=8	n=63
Percent in group	19.05%	52.38%	53.97	60.32%	19.05%	19.05%	50.79%	12.70%	
Total	n=14	n=43	n=51	n=60	n=14	n=16	n=54	n=14	n=103
Percent of total	13.59%	41.75%	49.51%	58.25%	13.59%	25.40%	52.43%	13.59%	

When asked if they were paying for their schooling themselves (i.e., did not receive parental or work-related funding support for school-related tuition, fees, etc.) over half reported that they were, with male respondents a third again more likely to be paying for schooling themselves than female respondents (63.16% male, *n*=24; 46.15% female, *n*=30; *Chi Square*=2.78, *p*=.095). These results are displayed in Tables 5 and 6. When considered relative to marital status the only statistically significant difference was in parental monetary support, with married students less likely to have received financial support from their parents (Chi Square=6.534, *p*=.011, see Table 7).

Table 6: *Enrollment Status by Gender and Financial Aid*

Variable	Female				Male			
	% enrolled with	*Chi Square*	DF	*P*	% enrolled with	*Chi Square*	DF	*P*
Scholarships	n=49, 75.38%	12.789	2	.002	n=7, 18.42%	1.299	2	.52
Grants	n=34, 52.31%	2.125	2	.35	n=17, 44.74%	.2.001	2	.37
Loans	n=37, 56.92%	1.556	2	.46	n=23, 60.53%	.556	2	.78
Work-study	n=8, 12.31%	3.727	2	.16	n=6, 15.79%	.859	2	.65
Parental	n=11, 16.92%	3.063	2	.22	n=5, 13.16%	4.004	2	.14
Self	n=30, 46.15%	.293	2	.86	n=24, 63.16%	4.677	2	.10
Other	n=8, 12.31%	.289	2	.87	n=6, 15.79%	2.016	2	.37
Employment	n=49, 75.38%	14.793	6	.022	n=28, 73.68%	8.906	6	.18

Consistent with broader national norms (NCES, 2010b) these results showed that the respondents in this study financed their education in a variety of ways, many employing multiple financial strategies simultaneously. The most common method of financing education overall for both male and female respondents, other than employment, was student loans. These results also showed that female respondents had a significantly higher likelihood of having received scholarships than male respondents (Chi Square=13.473, $p<.005$). Table 7 displays the financial differences across gender, martial and enrollment status. There were no statistically significant differences in terms of financial support sources and enrollment status.

Table 7: *Financial Differences (Chi Square)*

Variable	% with*	Male and female			Married/Not Married			*Enrolled/ Not-enrolled*		
		Chi Square	DF	*P*	*Chi Square*	DF	*P*	*Chi Square*	DF	*P*
Scholarships	41.70	13.470	1	<.005	3.237	1	.072	1.028	1	.311
Grants	48.80	.550	1	.458	.164	1	.685	.811	1	.368
Loans	58.30	.128	1	.720	.432	1	.511	2.318	1	.123
Work-study	15.50	.248	1	.691	.061	1	.805	.460	1	.498
Parental	17.90	.259	1	.611	6.534	1	.011	.900	1	.343
Self	50.00	2.780	1	.095	.047	1	.828	.068	1	.794
Other	14.30	.248	1	.619	.732	1	.392	.283	1	.594
Employment	83.50	1.787	3	.618	1.968	3	.579	3.827	3	.281

*Percentages are not exactly the same as above due to rounding.

Descriptive data summary. In sum, the respondents were not ethnically diverse, were mostly female (63.10%) with about half considered traditional students (as indicated by age-range data), and most were enrolled at ISU at the time of this study. The relatively high number of non-traditional students (49.00% overall, 48.65% male, 49.21% female) was important to note in terms of understanding respondent demographics within the context of ISU student demographics where, since 2006, the percentage of non-traditional students has remained between 47% and 49.70% (ISU, 2010a). As the qualitative statements bore out, non-traditional respondents, especially female non-traditional respondents, expressed different issues and needs associated with their enrollment, than did the male respondents. These data are presented and discussed relative to Research Question 2 in the next section of this paper.

Most respondents were unmarried (56.98%) and had no children. However, when disaggregated by gender differences were noted. The majority of male respondents were married, while just over a third of the female respondents were. Just over 43% of females (*n*=23)

indicated they had children, with almost a third of those (*n*=7) reporting having children younger than five years of age. Table 8 displays male/female demographic comparisons in terms of number and age-range of children, and reveals that there was a statistically significant difference between male and female respondents with females having significantly more children than males.

Table 8*: Demographic Differences: Male/Female (t test and Chi Square)*

Variable	Male	Female	
	Mean/SD Percentage	Mean/SD Percentage	*t* test/*p* value Chi Square
GPA	3.3289 SD=.54970	3.3644 SD=.59461	*t*=-.287 *p*=.775
Semesters completed	6.1892 SD=3.12550	4.7143 SD=2.90954	*t*=2.381 *p*=.019
Number of Children	.4688 SD=.87931	1.1509 SD=1.63373	*t*=-2.176 *p*=.032
Enrollment	73.68% enrolled	75.39% enrolled	Chi Square=0.16 *p*=.8988
Unmarried	9 (60.00%) full-time 1 (6.67%) part-time	23 (67.64%) full-time 2 (5.89%) part-time	Male Chi Square2.53 *p*=.28
Married	15 (81.11%) full-time 1 (5.56%) part-time	9 (47.37%) full-time 6 (31.58%) part-time	Female Chi Square 6.31 *p*=.04
Enrollment/number of Children	Without Children	With Children	
	Chi Square=3.619 *p*=.16	Chi Square=21.695 *p*=.017	

Regarding financing education, other than employment, the most common source of student financial support was student loans, with most respondents indicating they financed their education using a combination of financial support sources. In this study 23 men (60.00% of male respondents) and 37 women (56.90% of female respondents) reported using student loans

to help finance their education. These percentages were higher than national percentages, wherein 34.8% of male and 41.3% of female undergraduate students reported having student loans (NCES, 2010b, NCES, 2003). According to the NCES (2010b) among non-traditional undergraduate students nationally, 35.00% reported having student loans.

Research Question 2 – Influence of Demographics on Retention

Personal demographics: Gender and age-range. Overall, there were no statistically significant differences between males and females relative to retention as indicated by enrollment status (Chi Square=0.16, *p*=.8988, see Table 8). Of the 38 male respondents 73.68% (*n*=28) were enrolled. Similarly, of the 77 female respondents 75.39% (*n*=49) were enrolled. When disaggregated by gender and age-range the results showed that males had a smaller age-range (18-46) than females (18-64). In the traditional college student age-range (18-24) there were 19 male respondents, of whom four were not enrolled. For females in the 18-24 age-range there were 32 respondents, of whom nearly a third were not enrolled. In the 25-31 age-range there were 11 male and 11 female respondents, of whom two males and two females were not enrolled. In the 32-44 age-range there were six male respondents, three of whom were not enrolled; and 11 female respondents, two of whom were not enrolled. For the oldest age group in the study, 45 and above, there was one enrolled male respondent. There were nine female respondents in this age-range, two of whom were not enrolled. While the number of respondents was limited these data imply that for males, as the age increased, so did the percentage of those not enrolled, while, for females, the same did not hold true (see Table 1).

Personal demographics: Marital/Family status. Overall, fewer than half of the respondents reported that they were married (43.02%, *n*=37). However, just over 54% of the male respondents who answered this question reported being married, while 35.84% of the

females who answered this question reported being married. Interestingly, while females reported lower rates of being married, over a third of the female respondents indicated they had two or more children, while only four male respondents reported having two or more children (see Table 2). A t-test analysis revealed this difference to be statistically significant (male M=.4688, female M=1.1509, t=-2.176, p=.032) (see Table 8). With a lower marriage rate and higher reported rate of having children, these data imply that female respondents had greater familial responsibilities and associated demands than male respondents, as well as the possibility that a number of the female respondents may have been single mothers. This possibility was verified by the qualitative statements. One respondent expressed sentiments highlighting the confounding impact of being a non-traditional student and single mother in the following:

> Because of my non-traditional student status (age), [campus related] activities don't include me. Classes are available of course, but for me, a single mother, I felt my time away from home should further my academic education or be spent earning a living. With my work schedule & class schedule I had a full day and chose to participate only in [church] activities that included my children.

In terms of marriage and enrollment, for unmarried males 60.00% (n=9) were enrolled full-time, one was enrolled part-time, and five were not enrolled. In contrast, nearly 70% of unmarried females were enrolled full-time, two were enrolled part-time and 26.47% (n=9) were indicated they were not enrolled. Of the 18 married male respondents, over 80% (n=15) were enrolled full-time, one was enrolled part-time, and two indicated they were not enrolled. Unlike their married male peers, for married female respondents less than half (n=9) were enrolled full-time, nearly a third (n=6) were enrolled part-time and four (nearly a quarter) were not enrolled.

For males, these results were not statistically significant (Chi Square=2.53, *p*=.28); however, for females, marital status had a statistically significant effect on enrollment status (Chi Square=6.31, *p*=.04) with married females being more likely to be enrolled on a part-time basis (see Table 8).

When children were added to the mix in terms of who was enrolled and who was not, some trends emerged which shed light on potential retention issues. As mentioned, female respondents were found to have a significantly greater likelihood of having more children than male respondents (Male *M*=.4688, Female *M*=1.1509; *t*=.-2.176, *p*=.032). For males there were no respondents with children who were not enrolled. In other words, every male respondent with a child was enrolled, and only one male respondent with children was enrolled part-time. This finding did not hold true for female respondents who had children. Five of 23 (21.74%) female respondents with children indicated they were not enrolled, and similarly five indicated they were enrolled part-time. This means that over 40% of female respondents with children were either not enrolled or enrolled only part-time. This finding reinforces the notion that the female respondents in this study had greater familial responsibilities, and that the associated demands may have impacted retention (i.e., their enrollment status). When males and females were compared across the enrollment categories (i.e., not enrolled, enrolled part-time or enrolled full-time) even though more females were enrolled part-time, there was no statistically significant difference between males and females (Chi Square=3.619, *p*=.16). However, when number of children was added to the mix, there was a statistically significant difference (Chi Square=21.695, *p*=.017) (see Table 8). In sum, females had a significantly greater number of children, and number of children had a significant effect on enrollment status, with females with children being more likely to be enrolled on a part-time basis.

The qualitative data explicated these findings. One female respondent reported that she had dropped out because of pregnancy, while another said, **"**I have a 4-month baby and I plan to return when she turns 1-year-old." No males reported family responsibilities as their reason for not enrolling. Of the respondents who supplied qualitative comments regarding why they were not enrolled, some, like the above, recounted family-related issues which were very much tied to gender. There were 23 respondents who added qualitative comments; 39.13% (*n*=9) were male, and 60.87% (*n*=14) were female. Six respondents (four male and two female) cited financial problems for non-enrollment. While this was not necessarily gender related, as the statements reported later in this paper bear out, for females, financial concerns, even when they did not cause the student to drop-out, were often related to family concerns, which, in this study, were connected to gender as well as enrollment status.

As stated, two female respondents cited family concerns: one who tersely reported "I am pregnant" and another who had a small child for whom she was caring. In addition, four female respondents, though still enrolled, reported that they were limited in their campus activities because of responsibilities associated with their families. Male respondents simply did not express having these same familial responsibilities and associated demands. There were no male respondents who reported stopping their education to provide care for children. Further, there was only one male, as opposed to eight female respondents, who reported being a single parent.

The qualitative data further showed that many of the students not enrolled at ISU had transferred (eight respondents). The most common reasons for not enrolling at ISU, however, dealt with finances. Whether the attrition was due to taking a new job, or simply running out of money, finances remained problematic relative to retention. Finance related data are addressed below.

Student demographics: High school GPA. When the data were disaggregated by high school GPA—an oft-verified predictor of retention (Cambiano, Denny, & DeVore, 2000; DeBerard, Speilmans, & Julka, 2004; Kalsner, 1991), though there were no statistically significant differences in terms of who was more likely to persist (Male Chi Square=16.89, p=.53; Female Chi Square=25.94, *p*=.21) trends were noted. For males whose high school GPA was between 2.0 and 3.0 over a third (four of 11) were not enrolled. For females, the range was actually 1.9 to 3.0, with two of 17 respondents indicating they were not enrolled. In the 3.1 to 3.5 range, between 44% (male) and 45% (female) of the respondents were not enrolled. In the 3.6 and above range, there were two of 16 male respondents were not enrolled, while seven of 27 female respondents were not enrolled. Though high school GPA has been shown to be a predictor of retention (DeBerard, Speilmans, & Julka, 2004) in this study the highest percentage of those not enrolled among both male and female respondents was in the second highest GPA range. This implies that something besides academic achievement was in play, and that in terms of retention financial pressures likely trumped academic achievement.

Student demographics: Semesters completed. Comparisons were run between males and females regarding number of semesters completed as a measure of persistence. Males averaged 6.19 semesters completed, while females averaged 4.71 semesters. This difference was statistically significant (Male *M*=6.1892, Female *M*=4.7143, *t*=2.381, *p*=.019) (See Table 8). This finding was particularly interesting because females were much more likely to have received scholarships—a positive persistence factor. Despite this, male respondents indicated they had completed a significantly greater number of semesters. This finding was further explicated when the average age of the respondents was examined: overall, the average age was 27.66 years old; with the male average age 26.57 years and the female average age 29.70 years.

In sum, males completed more semesters and were younger at the time of this study. This could imply that females either started later or had stopped-out more frequently, especially given the fact that females were more likely to be enrolled part-time, and reported having more and younger children to care for.

Student demographics: Financial. As far as employment was concerned and displayed in Table 5, most respondents were employed while enrolled. Just over 10% of male (*n*=4) and 20.00% of female (*n*=13) respondents indicated they were not employed, and approximately 13% of both male and female respondents (*n*=5 males and 9 females) noted they were employed on campus. As might be expected, respondents who were employed on campus were, with one exception enrolled, and most indicated they were enrolled full-time. According to Astin (1975) working on campus has been associated with greater retention. The relatively low numbers of respondents who indicated they were or had been employed on campus was probably reflective of the non-traditional age-range and marital status that characterized many of the study respondents.

Among respondents who were employed just over half (males 51.72%, *n*=15; females 55.81%, *n*=24) indicated they worked part-time. Correspondingly this means that nearly half (males 48.24%, *n*=14; females 44.19%, *n*=19) noted they were working full-time. When looked at in terms of gender, enrollment and working part- or full-time; among males working full-time the enrollment rate was 50% (*n*=7); with just one male enrolled part-time, and six enrolled full-time. Among females who were working full-time, over a third were enrolled part-time (*n*=7), and nearly 60% (*n*=11) were enrolled full-time. Among respondents who were working part-time three males were not enrolled, one was enrolled part-time, and eleven were enrolled as full-time students. Among females, 41.67% (*n*=10) were not enrolled, four were enrolled part-time, and

ten were enrolled full-time. These data revealed that a much higher relative percent of males who were working full-time (50.00%) were not enrolled, compared to females who were working full-time (5.26%). In this study, for females, employment was a statistically significant predictor of retention (Chi Square=14.793, p=.022); with employed females more likely to be enrolled than employed males. Despite this, employment was not statistically significant in relation to retention for males (Chi Square=8.906, p=.18) (see Table 6).

Another financial element queried was scholarships. In this study over 55% (n=36) of females indicated they had received scholarships. In contrast, less than 20% (n=7) of males indicated they had received scholarships. This difference was statistically significant, with females being much more likely to have received scholarships (Chi Square=13.473, p<.005) (see Table 7). As stated, there were however, no statistically significant differences between male and female high school GPAs—one of the elements associated with scholarship decisions (ISU, 2010b), nor was there a statistically significant difference in retention between males and females (Chi Square=0.16, p=.8988) (see Table 8). In terms of other financial supports (see Tables 6 and 7) there were no statistically significant differences between males and females; which indicates that, despite the scholarship differences, overall male and female respondents similarly financed their schooling, employing multiple financial aid strategies and sources.

Discussion

According to Sax (2008) by noting gender differences, those differences are sometimes inadvertently reinforced. Even so, she went on to state:

> …the benefits of uncovering gender differences far outweigh the potential drawbacks, especially since the alternative is to ignore gender differences altogether. What is

> important, however, is to engage in thoughtful reflection on the magnitude and meaning of the differences that do exist. (p. 9)

While the study *N* was limited and similarities between males and females were noted relative to how education was financed (i.e., loans, grants, employment), this study spotlighted differences between male and female respondents in terms of enrollment patterns and trends as they relate to personal and student demographics. While female and male respondents were similar in age-range (with the exception of the 45 and above range), generally came from similar ethnic backgrounds (over 90% of respondents were Caucasian/White), had similar high school GPAs, employed numerous methods of financing education (ranging from part- and full-time employment to scholarships, grants, and loans, etc.), gender differences were evidenced in terms of marriage and children (i.e., over half the males were married, and the overwhelming majority of male respondents – over 70% indicated they did not have children; while just over 35% of female respondents were married, and over 40% had children), and financial status.

According to Corbett, Hill, and St. Rose (2008) "educational achievement is not a zero-sum game in which a gain for one group results in a corresponding loss for the other" (p. 2). The goal should, therefore, be to retain more students; both male and female. Relative to the similarities between the male and female respondents, the picture painted was of a student who, while working, taking advantage of grants, loans, and some scholarships struggled to manage competing personal and student demands. The respondents in this study, largely persisters, evidenced their ability to bear adult responsibilities and associated demands (i.e., marriage, children and work), while pursuing an undergraduate degree. Despite this, the qualitative responses showed that, at least for some females, heavier familial responsibilities made persistence both difficult and tenuous.

There were clearly others who did not handle the stretches and pulls as well: fully half of the male respondents who were employed full-time were not enrolled (7 of 14). With the multiple school financing methods evidenced in this study, one wonders if these non-persisters accessed all of the available resources; the most common qualitative theme among both male and female non-persisters was lack of finances, despite the quantitative data showing no significant differences among persisters and non-persisters in methods of financing education.-In addition to the finances (but not unrelated), were the aforementioned familial responsibilities, which were borne more heavily by female respondents. Recall that 43.48% of females with children were either not enrolled or enrolled part-time, while all of the males with children (9 of 38) were enrolled, and just one was enrolled part-time. Perhaps related to this was finding that females were more likely than males to have received scholarships, but were not more likely to be enrolled; and in fact, enrolled on a part-time basis more frequently—which according to Taniguchi and Kaufman (2005) puts them at greater risk of not completing their degree.-In composite (i.e., female employment, scholarships and familial responsibilities) the study findings further substantiated the broader literature; and reinforce Sax's (2008) contention that:

> [a]s more men and women from diverse backgrounds enter college, campus personnel should be aware of, and responsive to, students' changing financial needs. Gender differences are particularly important to acknowledge because women's financial concerns and need for employment are higher than men's. Thus, the ongoing shift in federal financial aid from grants to loans and work-study may present a particular challenge to female students. Also, campus staff and faculty should be mindful that many women have continuing—and *unpaid*—responsibilities to their families. (p. 22)

Concluding Thoughts

This study both quantitatively and qualitatively illustrated the cautions cited by Sax (2008), and lends evidence-based insights into the gender-specific characteristics and needs associated with retention, particularly as they relate to marital/family status and finances, as well as the need to create conditions facilitative of academic and social integration (Tinto, 1987) in terms of class scheduling and student services access. A non-traditional non-enrolled female respondent summed up these issues in the following:

> The biggest factor influencing that decision is the costs associated with tuition/books/fees/etc vs. the quality of learning, class schedules, and semesters certain classes are offered. By far the biggest factor [associated with why] I am not currently attend[ing] classes, is the cost of those classes charged to non-tradition[al] students who are not taking a 'full-time' student class load.

Sax (2008) summarized this with the hortative, "campuses should consider ways to maximize on-campus engagement for female students who live at home or who have ongoing family responsibilities that require them to go home more frequently" (p. 82). Further, Knox et al. (2000) noted that family friendly policies, practices and supports can have a positive impact on mothers with heavy familial responsibilities.

This paper reports findings disaggregated by gender, derived from a broader study that looked at the relationship between religiosity—as an attribute of academic and social integration (Tinto, 1987) and student retention. When viewed through a gender lens, these findings were largely consistent, although somewhat amplified in terms of familial responsibilities (e.g., marital status and childcare) with the broader literature (Jones-DeWeever, 2005; Scott, Burns, & Clooney, 1998; Taniguchi & Kaufman, 2005). As such, these findings add to the empirical body

of knowledge generally, as well as serving to inform and instruct colleges/universities with similarly non-traditional demographic profiles regarding the gender-specific characteristics, issues and associated needs of its undergraduate students. While this study did not reveal anything particularly unexpected, it did reveal even when not specifically looking for them, the gender-specific characteristics, issues and associated needs that research shows can and do impact student retention and attrition.

References

Astin, A. W. (1975). *Preventing students from dropping-out*. San Francisco, CA: Jossey-Bass Inc.

Astin, A. W. (1993). *What matters in college: Four critical years revisited.* San Francisco, CA: Jossey-Bass Inc.

Berger, J. B., & Braxton, J. M. (1998). Revising Tinto's interactionalist theory of student departure through theory elaboration: Examining the role of organizational attributes in the persistence process. *Research in Higher Education, 39,* 103-119.

Cambiano, R. L., Denny, G. S., & De Vore, J. B. (2000). College student retention at a midwestern university: A six-year study [Electronic version]. *Journal of College Admission, 166,* 22-29.

Corbett, C., Hill, C., & St. Rose, A. (2008). *Where the girls are: The facts about gender equity in education.* American Association of University Women: Washington D.C.

DeBerard, M. S., Spielmans, G., & Julka, D. (2004). Predictors of academic achievement and retention among college freshmen: A longitudinal study [Electronic version]. *College Student Journal, 38*(1), 66-80.

Hartley, H. V. III. (2004a). *The relationship of religious involvement to the social integration and persistence of first year students.* Paper presented at the ASHE annual meeting, Kansas City, MO.

Hosmer, D. W., & Lemeshow, S. (2000). *Applied logistic regression* (2nd ed.). New York, NY: John Wiley & Sons, Inc.

Idaho State University (2005). *Graduation rates*. Retrieved November 10, 2006 from http://www.isu.edu/areg/stats/docs/GraduationStatistics/GraduationRates.pdf

Idaho State University (2006). *Enrollment Statistics Report: 2006*. Pocatello, ID: Author.

Idaho State University. (2010a). *Student demographic data.* Retrieved September 25, 2010 from http://www.isu.edu/areg/stats/docs/EnrollmentSpring/DemogSpring.pdf

Idaho State University. (2010b). *Scholarship information- new freshmen.* Retrieved September 25, 2010 from http://www.isu.edu/scholar/freshmen.shtml

Jones-DeWeever, A. A. (2005). When the spirit blooms: Acquiring higher education in the context of welfare reform. *Journal of Women, Politics & Policy, 27*(3), 113-134.

Kalsner, L. (1991). *Issues in college student retention*. New York: Higher Education Extension Service Review. (ERIC Document Reproduction Service No. ED350894).

King, J. E. (2010). Gender equity in higher education: 2006. [Electronic copy]. *On Campus with Women, 35*(3).

Knox, D., Sturdivant, L., Zuzman, M., & Paterson-Sandie, A., (2000). Single motherhood: College student views [Electronic copy]. *College Student Journal, 34*, 4.

Leedy, P. D. (1997). *Practical research: Planning and design* (6th ed.). Columbus, OH: Prentice Hall.

Liu, E., & Liu, R. (1999). An application of Tinto's model at a commuter campus [Electronic version]. *Education, 119,* 537-541.

Longwell-Grice, H., & Longwell-Grice, R. (2008). "Testing Tinto: How do retention theories work for first-generation, working-class students." *Journal of College Student Retention 9*(4), 407-420.

Lynn, P. (2002). Principles of sampling. In T. Greenfield (Ed), *Research methods for postgraduates* (2nd ed). (185-194). London: Arnold Publishers.

National Center for Education Statistics (NCES). (2003). Characteristics of undergraduate borrowers: 1999-2000. Retrieved September 27, 2010 from http://nces.ed.gov/pubs2003/2003155.pdf

National Center for Education Statistics (NCES). (2009). Retrieved August 31, 2009 from http://nces.ed.gov/fastfacts/display.asp?id=51

National Center for Education Statistics (NCES). (2010a). Retrieved September 27, 2010 from http://nces.ed.gov/pubs2010/2010205.pdf

National Center for Education Statistics (NCES). (2010b). Retrieved August 25, 2010 from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2010162

Patten, M. L. (1998). *Questionnaire research: A practical guide*. Los Angeles, CA: Pyrczak Publishing.

Patten, M. L. (2005). *Understanding research methods: An overview of the essentials* (5th ed.). Glendale, CA: Pyrczak Publishing.

Porter, O. F. (1990). *Undergraduate completion and persistence at four-year colleges and universities: Detailed findings*. Washington, DC: National Institute of Independent Colleges and Universities.

Sax, L. J. (2008). *The gender gap in college*. San Francisco, CA: Jossey-Bass Inc.

Scott, C., Burns, A. and Cooney, G. (1998). Motivation for return to study as a predictor of completion of degree amongst female mature students with children. *Higher education, 35*, 221-239.

Seidman, A. (Ed). (2005). *College student retention: Formula for student success.* Blue Ridge Summit, PA: Rowman & Littlefield.

Sichivitsa, V. O. (2003). College choir members' motivation to persist in music: Application of the Tinto model. *Journal of Research in Music Education, 51,* 330-341.

Stoops, N. (2004). *Educational attainment in the United States: 2003.* Washington, DC: U.S. Census Bureau.

Swail, W. S., Redd, K. E., & Perna, L. W. (2003). Retaining minority students in higher education: A framework for success [Electronic version]. *ASHE-ERIC Higher Education Reports, 30*(2), 1-172.

Taniguchi, H., &Kaufman, G. (2005). Degree completion among nontraditional college students. *Social Science Quarterly, 86*(4), 912-927.

Tierney, W. G. (1992). An anthropological analysis of student participation in college. *Journal of Higher Education, 63*(6), 603-618.

Tinto, V. (1987). *Leaving college: Rethinking the causes and cures of student attrition*. Chicago, IL: University of Chicago.

Tinto, V. (1993a). Building community [Electronic version]. *Liberal Education, 79,* 16-22.

Thomas, D. R. (2006). A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation, 27*(2), p. 237-246.