ABSTRACT
              As a response to the problems of nontraditional student
attrition at two-year and four-year urban colleges, this paper introduces the
constructs of career decision-making self-efficacy, perceived stress, and
financial difficulty into a model built on the synthesis of Cabrera (1993). A
questionnaire was administered to adult nontraditional (age 24 and over)
full- and part-time undergraduate students (n=469) at a private urban
research university during the fall 1995 semester. Variables included: career
decision-making self-efficacy; family encouragement; perceived stress;
financial attitudes satisfaction and difficulty; academic integration; social
integration; cumulative GPA; institutional commitment; goal commitment and
intent to persist; as well as measures of student background. The study found
that the variables subsumed within career decision-making self-efficacy had
the greatest influence on intent to persist and persistence. (Contains 81
references.) (RH)

A Structural Model of Student Integration, Finances, Behavior, and Career Development: An Elaborated Framework of Attitudes and Persistence

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Abstract

A nonrecursive structural model adapted from Cabrera et al. (1993) integrated model of student retention was elaborated and identified. The study examined the persistence of adult students studying in two-year and four-year degree programs, by combining data from a survey questionnaire and institutional records. Twenty-three variables were included; 12 endogenous and 11 exogenous. The explained variance for intent to persist and persistence were 65 percent and 43 percent respectively. A career development variable was shown to have a moderate direct effect on intent to persist and a small indirect effect on persistence.

As a response to the problem of nontraditional student attrition at two-year and four-year urban colleges, the constructs of career decision-making self-efficacy (CDMSE), perceived stress and financial difficulty are introduced into an elaborated structural model that builds upon the synthesis of Cabrera et al. (1993). Although there has been an awareness of the problem of attrition within undergraduate degree programs, research efforts at examining this trend affecting adult students have been only moderately successful (Kasworm, 1990; Kasworm & Pike, 1994).

The cross-sectional survey research reported in this paper introduces a new and heretofore neglected dimension that proved to be critical to the understanding of the complexities of adult persistence. It identified a variable, CDMSE, a career planning and development construct (Taylor & Betz, 1983; Betz, Klein & Taylor, 1996; Peterson, 1993a), that previous models of the persistence phenomenon did not include, thus permitting a richer explanation of the process of student persistence (attrition's antonym). With its inclusion in a new structural model of student persistence, the cognitive-initiated career expectations and agentive behavior of adult students can be more closely examined within the environmental, academic, social and institutional systems of undergraduate student life that lead ultimately to the central variable of this investigation, persistence.

In turn, Cabrera et al. (1993) student integration/student attrition framework was modified to acquire a nontraditional footprint so that better testing of an adult undergraduate population could be achieved with a new path model (Kasworm, 1990; Kasworm & Pike, 1994). Another new variable, perceived stress, examines the stress experienced by adult students. It measures the amount of stress adult students perceive due to the energy they expend and due to the amount of work that college requires. Financial difficulty assesses the attitudes that adult students express about financial difficulty while attending college. As this new integrated model of student persistence verifies, CDMSE is empirically shown to play an important role in the lives of nontraditional students with respect to their perceived stress, academic integration, social integration, institutional commitment, intent to persist and persistence in college.

CONCEPTUAL FRAMEWORK AND RELATED LITERATURE

An extensive literature on student persistence and attrition exists prior to the 1970's. However, few systematic investigations were performed that utilized conceptual models. Two theorists emerged to provide comprehensive frameworks in which they better explained college departure and withdrawal behavior. Cabrera et al. (1993) have aptly referred to these two models as the "student integration model" of Tinto (1975; 1987) and the "student attrition model" of Bean and Metzner (1985).

A third seminal model, "the integrated model of student retention" (Cabrera et al., 1993) surfaced in the early nineties to bring the two competing earlier models into focus in a single

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synthesized structural framework. By merging these models, a more comprehensive understanding of the complex complementary and divergent capacity of each competing theory was yielded in a new explanatory framework.

In light of the findings of Kasworm and Pike (1994) that challenged the appropriateness of the inclusion of academic performance in a traditional model of student satisfaction, careful attention was given, in the development of a new model, to the five perceptual "domains of reality" of Kasworm (1990). The integrated model of student retention of Cabrera et al. (1993) was in turn modified in this research investigation to include new constructs germane to nontraditional students. In this manner, critical assumptions that researchers of adult undergraduate students have historically addressed, were assessed for inclusion in an elaborated model with the following additional constructs: career decision-making self-efficacy, perceived stress, and financial difficulty. An examination of critical path relationships within the model and the explained variance of related constructs are evaluated to assess the relative importance of selected constructs deployed in this investigation. A reexamination of the conclusion of Kasworm and Pike (1994), regarding the appropriateness of a traditional model of performance is made.

In turn, each variable construct defined in the variables in the study section below has either originated in the student integration model of Tinto (1975; 1987; 1993), or the student attrition model of Bean and Metzner (1985), the synthesis of Cabrera et al. (1992a; 1993), or in the new integrated model of student persistence by this author. "A Structural Model of Student Integration, Finances, Behavior, and Career Development: An Elaborated Framework of Attitudes and Persistence" unfolds as a system of twelve variable constructs and their purported relationships while including for the effects of eleven background variables.

With the testing of a new person-environment model, an attempt is made "to capture the reality of the transactional relationship between adult students and the undergraduate institution," by examining adult development in a student learner context (Kasworm, 1990). In turn, relationships are drawn between the undergraduate experience and other key life roles that adult students encounter. The constructs, background variables, path relationships, and theories employed bear antecedent reference to the five perceptual domains addressed by Kasworm (1990). With the assistance of another meta-analysis conducted by Braxton et al. (1997), an enriched scope of empirical considerations regarding the student integration model of Tinto (1975; 1987; 1993) and the integrated model of student retention of Cabrera et al. (1993) are considered. Braxton et al. (1997) compile evidence that attests to the increased capacity of the student integration model of Tinto (1975; 1987; 1993) with commuter students and in part nontraditional populations. The testing of the new model presented here attempts to bridge elements of conflict pertaining to the conclusions of the meta-analyses of Kasworm (1990) and

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Braxton et al. (1997) by introducing an elaborated framework and new evidence. In this manner, the new model attempts to broaden the scope of inquiry for adult undergraduate students.

The Theory of Planned Behavior--A Conceptual Bridge for Model Integration

With a new exploration of adult adjustment, conceptual variables are theoretically related and incorporated in a structural model by means of the social cognitive theories of self-efficacy and planned behavior (Ajzen, 1991; Bandura & Cervone, 1983; Bandura, 1997). These two complementary attitudinal frameworks act as a conceptual overlay or bridge for model integration. Model variables deployed in the integrated model of student persistence examined here address precursor theories noted above, and test new relationships that have not been evaluated before in an elaborated framework (Braxton, et al., 1997). These variables are conceptually explored in innovative ways in large part due to the plurality of outcomes that adult student behavior can bring to the context of undergraduate learning (Kasworm, 1990). As a rationale for their inclusion in a new model, these variables are explored with nontraditional students, to examine the degree of model integration that stems from social cognitive theory and attitude-behavior interactions (Bandura, 1997, Braxton et al., 1997, Eagly & Chaiken, 1993). In turn, a new model of adult adjustment that examines adult career development, student integration, and student persistence is introduced that sustains an elemental, if not conceptual, allegiance to the integrated model of retention of Cabrera et al. (1993), its variables and foundation theories synthesized within.

By incorporating the theory of planned behavior as a conceptual bridge (Ajzen & Madden., 1986; Ajzen; 1991; Madden et al., 1992), the construct of career decision-making self-efficacy (Betz & Hackett, 1981; 1986) can be substituted for the analogous construct of perceived behavioral control. As employed in the theory of planned behavior, "perceived behavioral control is in turn determined by control beliefs, which are beliefs about the likelihood that one possesses the resources and opportunities thought necessary to execute the behavior or attain the goal" (Eagly & Chaiken, 1993). In turn, the deployment of two related social cognitive psychological theories facilitated the linking of variables in a new path model.

Career Decision-Making Self-Efficacy, Perceived Stress, and an Integrated Model of Student Persistence: A Hypothetical Model

By elaborating the integrated model of student retention of Cabrera et al. (1993) with the constructs of CDMSE, perceived stress, and financial attitudes/difficulty, an attempt is made to better explain the variance observed regarding the intent to persist and persistence of adult students. In addition, an effort is made to recognize the perceived stress experienced by adult students with regard to the parallel processes of educational development and career

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development, in particular with respect to the concepts of agency and career decision-making within a student/learner context. The following variables bear antecedent reference to the student integration theory of Tinto (1975; 1987; 1993): academic integration, social integration, institutional commitment, and goal commitment, whereas family encouragement, perceived stress, financial attitudes (satisfaction and difficulty), academic performance, and intent to persist originated conceptually with the student attrition model of Bean and Metzner (1985). Through the dynamic interplay of CDMSE with other constructs therein, the new model explains persistence decisions or behavior that may be constrained by limited resources (financial difficulty and family encouragement) not wholly under the volitional control of adult students (Ajzen, 1991).

RESEARCH DESIGN AND METHODS

Population and Sample

The population for this research investigation was composed of adult/nontraditional undergraduate students 24 years of age or older studying on a part-time or full-time basis in a two year and four year degree bearing program for adult students at a private urban research university. A survey questionnaire was distributed to a randomly selected sample of 937 adult students enrolled during the fall 1995 semester. After a 63 percent survey response and listwise deletion, the sample for data analysis comprised 469 adult students. From these data sources, a total of 23 variables were included in this research study in an effort to ascertain their relationship to persistence for the sample and population of this inquiry. The integrated model of student persistence is composed of twelve endogenous variables. In addition, eleven exogenous variables are included as background or demographic variables and were largely obtained from university and school/divisional records. Degree program, one exogenous variable, differentiates between two-year and four-year degree programs and serves as a control.

Instrumentation

Two instruments were integrated and adapted for the sample being examined: the Career Decision-Making Self-Efficacy - Short Form (CDMSE-SF) scale (Betz, Klein & Taylor, 1996; Betz & Taylor, 1994; Taylor & Betz, 1983) and the "Student Experiences Survey" (Cabrera, 1988) employed in "integrated model of student retention" (Cabrera et al., 1993) (instruments used by permission). As an amalgam of these two instruments, a single survey questionnaire, the Adult Student Experiences Survey (ASES) was administered to collect attitudinal data and self-reported background characteristics. As tested, the reliability of the scales employed in large part matched or surpassed the levels reported by their respective developers.

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<p style="text-align:center;">Variables in the Study</p>

The predictor endogenous (independent) variables included: career decision-making self-efficacy (CDMSE), family encouragement, perceived stress, financial attitudes/satisfaction, financial attitudes/difficulty, academic integration, social integration, cumulative GPA (Grade Point Average), institutional commitment, goal commitment and intent to persist. The exogenous variables of the model included eleven variables that pertained to student background: gender, race/ethnic affiliation, household income, relatives/dependents, financial aid, parents' educational level, academic degree aspirations, student type, degree program, curriculum hours and hours employed. The criterion (a dependent endogenous variable) was persistence, a dichotomous outcome. Definitions of the variable constructs and related information are provided below:

Academic Integration concerns the feelings students' express about being a part of the academic life of the institution. By examining the perceptions of adult students regarding their 1) academic performance, 2) their satisfaction with the curriculum, and 3) their feelings of being a part of the academic institution, the research examined the degree to which students become involved in the academic system and intellectual life of the university (Cabrera et al., 1993). The Cronbach Alpha reliability coefficient of the three-item scale for academic integration was .57.

Background Variables are data or specific information collected about students prior to their enrollment at the institution. The background data originate from institutional records and by means of the Adult Student Experiences Survey (ASES) (Bean & Metzner, 1985). The background variables investigated include eleven exogenous variables: 1) gender, 2) race/ethnic affiliation, 3) household income, 4) relatives/dependents, 5) financial aid, 6) parents' educational level, 7) academic degree aspirations, 8) student type, 9) degree program, 10) curriculum hours, and 11) hours employed.

Career Decision-Making Self-Efficacy (CDMSE-SF), the CDMSE-SF (short form), is comprised of 25 items and identified the extent to which students are confident (have self-efficacy) about their ability to engage in educational and occupational information gathering and goal planning activities (Betz, Klein & Taylor, 1996; Hackett & Betz, 1981; Taylor & Betz, 1983, Peterson, 1993a). A single total score (interval level) was calculated by summing the score of each of the 25 tasks for each subject. The Cronbach Alpha reliability coefficient of the twenty-five-item scale for CDMSE was .96.

Cumulative GPA (Grade Point Average) means academic performance as a continuous measure (0.000-4.000). Cumulative GPA was obtained from institutional records to examine the academic performance of adult students.

Family Encouragement was comprised of two items and explores the construct of encouragement from family of Cabrera et al. (1992b; 1993) within the specification of a new

<p style="text-align:center;">6</p>

model introduced here. The Cronbach Alpha reliability coefficient of the two-item scale for family encouragement was .84.

Financial Attitudes/Difficulty was comprised of two items and involved the "experience of financial difficulty" while at the institution (Cabrera et al., 1992b) and the difficulty in financing a college education (Cabrera, 1988; Mallette & Cabrera, 1991). The Cronbach Alpha reliability coefficient of the two-item scale for financial attitudes/difficulty was .69.

Financial Attitudes/Satisfaction was comprised of two items that involved the satisfaction with the amount of financial support (grants, loans, family and jobs) received while attending the institution (Cabrera et al., 1992b, Cabrera et al., 1993) and the satisfaction with financial aid programs at the institution as expressed by students (Mallette & Cabrera, 1991). The Cronbach Alpha reliability coefficient of the two-item scale for financial attitudes/satisfaction was .84.

Goal Commitment was comprised of two items. It concerned the importance students ascribe to a college degree and the "importance of completing program of study" (Pascarella & Terenzini, 1979, 1980; Cabrera et al., 1993). The Cronbach Alpha reliability coefficient of the two-item scale for goal commitment was .66.

Institutional Commitment was comprised of four items regarding the student integration model and involved the confidence students have in their institutional choice, and their perceptions of "institutional fit and quality" (Pascarella & Terenzini, 1979, 1980; Cabrera et al., 1993). The Cronbach Alpha reliability coefficient of the four-item scale for institutional commitment was .78.

Intent to Persist was comprised of four items and involved the likelihood in re-enrolling at the institution as expressed by students (Cabrera et al., 1993). The Cronbach Alpha reliability coefficient of the four-item scale for intent to persist was .69.

Perceived Stress measures the amount of stress adult students perceive due to the energy they expend and due to the amount of work that college requires. A two-item scale was included that originated with a survey developed by Cabrera (1988). The Cronbach Alpha reliability coefficient of the two-item scale for perceived stress was .85.

Persistence, the principal variable of this inquiry, is determined by the actual re-enrollment at the institution for the following term of study.

Social Integration was comprised of two items. The scale examined the experience adult students have in making "close personal friendships" and their "ease of meeting and making friends" in college (Cabrera et al., 1993). The Cronbach Alpha reliability coefficient of the two-item scale for social integration was .73.

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Conceptual Summary

A path of longitudinal interactions hypothetically occurs between students and an institution in a given term of study. With a conceptual overlay of the theory of planned behavior (Ajzen, 1991) and input from environmental variables (family encouragement, financial attitudes/difficulty) and background characteristics, career decision-making self-efficacy percepts, perceived stress, social integration and academic integration take place within related subsystems of the college community to culminate in two fundamental commitments, a commitment to the institution and a commitment to the personal goals of adult students (Tinto, 1975; 1987; 1993). Through these commitments and performance outcomes measured by cumulative GPA, students either express an intent to persist or leave the institution, which results in a behavioral outcome of persistence or attrition, respectively (Cabrera, et al., 1993; Bean & Metzner, 1985). In summary, "Career Decision-Making Self-Efficacy, Perceived Stress, and an Integrated Model of Student Persistence: A Hypothetical Model" is presented in Figure 1 below.

Insert Figure 1 about here

Tests for Univariate and Multivariate Normality

Upon prescreening, PRELIS 2 revealed a moderate level of kurtosis and skewness among the variables to be investigated. That is, the omnibus test employed by PRELIS 2 revealed a moderate level of multivariate non-normal data (Joreskog & Sorbom, 1993). An alternative estimator was utilized by employing the weighted least squares (WLS) method to serve as an adjustment for the multivariate non-normal conditions encountered (Joreskog & Sorbom, 1993).

Data Analysis Procedures

A two step data analysis was conducted that included measurement and structural stages. The measurement stage was performed separately with SPSS 6.13 (Norusis, 1994). Cronbach Alpha reliability coefficients are provided for nine scales listed in the variables in the study section above. After a reliability analysis was completed on the respective endogenous variable scales, data reduction was performed by means of a principal components procedure on the items of these same variable scales with SPSS 6.13 (Norusis, 1994). The principal components procedure and computation of factor scores served as a measurement stage for the structural equation path model that followed.

PRELIS 2 produced data transformations among ordinal and continuous variables and provided appropriate covariance matrices that included the asymptotic covariance matrix

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(Joreskog & Sorbom, 1993). The structural parameter estimation procedures and path analytic protocol of LISREL 8.14 followed using a weighted least squares (WLS) method that adjusted for non-normal conditions when one or more of the observed variables are ordinal (Joreskog & Sorbom, 1993). In short, LISREL 8.14 incorporated and processed the measurement stage data and simultaneously computed specified structural equations and a path model (Joreskog & Sorbom, 1993).

RESULTS

The total effects among the endogenous variables in the integrated model of student persistence are summarily provided in Figure 2 below above an effect size criterion of .10. Standardized effects .10 or greater have a "meaningfulness" that can influence policy analysis. (Pedhazur, 1996; Stevens, 1996; Hoyle, 1995; Loehlin, 1992; Cohen & Cohen, 1983). The standardized total effect size criterion of .10 suggests that a unit change in the total effect of a given endogenous or exogenous variable is associated with at least a ten percent change (or more) on a given endogenous variable (or dependent outcome) examined. The trimmed display of the model among the endogenous variables (see Figure 2 below) includes a total of 42 endogenous path relationships greater than the effect size criterion of .10. In addition, 32 exogenous variable path relationships of the endogenous variables were included and controlled.

Insert Figure 2 about here

Goodness of Fit Statistics

As a structural model, "Career Decision-Making Self-Efficacy, Perceived Stress, and an Integrated Model of Persistence" has close to a "perfect fit," (Chi-square = 136.719 with 173 degrees of freedom; p = .981) (Joreskog & Sorbom, 1993). Other indicators of goodness of fit are included below to more comprehensively assess overall goodness of fit for the model (Joreskog & Sorbom, 1993). These indicators included: Chi-Square/degrees of freedom ratio (.790), goodness of fit index (GFI = .994), adjusted goodness of fit index (AGFI = .990), and the root mean square residual (RMR = .0596).

The Squared Multiple Correlation (R^2) for Each Endogenous Variable

The explained variance determined by the Squared Multiple Correlation (R^2) for each endogenous variable of the integrated model of student persistence is as follows: CDMSE **(8%)**, family encouragement **(27%)**, perceived stress **(8%)**, financial attitudes/satisfaction **(16%)**, financial attitudes/difficulty **(19%)**, academic integration **(18%)**, social integration **(27%)**,

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institutional commitment **(39%)**, cumulative GPA **(11%)**, goal commitment **(12%)**, intent to persist **(65%)**, and persistence **(43%)**.

<p align="center">The Total Effects Explaining Intent to Persist</p>

The Squared Multiple Correlation (R^2) explaining the variance in intent to persist was high at 65 percent. The four highest ranked total effects on intent to persist of the endogenous variables, within the trimmed display of the integrated model of student persistence (effects > .10), are listed as follows in descending order of magnitude and arise largely from direct effects; the indirect effects are very small or marginal in size (see Figure 2): 1) institutional commitment (total effect = −.273 p < .001), 2) academic integration (total effect = −.253 p < .001), 3) CDMSE (total effect = .197 p < .001), and 4) financial attitudes/difficulty (total effect = .173, p < .001).

In addition, the five highest ranked total effects on intent to persist of the exogenous variables, within the trimmed display of the integrated model of student persistence (effects > .10), are listed as follows in descending order of magnitude and arise largely from direct effects; the indirect effects are very small in magnitude: 1) household income (total effect = .720, p < .001), 2) financial aid (total effect = .257, p < .001), 3) degree program (total effect = .155, p < .001), 4) relatives/dependents (total effect = −.142, p < .001), and 5) gender (total effect = .122, p < .001).

<p align="center">The Total Effects Explaining Persistence</p>

The Squared Multiple Correlation (R^2) explaining the variance in persistence was moderate at 43 percent. The seven highest ranked total effects on persistence of the endogenous variables, within the trimmed display of the integrated model of student persistence (effects > .10), are listed as follows in descending order of magnitude (see Figure 2): 1) intent to persist (total effect = .660, p < .001), 2) institutional commitment (total effect = −.203 p < .001), 3) academic integration (total effect = −.172, p < .001), 4) social integration (total effect = .147, p < .001), 5) family encouragement (total effect = −.140, p < .001), 6) financial attitudes/difficulty (total effect = .119, p < .01), and 7) CDMSE (total effect = .107, p < .001). The total effects on persistence regarding intent to persist, social integration and family encouragement arise from direct effects, whereas the total effects on persistence of institutional commitment, academic integration, financial attitudes/difficulty, and CDMSE are composed entirely of indirect effects.

In addition, the five highest ranked total effects of persistence on the exogenous variables, within the trimmed display of the integrated model of student persistence (effects > .10), are listed as follows in descending order of magnitude and arise largely from direct effects in the structural model with the exception of financial aid that is entirely an indirect effect: 1) degree program (total effect = −.270, p < .001), 2) curriculum hours (total effect = .191, p < .001), 3) hours employed

(total effect = .140, p < .001), 4) financial aid (total effect = .137, p < .001), and 5) student type (total effect = .100, p < .001).

DISCUSSION AND CONCLUSION

Adult student persistence decisions are more comprehensively explained by the new integrated model explored in this investigation, through the inclusion and dynamic interplay of the theory of planned behavior (Ajzen, 1991) subsumed therein. An examination of the effects of the endogenous variables on CDMSE (see Figure 2), the effects of intent to persist and persistence, and the explained variance computed for all twelve endogenous variables support this conclusion.

Discussion About the Findings of Career Decision-Making Self-Efficacy Among the Endogenous Variables

Of the twelve endogenous variables within "Career Decision-Making Self-Efficacy, Perceived Stress, and an Integrated Model of Student Persistence," career decision-making self-efficacy has the widest range of influence as an endogenous variable. It affects all twelve endogenous variables at significant levels. Further, six of twelve endogenous variables have effects on the perceived career decision-making self-efficacy of adult students above a total effect size of .10 within the trimmed display of the integrated model of student persistence (see Figure 2). Three of these endogenous variables have moderate total effects of career decision-making self-efficacy that are largely composed of direct effects: academic integration, social integration and intent to persist. The remaining three endogenous variables: perceived stress, institutional commitment, and persistence, the central variable within the integrated model of student persistence, have lower total effects of CDMSE. The effect on persistence of CDMSE is indirect, whereas the effects of perceived stress and institutional commitment are direct.

From these findings, clear policy implications arise for higher education institutions that provide undergraduate degree programs for adult/nontraditional students. The academic and social systems of the adult undergraduate experience must be more attuned to adult students' percepts of confidence about their vocational futures. In order to be effective and efficient, institutions need to help adult students achieve their goals and assist nontraditional learners with the critical developmental task of career decision-making and planning that remains at odds with the academic and social integration of adult students and their feelings of belonging. The liberal arts and professional curriculum need to be made relevant regarding the larger environment that affects adult lives by directly linking the curriculum with the world of work.

Discussion About the Effects Explaining Intent to Persist and Persistence

With the additions of career decision making-self efficacy, financial difficulty and all the

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effects included in the structural equation, the explained variance of intent to persist is evaluated at a moderate to high level (65 percent). It surpassed the level of explained variance of intent to persist examined in the integrated model of retention ("43 percent") of Cabrera et al. (1993), that was tested with a traditional population of students, by a respectable margin. Total effects above an effect size of .10 included the effects of the following: institutional commitment, academic integration, CDMSE, financial attitudes/difficulty, household income, financial aid, degree program, relatives/dependents, and gender.

In addition, the explained variance of the structural equation for persistence was at a moderate level (43 percent). It was similar to the level of explained variance of persistence examined in the integrated model of retention ("47 percent") of Cabrera et al. (1993) that was tested with a traditional population of students. Total effects above an effect size of .10 included the effects of the following: intent to persist, institutional commitment, academic integration, social integration, family encouragement, financial attitudes/difficulty, CDMSE, degree program, curriculum hours, hours employed, financial aid, and student type. In conclusion, perceived behavioral control (Ajzen, 1991; Eagly & Chaiken, 1993), an analog for CDMSE (Bandura, 1997, 1989, 1977; Betz et al., 1996) is integrated within a new model to better explain nontraditional students' intent to persist and the processes subsumed therein.

General Conclusions

The integrated model of student persistence discussed here presents nonrecursive path activity and reciprocal path linkages; it explores the notion of triadic reciprocal causation among person, environment and behavior put forward by Bandura (1997; 1986). In short, the model provides an interactionist perspective of social cognitive learning (Bandura, 1997) and the environment that moves beyond the person-environment fit solutions of Tinto, Bean and Cabrera to a path model that is more inclusive and dynamic. It reflects a developmental exchange among adult students, the environment and the institution. For example, the total effects explaining the variable, family encouragement, originates with paths from financial attitudes/satisfaction, academic integration, institutional commitment, and goal commitment. These paths provide explanations that are new to the literature and earmark how organizational variables can effect environmental outcomes like encouragement from family. More directly, the deferred social reward of family encouragement becomes reinstated or reactivated for adult students as the total effects of family encouragement on financial satisfaction, academic integration, institutional commitment, and goal commitment are recognized by family members. Similar explanations related to nonrecursive activity and other path relationships arise in the integrated model of student persistence regarding the endogenous outcomes financial attitudes/difficulty, financial attitudes/satisfaction, perceived stress, and social integration.

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Clear policy implications arise for higher education institutions that provide undergraduate degree programs for adult/nontraditional students. In order to be effective and efficient, institutions that provide degree programs for adults must assess how well they are serving nontraditional learners. Attention must be placed on helping adult students achieve their goals and on assisting nontraditional learners with the critical developmental task of career decision-making and planning. By serving this adult constituency in the public and private sectors and addressing the career expectations of nontraditional learners for the workplace, higher education may be able to induce a less "indeterminate future" (Kerr, 1997) for itself and its stakeholders. Through careful calibration of careers and curriculum and a balanced adherence of the faculty and administrators to the "guiding principles for creating seamless learning environments" (Kuh, 1996), undergraduate education can grow to be more truly nontraditional.

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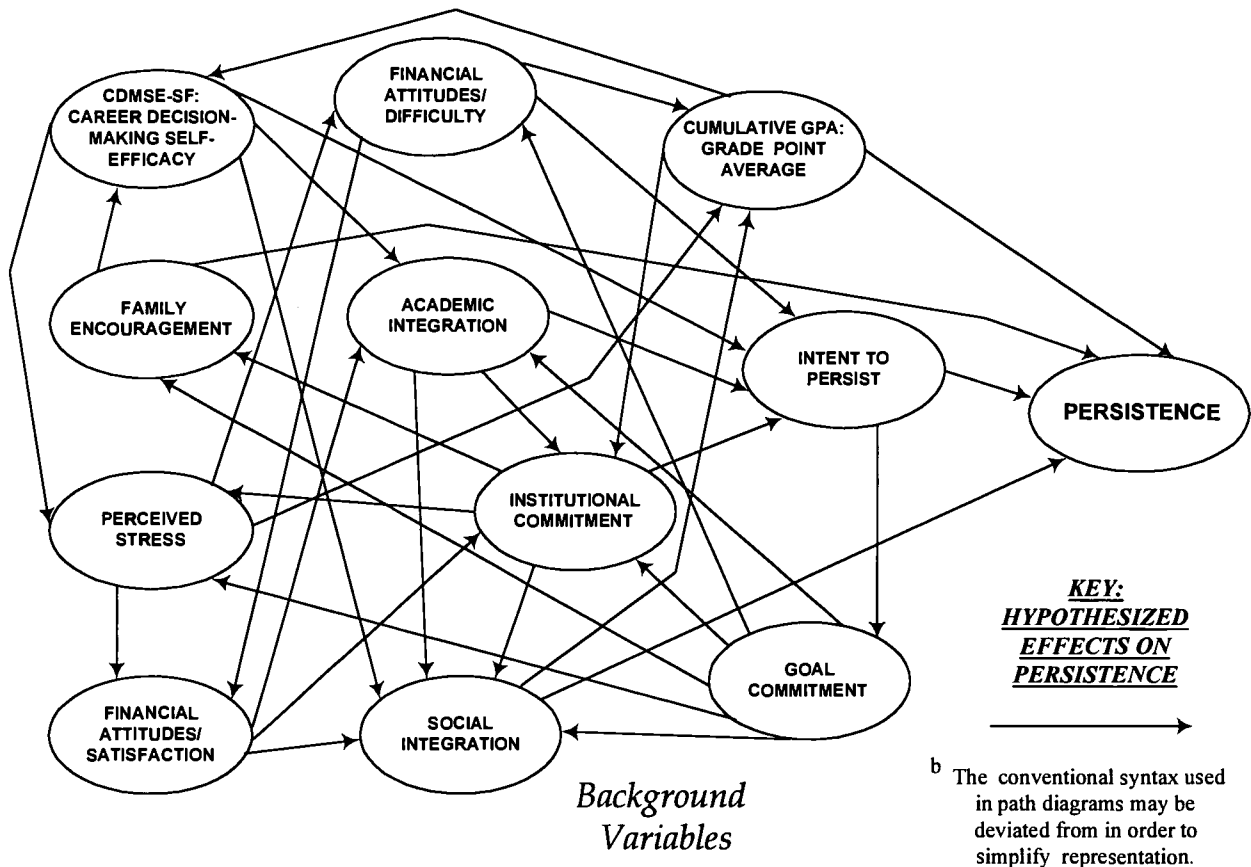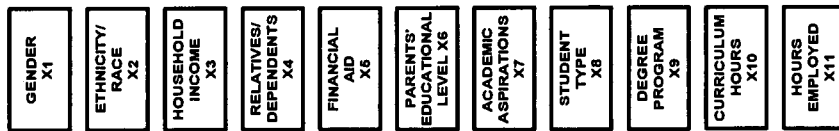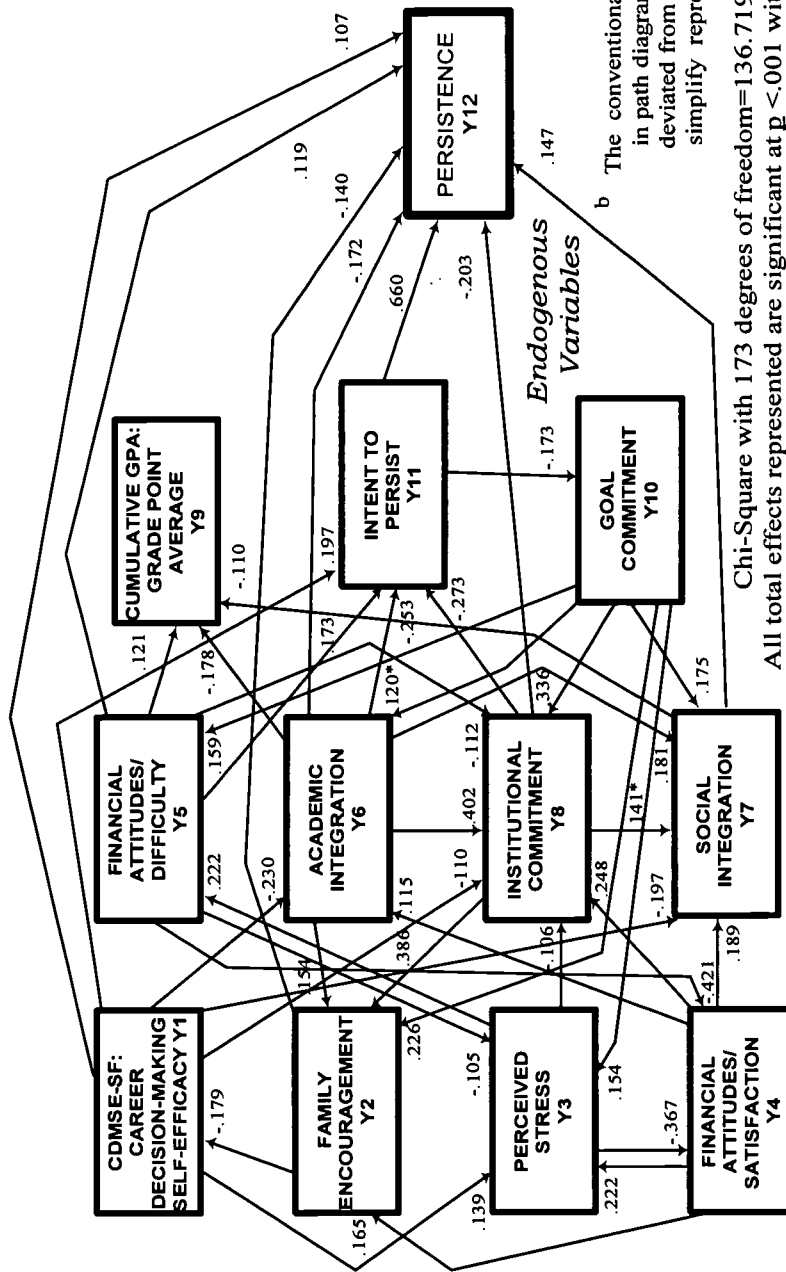
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Figure 1: Career Decision-Making Self-Efficacy, Perceived Stress, and an Integrated Model
of Student Persistence: A Hypothetical Model [b]

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Figure 2: Career Decision-Making Self-Efficacy, Perceived Stress, and an
Integrated Model of Student Persistence: Total Effects Among the Endogenous
Variables Within a Trimmed Display of the Model [b]

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