Gender, Family, Work and School: Demographic and Other Deterrents to Adult Participation

Naveen Malhotra

ABSTRACT

Using the results of a larger study utilizing Cross's (1981) three-part formulation of the 24-item barrier scale devised by Carp, Peterson, and Roelfs (1974), this paper presents demographic differences in the perception of barriers to adult higher education. The scale items were tested with a population of prospective students at public institutions of higher learning, and the resulting six factors were compared against demographic categories of gender, marital status, a number of dependent children, income, and hours of work per week.

Keywords: Adult Education, Demographic Variables, Participation, Warrior.

N. Malhotra*
Eckerd College, St. Petersburg, FL, USA.
(e-mail: malhotnk@eckerd.edu)

*Corresponding Author

I. INTRODUCTION

The ranks of adult learners swelled on many campuses in the 1990s. However, more recently, adult enrollments have slowed considerably. With the emergence of the knowledge economy, encouraging adult participation has taken on an important focus worldwide (Fridberg *et al.*, 2015, OECD, 2012). Priorities about learning and education shift depending on a range of social and demographic changes (Golding, 2020). College administrators need to understand adult learners better, the realities they face, and their orientations toward work, family, and citizenship. To reach them, Effective collaboration among students, educational services personnel, department heads and faculty is required. Colleges need to identify what barriers are perceived to be most inhibiting for nontraditional students and mitigate them.

Apart from population demographics, other reasons exist for participation in adult education. The role of women, ethnic minorities, and the foreign-born population in our society necessitate these changes. Due to the growing number of female students entering the classroom, educators have to understand the learning needs and characteristics of these students (Sizoo *et al.*, 2003). Today, workers demand flexible hours both at work and in school.

This paper identifies barriers to participation perceived by potential nontraditional adult learners which can be divided into three categories: situational, institutional, and dispositional (Cross, 1981). Situational barriers arise from one's situation in life. Institutional barriers are practices and procedures that exclude or discourage working adults from participating in educational activities. Dispositional barriers are related to attitudes and perceptions about oneself as a learner. These barriers can act individually or together depending on many variables to make participation in education difficult or impossible for adult learners (Cross, 1981).

Specifically, this study identified how the variables of gender, income, marital status, employment status, and a number of dependent children are related to adult learners' perception of situational, institutional, and dispositional barriers.

II. RESEARCH QUESTIONS

The study addressed the following research questions:
a. Why do nontraditional students fail to attend institutions of higher learning? And, to what extent does this structure coincide with Cross' (1981) situational, institutional, and dispositional categories of barriers?
b. What major barriers to education are perceived to exist by potential nontraditional adult students?
c. Do demographic variables such as gender, income, marital status, employment status, and number of dependent children relate to potential nontraditional students' perception of barriers?

Harriger (1991) concluded that in spite of the barriers inherent in their life-styles and the bureaucratic confines of the institutions, adult students are in school for a chance to better themselves and their families, for the love of learning, personal enrichment, and self-satisfaction. Nontraditional students differ from traditional college-aged students in that they are older, have multiple life commitments, and are highly motivated.

Johnstone and Rivera (1965) found that women identified more situational barriers, but were no more likely to list dispositional barriers than men were. Respondents with lower socio-economic status faced both kinds of barriers more often than did those of higher socio-economic status.

Respondents of Carp *et al.* (1974) indicated their interests in subject matter and learning modes, preferred places of study, time factors in learning, reasons for learning, willingness to pay, guidance needs, and perceived barriers to learning. Data were gathered on 24 items, and the analysis included age, gender, race, marital status, age and gender, race and gender, geographic region, and the type of community in which the respondents lived. The barriers were listed in order of importance as rated by the respondents: cost, not enough time, not wanting to attend school full-time, home responsibilities, job responsibilities, and the amount of time required to finish the program.

Cross (1981) added "institutional barriers" and classified 24 barriers from the study of Carp *et al.* (1974) into situational, institutional, and dispositional barriers. Darkenwald and Merriam (1982) expanded Cross' categories by adding "Psychological Interaction Model" to explain the interaction between individual and social environmental forces pointing out that socio-economic status exerts more influence on an individual's decision to participate.

III. METHODOLOGY

The questionnaire used for data collection was a part of an instrument used in "Learning Interests and Experiences of Adult Americans" by Carp *et al.* (1974).

Selected demographic variables were recoded as described below due to small numbers in certain categories. The race was recoded to a dichotomous variable: white (1) and nonwhite (2). Marital status was recorded as married (1) or not currently married (0). The number of dependent children was recoded to none (0) and some dependents (1). Income was moderately bimodal and was recoded into three categories, under $35,000 per year (5), $35,000 to $49,000 per year (6), and over $50,000 per year (7). Age was also recorded into three categories, under 30 (1), 30 to 49 years old (2), and 50 or older (3). Hours worked week were recoded to not working (0), working under 35 hours a week (1), working between 36 and 45 hours per week (2), and working more than 46 hours per week (3).

IV. FINDINGS

This study tested Cross's work in a different setting, thus this research was exploratory for this population of students.

Factor Analysis on the survey item from 155 respondents determined the underlying factor structure of the survey responses, for research question 1. It explained a relatively large portion of the variance found in the variables, and every factor remained independent of every other factor. It also revealed the not- directly observable factors based on a set of observable variables.

The 24 nonparticipation items were subjected to factor analysis. To determine the internal consistency of the sub-scales, Cronbach's Alpha was used. Factor scores were derived for each factor and correlations (Pearson's) between the reliable factor scores and demographic variables were computed. The resulting factors were treated as the dependent variables.

A descriptive analysis was undertaken to address research question 2. Measures of central tendencies, frequency distributions, and cross-tabulations were calculated. Multiple Regression analysis modeled linear relationships among dependent and independent variables to allow for linear prediction along the regression line was performed to address research question 3. The reliable factors that emerged from the factor analysis served as the dependent variable.

A. Descriptive Statistics

Preliminary analysis of the data included frequency distributions and univariate statistics for all recoded variables. The information in Table I addressed the second research question, which asked what specific indicators were perceived as most discouraging by nontraditional students.

A Pearson correlation matrix was created for all recoded variables to check for inter-correlations among indicators; with special attention toward relationships among demographic indicators and educational barrier indicators. Significant (12 < 0.05) correlations for gender existed with: cost of education (JF.012), more of a concern for women; having a place to study (12 = 0.039), more of a concern for men; and job responsibilities (12 = 0.002), more of a concern for men. Marital status was correlated with: the time needed to complete the degree (12 = 0.041), married people were more concerned; availability of childcare (JF.012), married; and home responsibilities (n = 0.036), married. The number of dependent children correlated with: the cost of education (12 = 0.000), those with kids were more concerned; about not having any free time (JF.004), with kids, the time needed to complete the degree (12 = 0.020), with kids; strict attendance requirements (Q = 0.042), with kids; having a place to study (:ir = 0.009), with kids; availability of childcare (Q = 0.000), with kids; home responsibilities (u = 0.000); with kids; and job responsibilities (Q = 0.030), with kids.

Income correlated significantly with the cost of education (i:r = 0.032), less income meant greater concern; not wanting to be a full time student (Q = 0.025), less income; not having information about the program they wanted (u=0.039), less income; no courses available that they wanted (n = 0.016), less income; and being tired of going to school (n = 0.005), less income. Hours per week of work correlated with: lack of free time (0.000), as hours increased, so did concern over free time; not having any information about the program they wanted (Q = 0.015), more hours, less concern; job responsibilities (u = 0.000), more hours, more concern; being too old (0.045), more hours, less concern; not having sufficient confidence (0.014), the more hours worked, the less concerned they were with their confidence level; meeting the requirements for admission (12 = 0.016), more hours, less concern; and not having courses available that they wanted (0.030) more hours, less concern.

TABLE I: SUMMARY STATISTICS AND DESCRIPTIVES FOR INDICATORS

Items	Mean	Std. Dev	Minimum	Maximum	N
Cost of school	4.08	1.49	1	6	155
Free time	3.97	1.38	1	6	155
Time to completion	3.58	1.33	1	6	155
Experiential credit	2.72	1.64	1	6	149
Attendance requirement	2.33	1.28	1	6	154
No goals	1.78	1.21	1	6	155
No place to study	1.64	1.07	1	6	154
No child care	1.72	1.36	1	6	154
Scheduling difficulty	2.78	1.53	1	6	152
Do not want full time	2.98	1.78	1	6	153
No program info	2.09	1.38	1	6	148
No transportation	1.14	0.55	1	6	154
Too much red tape	1.98	1.48	1	6	154
Appear too ambitious	1.52	1.08	1	6	149
No family support	1.37	1.00	1	6	153
Home responsibilities	2.97	1.63	1	6	154
Job responsibilities	3.61	1.62	1	6	154
Lack of energy	2.71	1.49	1	6	153
Too old to return	1.75	1.31	1	6	154
Lack of confidence	1.66	1.21	1	6	154
Can't meet requirements	1.51	1.11	1	6	152
No desired courses	2.33	1.56	1	6	152
Dislike studying	1.82	1.10	1	5	153
Tired of school	1.88	1.19	1	6	154

B. Factor Analysis

Factor analysis was performed on the barrier indicator variables to test for the presence of the three types of barriers identified by Cross' (1981) theoretical work on the subject of adult education.

TABLE II: INITIAL EIGENVALUES AND STATISTICS FOR FACTOR ANALYSIS (TOP 6)

Factor	Eigenvalue	Variance%	Cum.%
1. Lack Confidence (Dispositional)	7.01472	29.2	29.2
2. Family/Transport (Situational)	2.41875	10.1	39.3
3. Time & Energy (Situational)	2.25266	9.4	48.7
4. Dislike School (Dispositional)	1.33670	5.6	54.3
5. Schedule/Info Issues (Institutional)	1.32622	*5.5*	59.8
6. Cost of Education (Institutional)	1.16252	4.8	64.6

Based on the eigenvalues and a visual inspection of the scree plot, the orthogonal (varimax) rotation with six factors was selected as providing the strongest model. This orthogonal model explained 64.6% of the variance in the responses.

Table III provides the rotated factor matrix values. While certain institutional barriers by themselves are perceived as important by nontraditional students, in dimensions or factors they are weaker performers. This unexpected result can be attributed to the effect of the inter-correlations with other indicators in their respective dimensions. It appeared that the situational and dispositional factors may reinforce each other's' effects, while the institutional measures may not.

TABLE III: ROTATED FACTOR MATRIX LOADINGS SORTED BY COMPONENT INDICATORS

Indictor*	Level of Confidence	Family / Transport	Time / Energy	Dislike of School	Schedule / Information	Cost
MEET REQS	0.77487	0.20881	-0.11655	0.11601	0.12949	0.07940
TOO OLD	0.73745	0.09577	0.17997	0.18289	-0.01083	0.06357
CONFIDNC	0.71259	0.31239	0.10195	0.25066	0.20508	-0.00890
RED TAPE	0.66638	-0.13100	-0.05059	0.00508	0.22137	0.25814
AMBITION	0.57357	0.48457	0.23590	-0.02205	0.29317	-0.12301
NO TRANS	0.20684	0.76462	-0.11213	0.12877	-0.03458	-0.02663
STUDY PLC	0.06777	0.66700	0.12264	0.16375	0.21255	0.15584
KID CARE	-0.07472	0.62793	0.33642	-0.12551	0.08778	0.21060
NO SUPORT	0.38274	0.56277	0.27669	-0.26339	0.10886	-0.13790
ENERGY	0.11342	0.53596	0.38153	0.39112	0.02094	-0.07630
FREETIME	-0.05230	0.10652	0.75368	0.22029	0.15164	0.07497
JOB RESP	0.06819	0.09427	0.75088	0.23204	-0.13948	-0.06805
HOME RESP	0.10720	0.31483	0.72653	-0.10037	0.19798	0.13314
DONE TIME	0.10193	-0.03915	0.56621	0.17704	0.20340	0.36012
TIRED SCB	0.04656	0.02639	0.20676	0.76262	0.15406	0.08745
NO STUDY	0.23969	0.17625	0.13966	0.73149	0.20233	-0.02175
FULL TIME	0.29353	-0.19053	0.21516	0.50420	-0.20861	0.44566
ATTEND	0.26904	-0.02749	0.20042	0.38783	0.34080	0.38371
NO COURSE	0.19074	0.10276	0.03345	0.11326	0.84072	-0.07235
SCHEDULE	0.17551	0.12416	0.19556	0.15309	0.77082	0.13298

			Cont. Table III			
SCHEDULE	0.17551	0.12416	0.19556	0.15309	0.77082	0.13298
NO INFO	0.41539	0.34177	0.13457	0.23303	0.45787	0.37176
COST	-0.08889	0.15649	0.15891	-0.04798	-0.04770	0.73535
EXP CRED	0.44076	-0.07903	-0.01509	0.11067	0.10701	0.64874
NO GOAL	0.16422	0.28236	-0.10280	0.40228	0.31688	0.45592

TABLE IV: RELIABILITY COEFFICIENTS FOR ROTATED FACTORS

Factors	Coefficient of Reliability
Total (24 items)	Alpha = 0.8823
Factor 1 (5 items)	Alpha = 0.8067
Factor 2 (5 items)	Alpha = 0.6866
Factor 3 (4 items)	Alpha = 0.7293
Factor 4 (4 items)	Alpha = 0.7038
Factor 5 (3 items)	Alpha = 0.7814
Factor 6 (3 items)	Alpha = 0.5621

Reliability estimates (Cronbach's alpha) appear in Table IV. Reliability scores of 0.7 or above are considered acceptable. Only Factor 6 had a reliability score that was significantly lower than 0.7, but this was not unexpected. Factor 2 had a raw reliability score of 0.6866, but this rose above the 0.7 limit when computed from scores (to minimize sampling error).

C. Multiple Regression Analysis

Multiple regressions were computed with each of the six factors as dependent variables and with demographic factors as the predictors. Summary statistics for demographic and factor variables appear in Table V.

The presence of dependent children was positively correlated with Factor 2 (family and transport issues), Factor 3 (time and energy), and Factor 6 (cost of education). Annual household income was negatively correlated with Factor 4 (dislike of school), but not with Factor 6 (cost of education) as might have been expected. Finally, hours of work per week were positively correlated with Factor 4 (dislike of school), and negatively correlated with Factor 5 (schedule and information issues), and Factor 6 (cost of education).

Table VI summarizes the regression weights for each of the demographic variables, 1 values for the demographic variables, and explained variances.

TABLE V: SUMMARY STATISTICS FOR MULTIPLE REGRESSIONS

Indicator	Mean	Std. Dev.
Gender	0.359	0.482
Marital status	0.594	0.493
Dependent children in household	0.430	0.497
Annual household income	6.039	0.900
Hours worked per week	1.945	0.925
Factor score 1*	8.367	4.676
Factor score 2*	8.616	3.800
Factor score 3*	14.143	4.451
Factor score 4*	9.027	3.968
Factor score 5*	7.158	3.684
Factor score 6*	8.604	3.168

TABLE VI: REGRESSION WEIGHTS, 1 VALUES, AND R2 FOR FACTORS

Factor	Items	Weights	1value	Sig. !	R
1	Hrs wrk	-0.116335	-1.091	0.2774	
	Income	-0.155547	-1.332	0.1855	
	Depkids	-0.107673	-0.518	0.6052	0.10373
	Gender	0.124167	0.615	0.5394	
	Marital	0.128822	0.556	0.5794	
	(Constant)	-0.317980	-0.384	0.7015	
2	Hrs wrk	-0.120498	-1.094	0.2762	
	Income	-0.002470	-0.020	0.9837	
	Depkids	0.239867	1.118	0.2660	0.04834
	Gender	0.091879	0.441	0.6601	
	Marital	0.161435	0.674	0.5016	
	(Constant)	-0.230085	-0.269	0.7883	
3	Hrs wrk	0.278706	2.909	.0043	
	Income	0.010631	0.101	0.9195	
	Depkids	0.717011	3.841	0.0002	0.27469
	Gender	0.018734	0.103	0.9179	
	Marital	0.058104	0.279	0.7808	
	(Constant)	-0.539015	-0.725	0.4700	
4	Hrs wrk	0.073694	0.706	0.4813	
	Income	-0.343361	-3.004	0.0032	
	Depkids	-0.395945	-1.948	0.0538	0.12675
	Gender	0.187735	0.951	0.3435	
	Marital	0.415678	1.833	0.0693	
	(Constant)	2.139028	2.641	0.0094	
5	Hrs wrk	-0.363423	-3.535	0.0006	
	Income	-0.058733	-0.521	0.6030	
	Depkids	-0.046885	-0.234	0.8153	0.15279
	Gender	0.139585	0.718	0.4743	
	Marital	-0.052719	-0.236	0.8139	
	(Constant)	2.248375	2.818	0.0057	
6	Hrs wrk	-0.132822	-1.321	0.1889	
	Income	-0.243891	-2.215	0.0287	
	Depkids	0.632634	3.230	0.0016	0.17495
	Gender	-0.204577	-1.076	0.2842	
	Marital	0.222901	1.020	0.3098	
	(Constant)	0.937028	1.201	0.2321	

The first model predicted Factor 1, lack of confidence (dispositional), as the dependent variable. The analysis of variance for the seven demographic variables and Factor 1 yielded an E ratio of 1.98394, which was significant at g = 0.0627. None of the demographic indicators was significant for this factor.

Factor 2, family and transport issues (situational), has an *E* ratio of 0.87082, with n = 0.5318. None of the demographic predictors exhibited any significant power in predicting this factor. Multiple R2 for this equation was 0.0483.

Factor 3, time and energy (situational), appeared to be more predictable with demographic indicators. The E ratio for this factor was 6.49233, with a probability of less than .0001. Strong predictor variables were hours of work per week, with .Q = 0.0043, and number of dependent children, with .Q =0.0002. Multiple R2 was 0.2747.

Factor 4, dislike of school (dispositional), also was significantly predictable using demographic variables. The E ratio was 2.48821, with a probability of 0.0202. Good predictors included income (:ir = 0.0032), the number of dependent children (:ir.0538), and marital status (12 = 0.0693). The multiple R2 was 0.1267. Factor 5 was labeled as schedule and information issues (institutional). The E ratio for this equation was 3.09172, with a probability of 0.0049. Hours of work per week (p = 0.0006) was the strongest predictor of this factor, and the multiple R2 was 0.1528. Factor 6, which was labeled as the cost of education (institutional), yielded an E ratio of 3.63514, with a probability of 0.0014. Strong predictors were income, at ir.0287, and the number of dependent children, at p = 0.0016. The multiple R2 was 0.1750.

V. CONCLUSION

All three types of perceived barriers to returning to college appeared in the quantitative analysis. Although dispositional barriers were perceived by respondents, they seemed to be related, in part, to the effects of the situational or institutional barriers that these students confronted. College administrators need to ensure adult access by changing rigid policies and being sensitive to adults' life situations (Malhotra, 2022). Rarely did students confront only single barrier. Cost, by itself, is the single greatest barrier perceived by nontraditional students, followed by lack of free time, length of time to complete the degree, lack of credit for life or work experience, and strict attendance requirements. Although certain institutional barriers by themselves were perceived to be strong deterrents to pursuing education, as factors or dimensions they appeared weaker than the cumulative effects of dispositional or situational barriers.

Demographic variables seemed to predict some of the perceived barriers. The presence of dependent children in the household increased concern about family and transportation issues, time and energy, and the cost of education. As household annual income increased, dislike of school became less important as a perceived barrier. As hours of work (employment) per week increased, dislike of school increased as a barrier, and concerns over scheduling of classes, lack of information, and cost decreased.

Six strong dimensions were retained after factor matrix rotation. An examination of these six factors partially supported Cross's three-part formulation, since two of the factors followed each of her dimensions. However, the presence of two different factors along each of Cross's dimensions indicates the possibility of elaborating her initial model. Two different types of situational barriers, two different types of institutional barriers, and two different types of dispositional barriers were perceived by the respondents to this questionnaire. The specificity of the factors indicated that the different dimensions were experienced in qualitatively different ways, and the clustering of different indicators in each dimension indicated the cumulative effects of several barriers.

REFERENCES

Carp, A., Peterson, R., & Roelfs, P. (1973). Adult learning interests and experiences. In K. P. Cross, J. R. Valley, & Associates (Eds.), *Planning nontraditional programs: An analysis of issues for post-secondary education* (pp. 11–52). San Francisco, USA: Jossey-Bass.

Cross, P. (1981). *Adults as Learners*. San Francisco, USA: Jossey-Bass.

Darkenwald, G., & Merriam, S. B. (1982). *Adult Education: Foundations of Practice.* New York: Harper & Row.

Fridberg, T. (2015). *Adult skills in Nordic region.* Copenhagen: Nordic Council of Ministers.

Golding, B. (2020). Getting serious: The national vision splendid for adult education 60 years on. *Australian Journal of Adult Learning, 60*(3).

Harriger, C. (1991). Barriers to the optimal use of prior learning assessment. (Doctoral Dissertation, Columbia University, 1991). *Dissertation Abstracts International, 31*, 04.

Johnstone, J. W., & Rivera, R.J. (1965). *Volunteers for learning*. Chicago: Aldine.

Malhotra, N. (2022). Age and the Perception of Barriers for Adult Business Students. *Journal of International Business and Economics*, *22*(1), 34–39. https://doi.org/10.18374/jibe-22-1.3.

OECD. (2012). Lifelong learning and adults. Education Today: The OECD perspective. Paris.

Sizoo, S., Malhotra, N., & Bearson, J. (2003). A gender-based comparison of the learning strategies of adult business students. *College Student Journal, 37*(1), 103–110.