



PRESENTATION HANDOUT

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LESS LIKELY TO SUCCEED?

Factors that influence persistence for students conditionally-admitted into a Bachelor of Science Nursing program

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Presenter and Disclosures

- **Jeff Hill, EdD, Regional President – Wisconsin Campuses, Herzing University**
- **No commercial support was given to the author.**

Learner Objectives

Discuss how standard admission variables (GPA and TEAS) accurately distinguish program completers from non-completers among students who were conditionally admitted to a BSN program.

Identify academic and key demographic variables available at the point of admission which improve predictions of program completion.

Recognize the impact of nonacademic factors of self-efficacy and grit related to student persistence within a nursing program.

Statement of the Problem

- The United States is facing a major nursing shortage while our demand for healthcare is expected to increase
- Aging population and increased life expectancy will significantly increase the need for healthcare
- Current production of nursing graduates is not projected to meet the current, and forecasted, healthcare needs of our society (AACN, 2019)

Research Methodology

- Sequential-explanatory mixed method design
- Quantitative phase of research – discriminant analysis
- Qualitative phase of research – semi-structured interviews
- Triangulate findings from both phases of research

Previous Research which Guided the Study

- Nursing education
- Factors related to nursing persistence
- Theories of student retention
- Theories of nursing student persistence
- Theory of Grit
- Theory of Self-efficacy

Research Design

Quantitative phase – discriminant analysis

- Used to examine the predictive validity of an array of variables related to program completion: Academic variables, Demographic variables, and Non-cognitive variable

Qualitative phase – small group, semi-structured interviews

- Expand upon findings from quantitative phase
- Explore participant experiences related to persistence

Study Site & Population

- Private Midwestern University which primarily serves non-traditional students
- BSN program designed to be completed in 36 months
 - Traditional select admission requirements
 - “Conditional” admittance which allows applicants that score below requirement of admission exam entrance into the nursing program
- 174 individuals conditionally-admitted to the program from 2009-2016

Qualitative Phase of Research: Five stages of discriminant analysis

- 1st phase examined the data collected in order to test for normality, check for outliers and describe the study sample population of 166
- Stages 2-5 examined a variety of models and variables to investigate effectiveness at predicting group membership
 - Models 1 & 2 examined entire study sample (166)
 - Models 3 & 4 examined records of survey respondents (86)

Discriminant Analysis – Stage 1

OVERVIEW OF SAMPLE AND SUB-SAMPLES			
	MODELS 1-2	MODELS 3-4	INTERVIEWS
N	166	86	17
DEGREE YES	52.4%	75.6%	52.9%
DEGREE NO	47.6%	24.4%	47.1%
TEAS AVERAGE (SD)	53.6	53.6	53.3
PRIOR GPA AVER (SD)	2.71	2.71	2.70
TRANSFER CREDITS	19.4	21.1	17.6
% PELL	63.5%	54.7%	100.0%
AVERAGE AGE	28.8	28.6	33.1

Discriminant Analysis – Stage 2

RESULTS OF DISCRIMINANT ANALYSIS - MODEL 1					
	DEGREE YES	DEGREE NO	EQUALITY OF GROUP MEANS P VALUES	STANDARD COEFFICIENTS	STRUCTURE MATRIX
N	87	79			
TEAS	53.6	53.6	F(1,164)=.015, P<.901	0.070	-0.045
PRIOR GPA	2.72	2.70	F(1,164)=.060, P<.807	-0.015	0.088
TRANSFER CREDITS	21.96	16.5	F(1,164)=7.7, P<.006	1.007	0.998
DISCRIMINANT CENTROIDS	0.206	-0.227			
% Correct Classification	64.4%	50.6%			
<p><i>This model did not perform statistically better than chance: Wilk's Lambda=.955, Chi-Square (df=3)=7.509, p<.057. Overall, 58% of the cases were correctly classified.</i></p>					

Discriminant Analysis – Stage 3

RESULTS OF DISCRIMINANT ANALYSIS - MODEL 2					
	DEGREE YES	DEGREE NO	EQUALITY OF GROUP MEANS P VALUES	STANDARD COEFFICIENTS	STRUCTURE MATRIX
N	87	80			
TRANSFER CREDITS	21.9	16.3	F(1,165)=8.33, P<.004	-0.762	-0.667
AGE	28.2	29.50	F(1,165)=1.09,P<.297	0.402	0.241
PELL	0.54	0.74	F(1,165)=7.21,P<.008	0.636	0.620
DISCRIMINANT CENTROIDS	-0.321	0.349			
% Correct Classification	67.8%	56.3%			

This model did perform statistically better than chance: Wilk's Lambda=.898, Chi-Square (df=3)=17.59,p<.001. The model explained 10.2% of the variance. Overall, 62.6% of the cases were correctly classified.

Discriminant Analysis – Stage 4

RESULTS OF DISCRIMINANT ANALYSIS - MODEL 3					
	DEGREE YES	DEGREE NO	EQUALITY OF GROUP MEANS P VALUES	STANDARD COEFFICIENTS	STRUCTURE MATRIX
N	65	21			
TRANSFER CREDITS	21.5	19.7	F(1,84)=.29, P<.588	0.505	0.68
TEAS	53.7	53.20	F(1,84)=.486, P<.488	0.585	0.68
PRIOR GPA	2.76	2.68	F(1,84)=.485, P<.488	0.493	0.530
DISCRIMINANT CENTROIDS	0.063	-0.194			
% Correct Classification					

This model did not perform statistically better than chance: Wilk's Lambda=.988, Chi-Square (df=3)=1.025, p<..795. .

Discriminant Analysis – Stage 5

RESULTS OF DISCRIMINANT ANALYSIS - MODEL 4					
	DEGREE YES	DEGREE NO	EQUALITY OF GROUP MEANS P VALUES	STANDARD COEFFICIENTS	STRUCTURE MATRIX
N	65	21			
AGE	28.2	33.7	F(1,84)=6.08, P<.016	0.716	0.661
PELL	0.48	0.76	F(1,84)=5.41,P<.022	0.685	0.625
GRIT-CONSISTENCY	3.59	3.53	F(1,84)=.184,P<..669	-0.116	-0.115
GRIT-PERSEVERE	4.21	4.04	F(1,84)=1.36,P<.246	-0.275	-0.313
DISCRIMINANT CENTROIDS	-0.229	0.708			
% Correct Classification	93.8%	14.0%			
<p><i>This model did not perform statistically better than chance: Wilk's Lambda=.858, Chi-Square (df=3)=12.58,p<.014. The model could explain 14.2% of the variance. Overall, the model correctly classified 74.4% of the cases.</i></p>					

Outcomes: Quantitative Phase of Research

- 52% of conditionally-admitted students graduated
- G.P.A. & TEAS were not statistically significant on program completion
- Two nonacademic variables had a statistically significant influence on program completion
 - Receipt of Pell grant
 - Number of transfer credits awarded
- Neither subscale of Grit had a statistically significant influence on program completion

Qualitative Phase of Research

- Purposeful selection of interview candidates that were incorrectly classified during final stage of discriminant analysis
- 30 individuals were selected for qualitative phase of research, 17 individuals within this sample population agreed to participate
- Participants complete self-efficacy scale (GSE) since Grit wasn't statistically significant

Qualitative Phase Participants

	Age	PELL	Consistency of Interest	Perseverance of Effort	Discriminant Score	Probability Of Degree	Graduate (Y/ N)
B13444734	44	Y	3.67	4.50	1.58	47%	Y
J14474118	41	Y	3.67	4.67	1.47	49%	Y
T10223950	40	Y	3.83	4.83	1.46	50%	Y
H11103967	30	Y	3.50	4.33	1.19	56%	Y
J12362417	30	Y	3.33	3.50	1.19	56%	Y
T13459700	30	Y	4.17	5.00	1.19	56%	Y
L13456972	37	Y	3.17	4.50	1.15	57%	Y
L11119662	29	Y	2.83	4.67	1.11	58%	Y
D12396770	24	Y	3.50	4.67	1.00	60%	Y
L15494220	30	Y	3.83	3.50	0.57	70%	N
P12320589	36	Y	2.17	3.50	0.45	72%	N
J15512863	27	Y	3.83	3.17	0.42	72%	N
J13449476	33	Y	4.33	2.67	0.40	73%	N
A12298823	48	Y	4.33	4.00	0.19	76%	N
P15492072	22	Y	2.67	3.33	0.19	76%	N
W13456123	40	Y	2.83	3.83	0.07	78%	N
R14479720	21	Y	2.67	3.67	-0.06	80%	N

Qualitative Research Data Collection

- Data collected from semi-structured interviews and responses to assess participants' levels of specific nonacademic factors
 - Generalized Self-Efficacy Scale (GSE) – Schwarzer & Jerusalem (1995)
 - Grit Scale – Duckworth (2007)
- Semi-structured interviews designed to:
 - Explore the experience of participants
 - Identify the factors that influenced their persistence

Generalized Self-Efficacy Scale (GSE)

	Graduate	Non-completer
I can always manage to solve difficult problems if I try hard enough	3.50	3.67
If someone opposes me, I can find the means and ways to get what I want	3.67	2.33
It is easy for me to stick to my aims and accomplish my goals	3.33	3.33
I am confident that I could deal efficiently with unexpected events	3.50	3.67
Thanks to my resourcefulness I know how to handle unforeseen situations	3.33	3.33
I can solve most problems if I invest the necessary effort	4.00	3.33
I can remain calm when facing difficulties because I can rely on my coping abilities	3.17	3.33
When I am confronted with a problem, I can usually find several solutions	3.33	3.00
If I am in trouble I can usually think of a solution	3.67	3.00
I am a hard worker	4.00	3.67
Generalized Self-Efficacy Scale	3.55	3.27

Grit Scale

	Graduate	Non-completer
I am the best in the world at what I do	4.22	3.75
I have overcome setbacks to conquer an important challenge	4.78	3.75
New ideas and projects sometimes distract me from previous ones	2.88	3
I am ambitious	4.22	4
My interests change from year to year	2.88	3.5
Setbacks don't discourage me	3.67	2.13
I have been obsessed with a certain idea or project for a short time but later lost interest.	4	3.25
I am a hard worker	4.89	4.5
I often set a goal but later choose to pursue a different one	4.22	4
I have difficulty maintaining my focus on projects that take more than a few months to complete.	3.78	3
I finish whatever I begin	4.11	3.38
Achieving something of lasting importance is the highest goal in life.	4.67	3.62
I think achievement is overrated	4.67	3.62
I have achieved a goal that took years of work.	5	3.75
I am driven to succeed	4.89	3.62
I become interested in new pursuits every few months.	3.33	3.25
I am diligent	4.67	3.25
Grit Scale	4.02	3.29



Consistency of Interest Scale (Grit Subscale)

	Graduate	Non-completer
New ideas and projects sometimes distract me from previous ones	2.88	3
My interests change from year to year	2.88	3.5
I have been obsessed with a certain idea or project for a short time but later lost interest.	4	3.25
I often set a goal but later choose to pursue a different one	4.22	4
I have difficulty maintaining my focus on projects that take more than a few months to complete.	3.78	3
I become interested in new pursuits every few months.	3.33	3.25
Consistency of Interest Scale	3.51	3.32

Perseverance of Effort Scale (Grit Subscale)

	Graduate	Non-completer
I have overcome setbacks to conquer an important challenge	4.78	3.75
Setbacks don't discourage me	3.67	2.13
I am a hard worker	4.89	4.5
I finish whatever I begin	4.11	3.38
I have achieved a goal that took years of work.	5	3.75
I am dilligent	4.67	3.25
Perseverance of Effort Scale	4.52	3.46

Outcomes:

Qualitative Phase of Research

- Themes identified regarding factors influencing student persistence
- Non-academic factors identified as influencing student persistence:
 - Self-efficacy: Perception of control and Confidence
 - Grit: Perseverance of effort
 - Institutional support
 - Peer support
- Non influencers: financial need and number of transfer credits awarded

Triangulation of Findings

- Additional inquiry was conducted to better understand factors influencing student persistence
- Follow-up phone interviews with 11 of 17 interview participants
- Feedback from these phone interviews reinforced the influence self-efficacy and grit had on the persistence of the participants
- Participants interviewed were consistent in their views

Recommendations for schools of nursing

- Evaluate applicants' levels of self-efficacy and perseverance of effort
- Encourage nurse educators to promote strategies that inspire students' development of self-confidence
- Provide professional development for faculty on the importance of support, empathy and understanding for nontraditional students
- Provide professional development for faculty and staff regarding grit that includes training for how to foster this trait among students

Recommendations for future research

- Repeat the research using different populations of nursing students
- Investigate the relationship between the nonacademic variables of grit, self-efficacy, institutional support and peer support with:
 - Academic performance in core BSN nursing courses
 - Successful completion of the NCLEX-RN® exam on first attempt

Recommendations for future research

- Examine the relationship between nursing faculty and staff tenure and engagement with student's perception of institutional support
- Investigate factors influencing student perceptions of peer support
- Investigate the relationship between self-efficacy and grit with students' perceptions of financial need and transfer credit with regard to their persistence in a nursing program

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Questions?

