Psychological Grit: So, does it hold promise for South African ODL institutions?

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Promoter(s):

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2018 SAAIR Conference

November 2018

Define tomorrow.

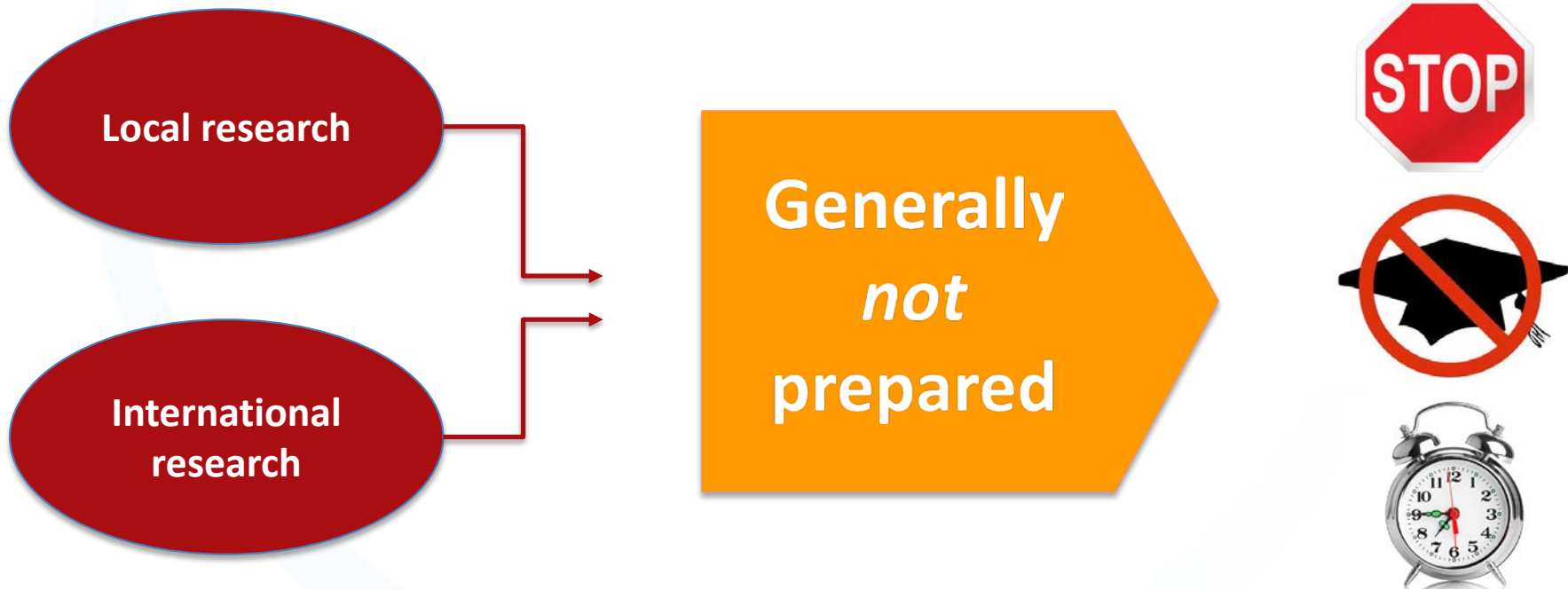UNISA | college of graduate studies

Outline

The concern...

Predictors of student dropout and retention at UNISA

Psychological grit: A new dimension?

The current study's findings

The problem …

Students are entering Higher Education (HE) at Open, Distance Learning (ODL) institutions but are *not persisting through to completion…*

UNISA is no exception…

- One-third of students in public HEI's in South Africa are enrolled at Unisa (Department of Higher Education and Training, 2017)

- Susceptible to lower retention rates and the negative implications associated with such (CHE, 2010, 2015; Scott et al., 2007; Subotzky, 2011; Swanapoel et al., 2011).

- Loss of prestige, revenue and government subsidy
- Personal damage inflicted on the student
- Lack of skills / knowledge / credentials to enter workforce (Archer, Chetty, & Prinsloo, 2014; Van Zyl, 2010)

Identifying (dropout) factors…

ACADEMIC READINESS*

Unable to cope with the challenges of learning in ODL, Limited capacity to use ICTs, Ineffective study methods, Challenges with academic literacy (reading & writing)

PERSONAL*

Difficulty balancing personal/family responsibilities and studies, Health issues, Lack of motivation

*(Tladi, 2014)

FINANCIAL*
Unaffordability of fees/textbooks, Challenges of receiving funding (and on time), Unexpected expenses, Outstanding student debt

INSTITUTIONAL*
Tutorials are offered at inconvenient times, Insufficient academic support, Poor communication, Receiving study material late

WORK-RELATED*
Disjuncture between work responsibilities and studies, Job loss and the related stress

*(Tladi, 2014)

Against this background, it is important remember Tinto's warning that ***leaving is NOT the mirror image of staying …*** "Knowing why students leave does not tell us, at least not directly, why students persist" (Tinto, 2012, p. 5)

Identifying (retention) factors…

- Van Schoor (2010) sought to determine the value of the scores derived from the Academic Literacies Test (ALT) in the SATAP compared to the Grade 12 results in predicting academic success

  - A regression analysis revealed that **both independent variables contributed significantly** ($p < .01$) **to the prediction of academic performance** ($β$ (ALT) = 0.264; $β$ (Grade 12) = 0.178) with the ALT making the strongest contribution

    - The two measures explained 14.7% of the variance in academic performance (R^2 = 0.147)

Similar results revealed by Visser and Van Zyl (2013)...

- Pearson correlations between the mean scores in Grade 12 and at Unisa were significant and positive: r = 0.517

- NSC Grade 12 marks explain 26.7% of the variance in academic performance at Unisa

"This is a fairly strong explanatory value for a single variable"
(p. 341)

High academic performance is not necessarily indicative of retention nor is poor academic performance indicative of attrition (McKenzie & Schweitzer, 2001)

$r^2 = 0.267$

Prinsloo (2009) and Swanapoel et al. (2011) state that

non-cognitive factors

impact strongly on student success and retention at Unisa and **warrant inspection…**

Motivation and Locus of control

UNISA students who exhibit an internal LOC perform better during exams (Liebenberg, & Van Zyl, 2014)

*"Motivation is the most important lead in the success profile chain" Müller et al. (2007, p. 29). Motivation together with age, time management, and repeat status are able to predict student outcomes at UNISA with over **70% accuracy***

Unexplained variance: What are we missing?

Proportions of variance (r^2) in student success and retention at Unisa remain (**un**)explained…

$$\left(r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n(\sum x^2) - (\sum x)^2][n(\sum y^2) - (\sum y)^2]}} \right)^2$$

Perseverance and **passion** for **long-term goals**

Entails working strenuously toward challenges while maintaining **effort** and **interest** over years...

despite failure, adversity, or plateaus in progress
(Duckworth et al., 2007)

"The gritty individual approaches achievement as a marathon; his or her advantage is stamina. Whereas disappointment or boredom signals to others that it is time to change trajectory and cut losses, the gritty individual stays the course"
(*ibid*, p. 1088)

Although considered in its infancy (Duckworth & Gross, 2014)…

- Grit has shown to **predict success and retention** across numerous **educational contexts…**

- **One of the seminal studies** by Duckworth et al. (2007) discovered that psychological grit significantly predicted **retention** among West Point cadets in the United States Military Academy, **surpassing** self-control and all other predictors (SAT scores, HSGPA …)

Another seminal study revealed that grit **significantly predicted** a student's **GPA*** in subsequent years of study, **beyond that of intelligence** (i.e., SAT score) among Undergraduate psychology students at the University of Pennsylvania (Duckworth et al., 2007).

Couple of years later, Duckworth and Quinn (2009) **confirmed seminal findings** and revealed that grittier individuals attained **higher levels of education** when compared to less gritty individuals of the same age **(OR = 1.23).**

While this may be the case in other countries, to date, there is *limited* published research available on psychological grit in South Africa and the value it may add to understanding and predicting retention among ODL students…so this study sought to…

Explore grit and it's predictive value in determining the retention of students in an ODL environment

Gathered the sample…

Stratified random sampling strategy:
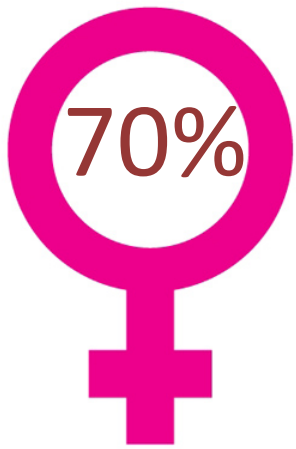**The 2017 entering honours cohort**

Census approach:
All 2017 entering honours students ($N = 8{,}689$)

Distributed the Grit-S survey…

Sample comprised those who had consented and who had completed the (online) Grit-S survey:
9.6% response rate ($n = 836$)

70%

30%

77% are **employed**
12% are **unemployed**

Hallo

Sawubona

Hello

Dumêlang

98% indicated no disabilities

| 27.2% | 6.1% | 6.0% | 59.1% |
| White | Coloured | Indian | African |

0.0%	1-17
16.5%	18-24
24.3%	25-29
18.6%	30-34
16.4%	35-39
13.1%	40-44
5.7%	45-49
5.4%	50+

First things first…

Factor analysis Item analysis → Parametric assumption testing → Descriptive Inferential analysis
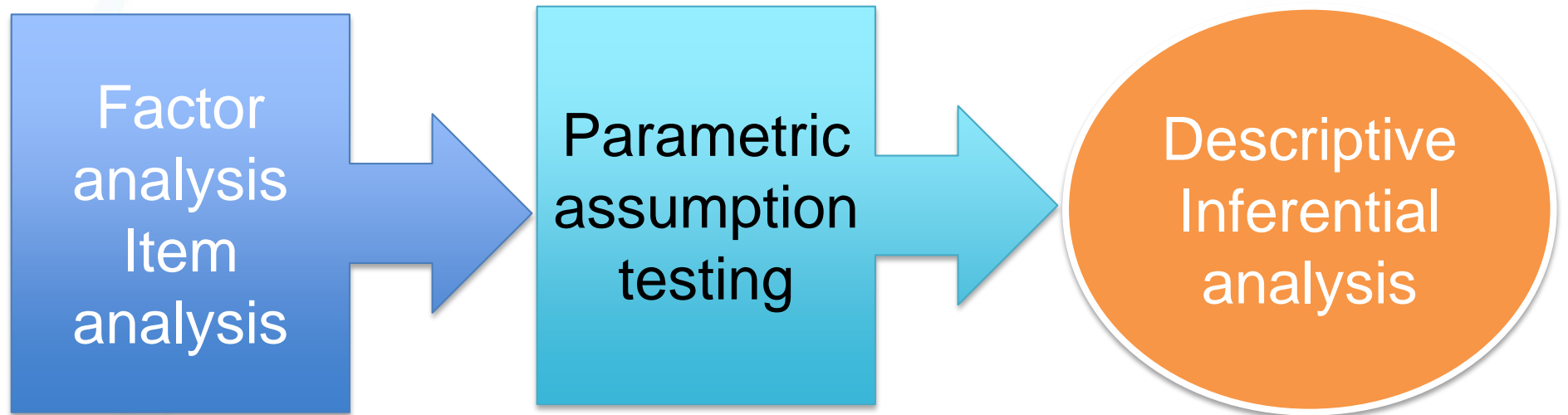
Factor and item analysis…

Factorability ✓

Exploratory factor analysis
Two factors explained 57.2% of the variance ✓

Item analysis
.72 for the Grit-S scale ✓

The same two distinct factors as indicated by Duckworth (2007), lay beneath the surface of the instrument;

The Grit-S scale is **valid and reliable** among a South African, ODL sample of Honours students.

Descriptive statistics…

Retention (Dependent variable)	Grit (Independent variable)
Of the 836 [2017] honours participants, a total of 326 students were not retained in the 2018 academic year (39.1%). Over 60%, on the other hand, successfully registered for their subsequent year of studies ($n = 510$)	On average, participants scored towards the higher end of the Grit-S scale ($\bar{x} = 3.83$; $SD = .616$). The minimum grit score obtained among the participants stood at 2.13 while the maximum grit score stood at the scale's highest possible value, 5.00

Results from the analysis revealed that psychological grit and retention are not related, *r*(836) = .03, *ns*

Binary logistic regression…

Results from the output of the logistical regression revealed that **when no predictors** are included in the model, **the model correctly classified 61%** of the participants (into either the retained or not retained categories)

			Score	*df*	**Sig.**
Step 0	Variables	Grit	.741	1	.389
	Overall statistics		.741	1	.389

Overall, the results from the binary logistic regression revealed that **psychological grit is *not* a significant predictor of retention** among ODL Honours students...

β = .099, *t*(833) = .740, *p* = .390

Thank you