

# Motivational Orientations: Evaluation of the Education Participation Scale in a Nontraditional Doctor of Pharmacy Program

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The purpose of this study was to evaluate the Education Participation Scale (EPS) in determining motivational orientations of nontraditional PharmD students. Pharmacists in two different pharmacy education programs were administered the EPS. The groups were a weekend general continuing education (CE) conference that satisfied Florida mandatory CE requirements, and first year nontraditional PharmD students. Motivational orientations were measured using six factors extracted from a previous study: Competency-Related Curiosity, Interpersonal Relations, Community Service, Escape from Routine, Professional Advancement, and Compliance with External Influence. Two second order factors were extracted that related to external and internal motivational orientations. Nontraditional PharmD pharmacists were significantly different than the pharmacists in the general CE program on the Professional Advancement and Compliance with External Influence factors. These findings are consistent with adult education theory and add validity to this instrument. This information could be used to increase enrollment through incorporation in promotional messages.

## INTRODUCTION

In the field of adult education, studies have identified the motivational orientations of adult students in academic settings(1-3). Motivational orientations are defined as the student's reasons for participation in the educational program. Gordon et al., found that motivations for adult education varied among persons in different occupations(3). They found this to be important in programming curricula for vocational, technical, and adult education graduates in off-campus credit programs. Henry and Basile(4) identified positive and negative factors that determine participation in adult education. Institutional deterrents, the need to pay one's own fees, and major life changes within the last year were some of the negative factors. A positive factor was the sending of a brochure to the work place of potential students. They stated that understanding the reasons for participation and nonparticipation is especially important for "adult educators who are interested in developing a program to meet public demands and increase participation in their programs."(5) Additionally, Fujita-Starck(6) found that motivations of participants varied among different curricular groups such as : arts and leisure programs; personal development programs; and professional development programs. Therefore, program administrators, aware of these motivations, can adjust the curriculum accordingly. Fujita-Stark commented that "effective and responsive adult education programming requires a clear understanding of the characteristics, needs, and aspirations of program participants(7)."

In summary, Boshie(8) stated the importance of studying motivational orientations best:

"The nature of the individual learner and his reasons for participation is an important starting point for any research on adult education. An understanding of why adult education students participate would facilitate

the growth of theory and models to explain participation, throw light on the conceptual desert that underpins adult education dropout research, and enhance efforts to increase the quantity and quality of learning experiences for adults."

## Motivational Orientations in Nontraditional PharmD Programs

Anecdotal reports in the literature have described many of the barriers that pharmacists have to overcome in pursuing a postbaccalaureate, nontraditional PharmD(9,10). These pharmacists are established in jobs, have started families, and have developed roots in their communities. To achieve their goal of earning the PharmD degrees, they have sacrificed time, money, and a great deal of energy. They have to learn to study over again, since they had been out of college for several years. Many had to overcome the anxiety of possible failure. Despite these barriers, the literature has reports suggesting reasons for obtaining a postbaccalaureate PharmD:

1. the movement from BS to PharmD as the sole entry degree in(11);
2. the need to update knowledge, skills and increase personal satisfaction(12);
3. the need to move to another level(7); and
4. to improve the quality of their work(13).

The question arises: What is driving this behavior? Are pharmacists finding a need for fulfillment? Are pharmacists seeing that their previous education is not sufficient for participation in today's health care environment? The above anecdotal reports give clues for the case of pharmacy. Taking all of these factors into consideration, it would be beneficial to investigate the influences that are motivating pharmacists to return

to school to pursue their PharmD. The logical starting place to begin to answer the above questions is to determine the motivational orientations of nontraditional PharmD students.

### The Education Participation Scale

The Education Participation Scale (EPS) is a survey instrument used to determine motivational orientations of students in adult education programs. The EPS asks adult students to rate the importance of various reasons for participation in adult education programs. The EPS was developed in New Zealand by Boshier(8). Using the EPS, Boshier extracted fourteen factors as reasons for participation in adult education programs. Eventually, Boshier proposed a model for adult education motivational orientations that can be thought of as two basic orientations: (i) homeostasis, and (ii) heterostasis. A homeostasis orientation is participation because there are perceptions of instability that are external to the student and the education will help bring stability to the person. A heterostasis orientation is participation because there is a perception from within that growth or fulfillment needs to occur and the educational experience will satisfy this need. These orientations can be thought of as being motivated to participate from without (homeostasis) and being motivated from within (heterostasis).

### Previous Study of Motivational Orientations in Pharmacy

Mergener adapted the EPS to measure motivational orientations of pharmacists in continuing education (CE) programs(14). He investigated the difference in motivational orientations between pharmacists in mandatory and voluntary CE states. He found significant differences between the two groups of pharmacists. Pharmacists from mandatory CE states were more influenced by Compliance with External Influences than pharmacists from voluntary states, who were more influenced by Competency-Related Curiosity. This is not to say the pharmacists from mandatory states did not rate competency-related reasons high, but pharmacists in voluntary states were more so. Pharmacists participate in CE in mandatory states for a variety of reasons, but compliance with state law is of great influence.

### Purpose and Research Questions

The purpose of this study is to evaluate the EPS as modified by Mergener in determining motivational orientations of pharmacists in nontraditional Doctor of Pharmacy (PharmD) programs by attempting to answer three questions.

1. What are the motivational orientations of students in professional continuing educational programs using Mergener's factors from the EPS?
2. To determine construct validity, can differences in motivational orientations be detected between participants in different professional CE programs?
3. Can the basic motivational orientation be determined for nontraditional PharmD students, whether they are externally (homeostasis) or internally motivated (heterostasis)?

## METHODS

### The Independent Variable: Continuing Education Groups

Participants in two post-graduate pharmacy education programs completed the EPS. Pharmacists in the first group were first-year students enrolled in the University of Florida's nontraditional PharmD program (NT). These pharmacists had started a nine-semester program that would take a minimum of three years to complete, and cost several thousand dollars. Pharmacists in the second group were participants in a 1996

**Table I. Group sizes and response rate**

Group	n	Percent	
		Response	Sample
General CE	122	34	83
NT PharmD	25	73	17
Total	147		100

weekend general CE (GCE) conference that fulfilled the requirements for mandatory CE hours for relicensure. The topic of the GCE conference was "Managing Demand: Technology and the Law." The program was held at a hotel on Daytona Beach, Florida and required at least a two-night stay at the hotel, unless the participants were local. These groups were convenience samples. Though demographic characteristics were collected (e.g., age, gender, practice setting), only the education groups was used as the independent variable.

The pharmacists in the GCE group filled out the EPS at their meeting and the surveys were collected on-site. The EPS was mailed to the homes of the NT participants, and a follow-up letter was sent three weeks after the initial mailing to increase response. Table I shows the number of participants in each group and the response rate.

### The Dependent Variable: The EPS Factors

Mergener's EPS consists of 43 items that represent possible motivations for participation in pharmacy postgraduate education programs. The participants rated the extent that a specific item influenced their participation in their CE program with response categories in a Likert-type scale. Response categories were Very Much Influence (=1), Much Influence (=2), Moderate Influence (=3), Little Influence (=4), and No Influence (=5). The factors extracted by Mergener from the EPS are the dependent variables (16). Mergener extracted six factors: Competency-related Curiosity (CRC), Interpersonal Relations (IP), Community Service (CS), Escape from Routine (ER), Professional Advancement (PA), and Compliance with External Influence (CEI). Thirty of the 43 items loaded on one of the six factors, while 13 items did not meet the criteria for inclusion. Items in each factor are listed in the Appendix. Specifics of Mergener's methods and findings are reported elsewhere (15). The pharmacist's responses to each item were summed for all of the items in each factor. The summated score was divided by the number of items in the scale. Scores on each of the scales ranged from 1 to 5.

### Second Order Factors as Dependent Variables

The purpose of this analysis was to determine if the internal and external loci of motivation could be measured. The value for each second order factor was the mean of the values of each first order factor multiplied by the loading as a weight. All six first order factors were used to derive each second order factor value.

### Statistical Analysis

The difference in respondent's mean scores on each EPS sub-scale (factors) was compared using independent *t*-test. Coefficient alpha was used to test for internal consistency. The factor analysis to determine second order factors used the maximum likelihood method with varimax rotation. T-tests were conducted on the derived second order factors. The significance level for analyses was set a priori at  $P < 0.05$ . The data was analyzed using the SPSS 7.5 for Windows statistical program(16).

**Table II. Mean scores of pharmacists in nontraditional and general continuing education groups on factors (SD)**

Factors	NT	GCE
Competency-related Curiosity-CRC (Alpha = 0.83)	1.82 (0.70)	2.11 (0.76)
Community Service- CS (Alpha = 0.86)	2.94 (1.13)	3.09 (0.99)
Professional Advancement- PA* (Alpha = 0.60)	3.13 (0.65)	3.54 (0.80)
Interpersonal-relations- IP (Alpha = 0.85)	3.90 (0.83)	3.86 (0.80)
Compliance with External Influence- CEI* (Alpha = 0.70)	4.00 (0.80)	2.99 (0.99)
Escape from Routine- ER (Alpha = 0.78)	4.18 (0.77)	4.39 (0.74)

\*Indicates significant differences between groups,  $P < 0.05$ .

Scale: 1= very much influence; 2= much influence; 3= moderate influence; 4= little influence; 5= no influence.

## RESULTS

### The Motivational Orientations of the Educational Groups

Competency-related Curiosity was the most influential motivating factor for both groups and Escape from Routine was the least motivating (Table II). In particular, the GCE group rated Compliance with External Influence as their second most influential motivator. This is reasonable because the participants used their CE credits to satisfy Florida law regarding mandatory education. The third highest motivator for this group was Community Service. It was rated as a moderate influence and very close to the Compliance with External Influence motivator. The fourth motivator for the GCE group was Professional Advancement, which was between moderate and little influence for these participants. This was expected since this program was not intended to add to a participant's career advancement.

The nontraditional students (NT) rated Community Service and Professional Advancement as their second and third most influential motivators. This was consistent with the anecdotal evidence found in the literature. The fourth and fifth rated motivational influences for the NT group were Interpersonal Relations and Compliance with External Influences. The NT group was not motivated by the need to improve social relations or by influences from governmental agencies. These results are consistent with the voluntary nature of the nontraditional programs. If external forces are influencing nontraditional students, they are not the ones referenced in the items on the EPS.

### Differences Between Groups on Motivational Factors

There were significant differences on Professional Advancement, and Compliance with External Influence motivational factors (Table II). The NT pharmacists rated Professional Advancement higher than the GCE pharmacists. The GCE pharmacists rated Compliance with External Influences higher than the NT pharmacists. Again, this is consistent with the nature of the programs and adds to the validity of the instrument.

### Second Order Factors

Two second order factors were extracted using Mergener's EPS factors (Table III). The significant items

**Table III. Second order factors with loadings**

First order factors	Second order Factor 1	Second order Factor 2
Interpersonal Relations- IP	0.83	0.37
Escape from Routine-ER	0.59	0.26
Professional Advancement- PA	0.53	0.37
Compliance with External Influence - CEI	0.45	0.04
Competency-related Curiosity - CRC	0.06	0.99
Community Service - CS	0.46	0.55

**Table IV. Means of groups on second order factors (SD)<sup>a</sup>**

Factor	NT	GCE
Second Order Factor 1	3.80 (0.57)	3.69 (0.65)
Second Order Factor 2	2.38 (0.79)	2.60 (0.80)

<sup>a</sup>There were no statistically significant differences between groups on these factors.

(loading >0.4) that make up the first factor are Interpersonal Relations, Escape from Routine, Professional Advancement, Compliance with External Influence, and Community Service. The significant items in the second factor are Competency-related Curiosity and Community Service. There were no differences between groups on either factor.

## RELIABILITY OF FACTORS

The internal consistency of Mergener's factors using our data was determined by coefficient alpha (Table II). All of the factors had reasonably high reliability coefficients (greater than or equal to 0.70) except Professional Advancement (alpha = 0.60). It is difficult to compare our reliability data to Mergener's because he relied on Boshier's reliability data. Boshier used the test-retest method for determining reliability of items and obtained an average of 0.84 for each factor. For the purposes of this research the reliability of the factors are acceptable, but it is something to be examined in more detail in larger scale investigations.

## DISCUSSION

Boshier's theory states that participants in adult education programs are "goal-oriented," and are motivated either by external or internal influences(17). It is important to think of participants in pharmacy education programs in this perspective because of the need of program administrators to design programs to meet the needs, or goals, of their participants. To determine the motivations of our primary group of interest, the nontraditional PharmD pharmacists, the EPS was used to measure and compare their motivations to pharmacists in another type of pharmacy education program. For example, the pharmacists in the general CE program were more motivated by Compliance with External Influence than were pharmacists attending the nontraditional PharmD program. The nontraditional PharmD pharmacists were more influenced by Competency-related Curiosity than the general CE pharmacists, though not significantly. These results were consistent with our hypotheses based on Boshier's and Mergener's findings, and are evidence of the validity of the EPS in measuring

motivational orientations.

The Competency-related Curiosity factor was the most influential motivator for both groups, but more so for pharmacists participating in the nontraditional PharmD program. When the items of this factor were examined in detail, it was apparent that these pharmacists were very internally motivated, that is their thirst for knowledge was from an inward drive (Appendix). During the course of this study, we collected pharmacists' statements that supported this. They were asked to respond in writing to the question: "What is your motivation for attending this program?" Their responses align themselves with the quantitative data. Some examples of responses that were internally oriented are:

"A personal need to know more within my chosen profession"

"I want to gain clinical knowledge that I am lacking"

"To obtain knowledge which will contribute to optimum patient care"

However, there were qualitative responses from the non-traditional PharmD pharmacists that referred to external influences. These statements were mainly oriented to job security, such as:

"To have a job in the next 5-10 years"

"Future job growth and job security"

The EPS factor that best represents the construct about job security is Professional Advancement. The results indicated that knowledge issues, more than job security, motivated the nontraditional PharmD pharmacists in this study. This could conceivably change in the future. The entry-level degree for pharmacy is going to be the PharmD (18). The BS trained pharmacists will have to compete with PharmD trained pharmacists for jobs. As more PharmD trained pharmacists are graduated, the nontraditional PharmD pharmacists of the future may become more influenced by job security.

The second order factors that emerged from our factor analysis separated out Competency-related Curiosity and to a lesser degree Community Service from the other four factors. It is difficult to determine if these second order factors represent the internal and external loci of motivation, but it does appear that the two extremes of a continuum are represented by these factors. It is plausible that the first second-order factor would best represent the external motivations (homeostasis), and the second factor represents the internal motivations (heterostasis). This is consistent with adult education theory; that internal motivation (desire for increased self-esteem, quality of life, responsibility, and job satisfaction) is more potent in adult education than external motivation (better jobs, promotions, and salary increases)(19).

### Implications

What is the implication of these findings for pharmacy education? These findings could be used to develop promotional messages for the pharmacists that are potential participants of nontraditional PharmD programs. Promotional messages should be based on the major influences, or goals, motivating pharmacists. By developing and targeting promotional messages to pharmacists' major motivators, it should be possible to increase the number of pharmacists to enroll in these programs (20). Messages centered on the Competency-related Curiosity factor would be the first place to start, especially for promotional campaigns for a nontraditional PharmD program.

Another application would be to emphasize Competency-related Curiosity and Compliance with External Influences in promotional messages for programs that are aimed at satisfying state CE requirements.

The three target audiences for promotional messages about a nontraditional PharmD program can be perceived on a continuum from pharmacists who are ready to enter a non-traditional PharmD program to those who will never enroll. Between these extremes is an audience for promotional messages who would enroll, but need motivating. Further research needs to be done to determine if recruitment can be affected by promotional messages created from motivational research. Other research indicates that this may be the case (21). Another area of research would be the creation of promotional messages from determining deterrents to participation, and testing if this type of message could affect enrollment.

Further application of these findings could be extended to development of any pharmacy education program. The determination of why people do and do not participate in educational programs, and the development of promotional messages directed at the target audience from this information should be beneficial to program administrators.

### Limitations of Study

It was difficult to generalize the findings of this study to a larger population, because of the use of convenience samples. However, the main purpose of this research was to evaluate the EPS, not necessarily to generalize our findings. Another limitation was the relatively small sample size of the group of interest: the nontraditional PharmD pharmacists. In addition, non-respondents were not contacted to determine if they differed from the study participants. This may be important because we were interested in motivations, and these may have played a role in whether a person participated in the study. However, the primary group of interest, the nontraditional PharmD pharmacists, had a very good response rate.

### SUMMARY AND CONCLUSION

This study showed that the EPS was a valid instrument to measure motivating influences of pharmacists in pharmacy education programs. Directors of pharmacy CE programs and directors of nontraditional PharmD programs may be able to increase enrollment using promotional messages to target audiences based on determination of goals or motivating influences of participants.

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## APPENDIX. MERGENER'S EPS FACTOR STRUCTURE (21)

### Factor 1- Competency-Related Curiosity

- To satisfy my intellectual curiosity
- To increase my competence in my job
- To satisfy an inquiring mind
- To obtain some practical benefit
- To feed my appetite for knowledge
- To seek knowledge for its own sake

### Factor 2- Interpersonal Relations

- To comply with the fact that people of status and prestige attend adult education classes

To take part in an activity which is customary in the circles in which I move

- To fulfill a need for personal associations
- To share a common interest with someone else
- To participate in group activities
- To improve my social relationships
- To become acquainted with congenial people

### Factor 3 - Community Service

- To become more effective as a citizen
- To improve my ability to serve mankind
- To gain insight into human relationships
- To improve my ability to participate in community work
- To prepare for service to the community

### Factor 4 - Escape from Routine

- To have a few hours away from responsibilities
- To gain relief from boredom
- To get a break from the routine of home and work
- To provide a contrast to the rest of my life

### Factor 5- Professional Advancement

- To keep up with the competition
- To comply with my employer's policy
- To give me higher status on the job
- To secure professional advancement

### Factor 6- Compliance with External Influence

- To comply with the recommendations of someone else
- To fulfill my professional obligation
- To carry out the recommendations of some authority
- To fulfill requirements of a government agency

### Items that were not included in factors because they did not meet the inclusion criteria:

- To respond to the fact that I am surrounded by people who continue to learn
  - To be accepted by others
  - To comply with the ethics of pharmacy
  - To escape the intellectual narrowness of my occupation
  - To keep up with others
  - To clarify what I want to be doing five years from now
  - To acquire knowledge that will help with other courses
  - To help me earn a degree, diploma, or certificate
  - To provide a contrast to my previous education
  - To stop myself from becoming stagnant
  - To overcome the frustrations of day to day pharmacy practice
  - To maintain or improve my social position
  - To supplement a previous narrow education
-