



Student Learning Styles

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Introduction

- Preferred learning style of pharmacy students has not been characterized
- Learning style preferences may guide educational practices

Pharmacists' Inventory of Learning Styles

- Pharmacists' Inventory of Learning Styles (PILS)
- Designed specifically for pharmacy
 - Education
 - Practice
- Designed by 40 pharmacists in academia
 - Tested in pharmacy students
 - Validated in pharmacists

PILS Learning Styles

Unstructured

Enactors
opportunistic
intuitive
goal-oriented
active
down-to-earth

Creators
creative
peace-makers
people-oriented
open minded
free-spirited

Doing

Reflecting

Directors
practical
leaders
action-oriented
purposeful
networkers

Producers
organized
attentive-to-details
rule-oriented
patient
fair-minded

Structured

- PILS questionnaire sent electronically to students
 - Constructed using www.surveymonkey.com[®]
 - Emailed 4 consecutive weeks in fall '07
 - 17 questions
- Primary endpoint
 - Primary learning style
- Demographic data collected
 - Age
 - GPA
 - Previous Degree
 - Gender
 - Year in School
- Analysis
 - Descriptive
 - Multivariate regression
 - Ongoing

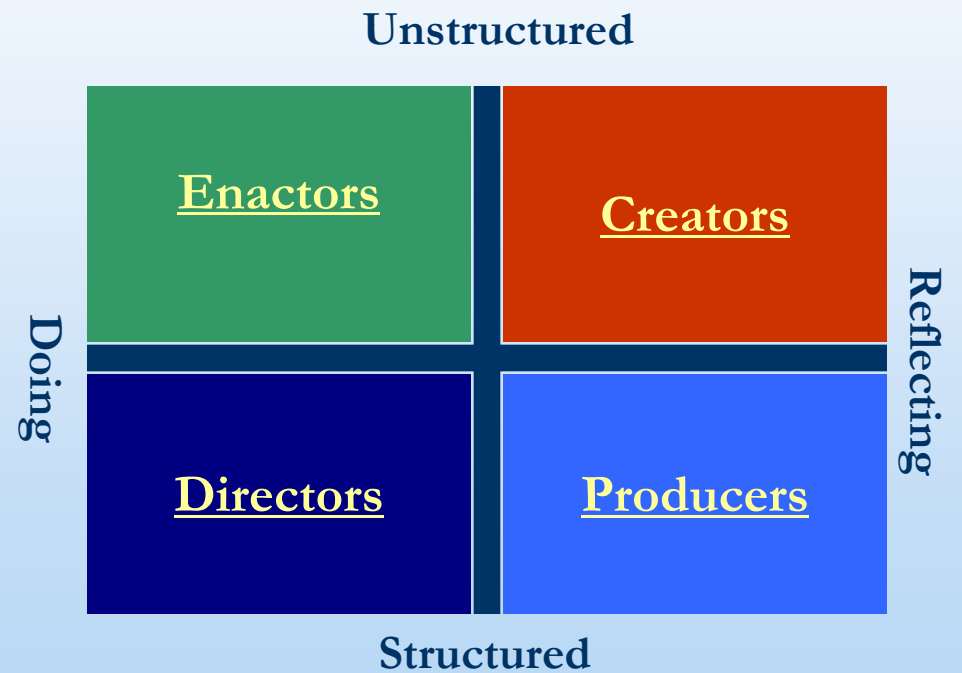
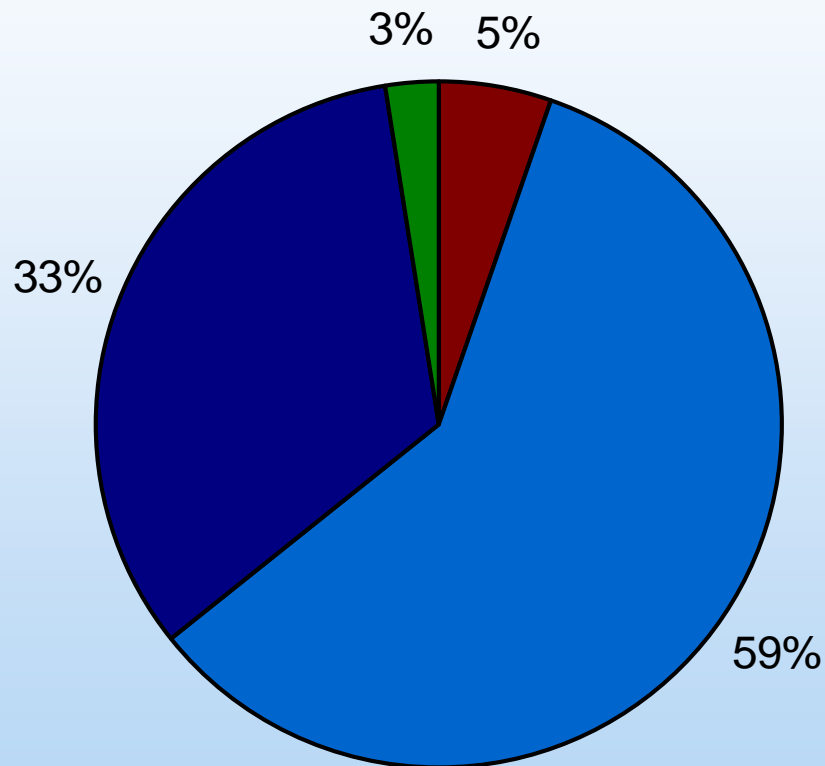
PILS Example

When I'm trying to learn something new...	Usually	Some-times	Rarely	Hardly
I like to watch others before trying it for myself.	B	D	C	A
I like to consult a manual, textbook, or instruction guide first.	B	C	D	A
I like to work by myself, rather than with other people.	A	C	B	D

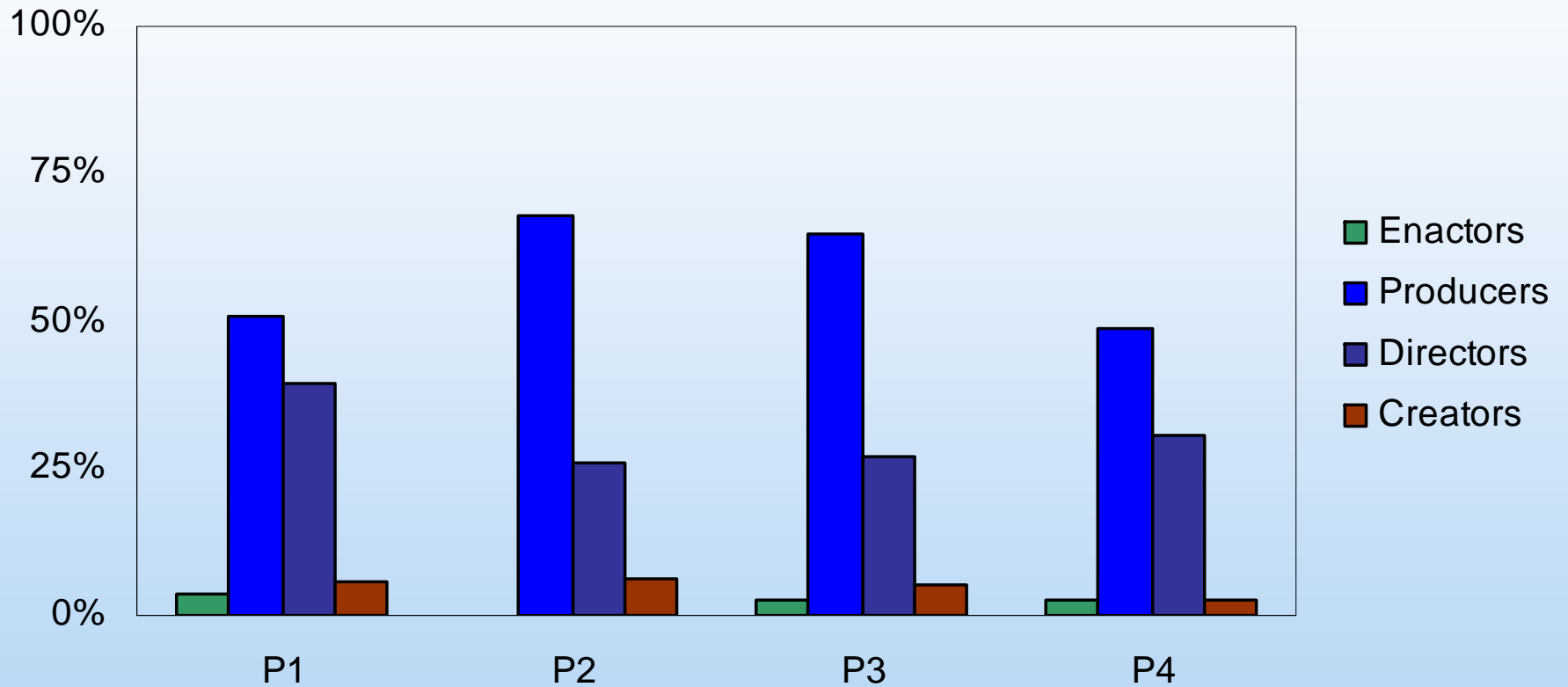
- 154 of 318 students responded
 - 48% response rate
 - 105 reported GPA
 - 68% of responders

Age: mean \pm SD	25.1 \pm 3.9
Gender: Female	78.9%
Previous Degree	73.3%
Year in School	
P1	34.8%
P2	19.3%
P3	24.2%
P4	21.7%
GPA: mean \pm SD (n = 105)	3.3 \pm 0.4

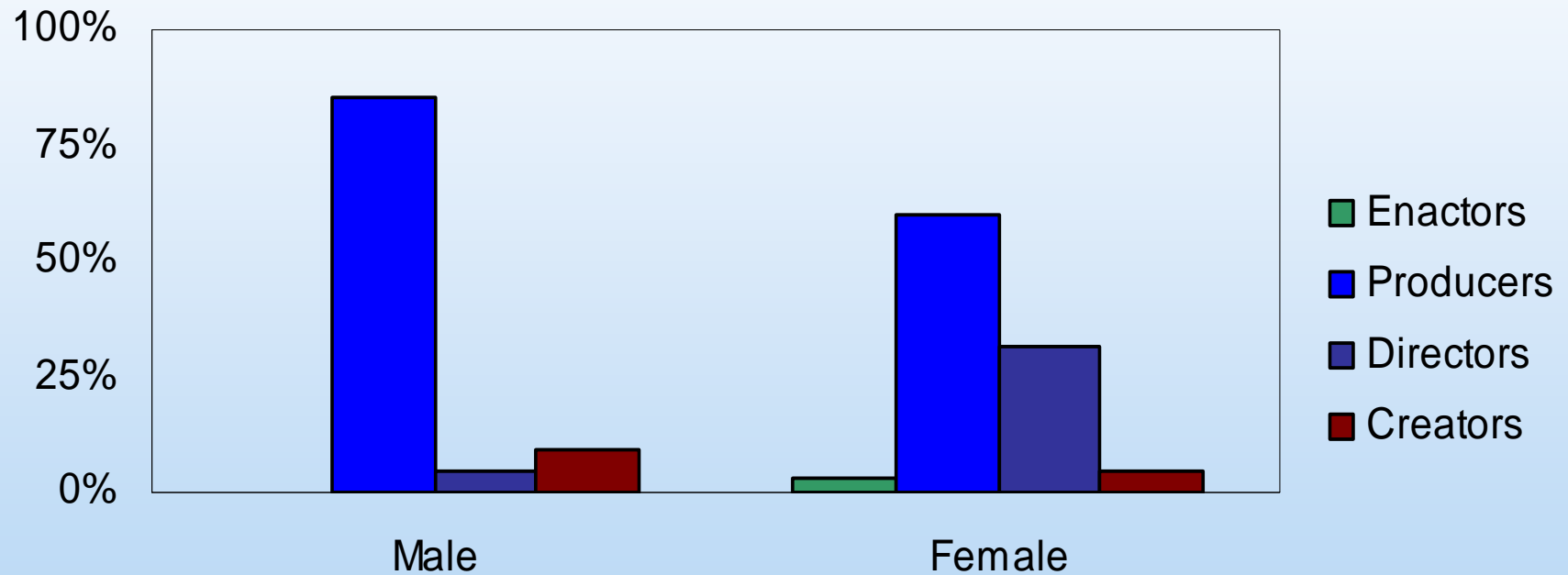
Primary Learning Style



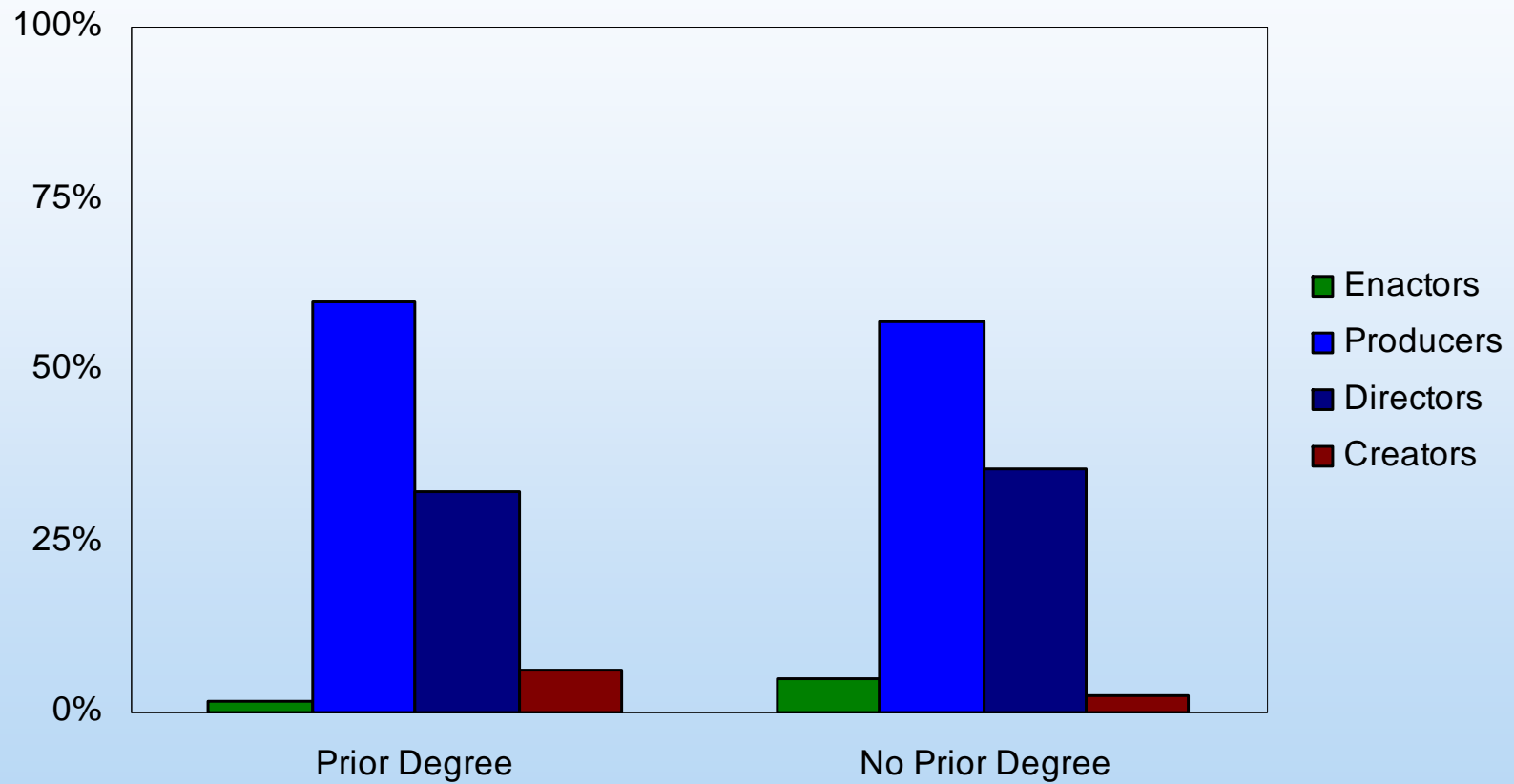
Distribution by Year



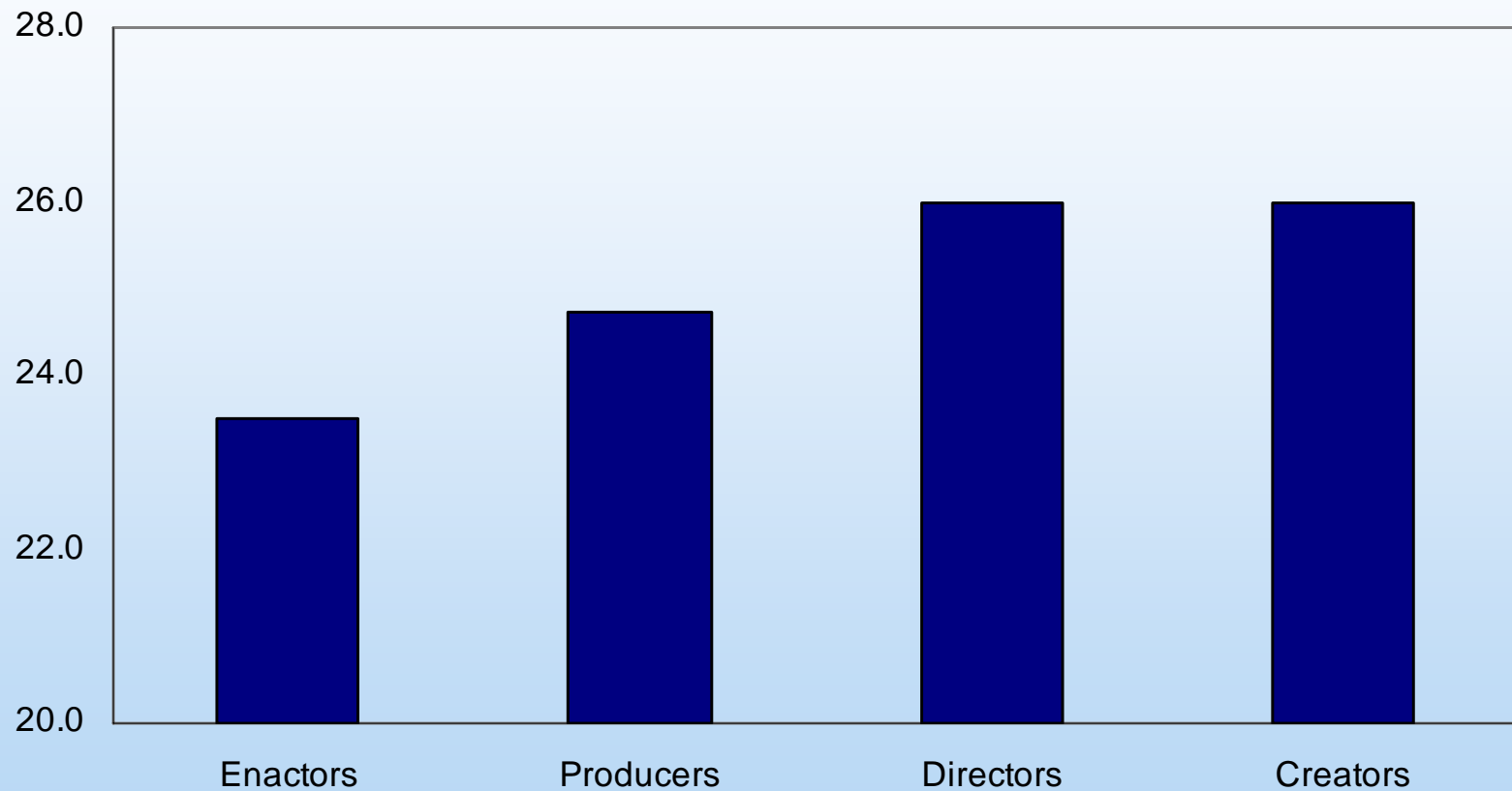
Distribution by Gender



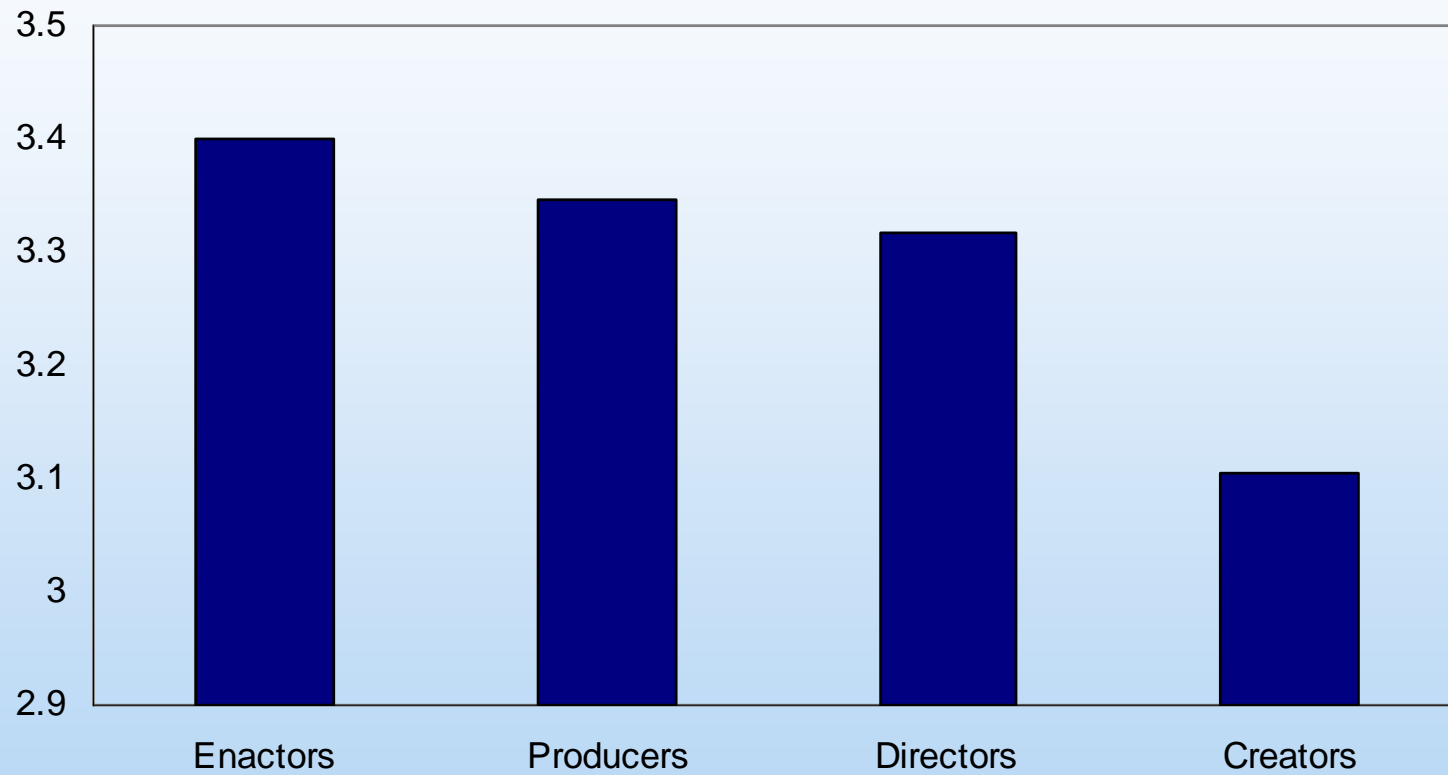
Distribution by Degree



Age Distribution



GPA Distribution



Limitations

- Survey bias
- Tied primary learning styles
- Use of PILS tool in pharmacy students

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- Administer questionnaire longitudinally
 - Enrollment
 - Prior to Advanced Pharmacy Practice Experience (APPE)
 - Prior to graduation
 - Assess trends or changes in primary learning style
 - After graduation

- Structured
 - Expectations defined
 - Traditional lecture

- Unstructured
 - Expectations individualized
 - Untraditional lecture
 - Case studies
 - Interactive discussion/debate

Discussion

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- Structured
 - Expectations defined
 - Traditional lecture
 - Unstructured
 - Expectations individualized
 - Untraditional lecture
 - Case studies
 - Interactive discussion/debate
 - Reflecting
 - Observe 1st
 - “Watch & learn”
 - Pay to reflect
 - Doing
 - Experiment 1st
 - Follow intuition
 - Learn from mistake

Acknowledgements

- Anne Spencer, PharmD, BCPS
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