Running head: MCNAMARA INTERPRETIVE REVIEW

Factors Influencing Self-Efficacy/Self-Esteem/Self-Concept Among Nontraditional Undergraduate College Students: A Review of Selected Literature

Billie R. McNamara

EDU 600 – Libby Cohen, Instructor

University of Southern Maine

June 27, 2007

Contents

List of Tables

FACTORS INFLUENCING SELF-EFFICACY/SELF-ESTEEM/SELF-CONCEPT AMONG NONTRADITIONAL UNDERGRADUATE COLLEGE STUDENTS: A REVIEW OF SELECTED LITERATURE

The nontraditional student cohort in U. S. post-secondary education was estimated to comprise seventy three percent of undergraduates by the year 2000 (Choy, 2002). Limited research published to-date compares nontraditional students to their traditional counterparts but does not describe them clearly or is unidimensional, failing to recognize the complexities of nontraditional students' life roles (Chao & Good, 2004; Bundy & Smith, 2004; Carney-Crompton & Tan, 2002; Gigliotti & Gigliotti, 1998; Samuels, 2004). Although their identity as "student" is central, important, and taken seriously (Gigliotti & Gigliotti, 1998), nontraditionals are often unprepared for student responsibilities and suffer resultant role conflict (Samuels, 2004), leading to a reduction or lack of confidence and self-esteem (Chao & Good, 2004; San Miguel Bauman, Wang, DeLeon, Kafentzis, Zavala-Lopez, & Lindsey, 2004) that can have a significant impact on program completion. Cross, Tough & Weathersby (1978) argue college for nontraditional students "involves taking risks not only with one's sense of self-esteem, but with one's sense of self" (cited in Gigliotti & Gigliotti, 1998, p. 298).

According to andragogical principles (Knowles, 1990), adult learners align self-concept with knowledge acquisition and intellectual development. Psychological (self-efficacy) and academic (GPA) performance improve as a function of age and throughout one's academic career (Carney-Crompton & Tan, 2002). Self-concept of academic ability (Gigliotti & Gigliotti, 1998) is related to demographics, psychological correlates (e.g., motivation), outcomes (e.g., satisfaction and grades), and overall self-esteem, leading to self-actualization as postulated by Maslow (1954). Nontraditional students perform as well or better in studies of aptitude, motivation, academic style, and achievement – generally higher academic performance (Chao & Good, 2004; Carney-Crompton & Tan, 2002). High academic achievement leads to self-esteem and ego enhancement in nontraditional students (Carney-Crompton & Tan, 2002).

Description of Nontraditional Status

The U. S. Department of Education's National Center for Educational Statistics ("NCES") adopted the research findings of Bean and Metzner (1985) and Horn (1996) in its definition of the term "nontraditional student" (NCES, n.d.). Chronological age (above 24) and enrollment status (usually part-time) are primary indicators. Other characteristics include one or more of the following: a gap in time from completing high school to enrolling in post-secondary education, full-time employment while enrolled, financial independence according to student aid eligibility guidelines, dependent family members, single parenthood, receipt of a GED, or incomplete high school education (NCES, n. d.; Choy, 2002).

Many non-traditional students suffer the effects of long-term low socioeconomic status (King, 2003; Johnson, 2005), although many work – often full-time (Hart, 2003) – but seek an opportunity to change careers or occupations (Chao & Good, 2004; San Miguel Bauman et al., 2004; Samuels, 2004). A large number are inspired to enroll in college by some life-changing event (Bye, Pushkar & Conway, 2007; Samuels, 2004), and most are seeking personal fulfillment while reevaluating commitments to work and family (Hermon & Davis, 2004). Some are senior-aged, and some are "empty-nesters," though a significant percentage have dependent children and/or parents (Samuels, 2004). All are "pulled in 100 different directions" (Johnson, 2005, p. 30), making college a monumental challenge. However, most nontraditional students display an overall sense of hopefulness and well-being (Chao & Good, 2004; Quimby & O'Brien, 2006).

Definitions and Descriptions of Selected Terminology

Interrelationships Among Self-Concept, Self-Esteem, and Self-Efficacy

In this review, the terms self-concept, self-esteem, and self-efficacy are considered integral components of self-actualization as defined by Maslow (1954). Both self-concept and

self-esteem express of attributes of the Self, although their definitions are bifurcated descriptions of an individual's perception of identity, capabilities, and value. Self-esteem is emotional-affective, while self-concept is intellectual-cognitive (Huitt, 2004).

An individual's self-concept forms in three stages: what people say, judgements formed when comparing one's actions to others', and witnessing outcomes of one's actions and claiming responsibility without external comparison (Gigliotti & Gigliotti, 1998). Self-concept is an outcome of individuals' psychosocial development (Macari, Maples, and D'Andrea, 2006).

Self-efficacy, as used in this review, refers to students' judgement of their capabilities for effecting successful learning. A student's sense of self-efficacy affects motivation, thoughts, and behaviors (Bandura, 1994). Self-efficacy, like self-esteem, is a result of self-reflection – a cognitive behavior related to self-concept (Huitt, 2004).

Maslow (1954) and numerous other psychosocial researchers have identified the human requirement for developing one's self-esteem and, subsequently, an integrated sense of self-concept known as self-actualization that allows individuals to make the most of their abilities and strive to be the best they can. Self-actualization leads to self-efficacy through successful risk-taking and development (Sumerlin, 1997). Self-actualizing adult behavior includes furthering one's education (Samuels, 2004).

Selected Factors Relevant to Self-Esteem, Self-Concept, and Self-Efficacy Among Nontraditional Students

Self-Concept and Self-Esteem

Self-appreciation (i.e., self-esteem) among nontraditional students enhances their feelings of hopefulness for successful completion of a degree or certificate program (Chao & Good, 2004). Gigliotti and Gigliotti (1998) proved a relationship between the nontraditional student's self-concept of academic ability and overall self-concept, noting the only demographic variant in self-concept was age-related. Credits earned and cumulative GPA determine self-concept of academic ability, which in turn affects a student's current course load and grades. Citing Reay (2003), Taniguchi and Kaufman (2005) report improving either economic status or psychological well-being can have long-term benefits on students' self-concept.

Motivation to Attend College

There is no correlation between academic self-concept and motivation (Gigliotti & Gigliotti, 1998). However, a sense of "hopefulness" and the desire for financial improvement are motivational (Chao & Good, 2004). Non-traditional students display pronounced intrinsic motivation and a deep commitment to the long-term time requirement necessary to complete a degree or certificate program (Bye et al., 2007). Intrinsic motivation, in keeping with Knowles' (1990) description of adult learners, engenders autonomy, intellectual exploration, and sustained interest without authority feedback/support. Students and educators must work together to achieve synergy between intrinsic and extrinsic motivators for learning because an intrinsically motivated student "becomes caught up in the feedback loop between learning, interest, and enjoyment" (Bye et al., 2007, p. 146). Career advancement and self-improvement are primary motivators for entering college (Bauman et al., 2004). Citing Kelly (1982), Taniguchi and Kaufman (2005) observe that setting an example for their children is a motivator for adult students to complete college (see also Bauman et al., 2004). Conversely, Taniguchi and

Kaufman (2005) report remaining time in the workforce could be a factor in older students' motivation.

Course Load, GPA, and Class Standing

Taniguchi and Kaufman (2005) report their study confirmed prior results indicating previous enrollment and maintaining full-time course loads increase the likelihood of degree completion. Full-time status has a significant influence on completion. Successfully completing courses and moving forward toward program completion has a greater positive effect on academic self-concept than cumulative GPA. However, academic self-concept is only useful as a predictor of course load until demographics are a factor in data analysis (Gigliotti & Gigliotti, 1998). Nontraditional students employ unique skills for interweaving complex life, work, and educational experiences to facilitate maximum learning (Chao & Good, 2004).

Student Demographics

A relationship exists between overall self-concept and age, but not self-concept and race, gender, or income (Gigliotti & Gigliotti, 1998). Youth, high cognition, and high-status occupations are prevalent among college completers, but socioeconomic status is not directly related to completion. Marital status has a significant influence on degree completion, noting the potentially positive effect social equalization of marital roles has on women's educational attainment. Parenting young children potentially impedes degree completion, especially among women (Taniguchi & Kaufman, 2005).

Intrinsic and Extrinsic Support Systems

External support systems, including family, friends, and college services, are critical to nontraditional students. College counselors lack sufficient, accurate information to aid them in providing specific and relevant services directed to nontraditional students' personal, educational, and occupational needs (Chao & Good, 2004; Bauman et al., 2004). College programs designed to assist nontraditional students, especially child-care options, are highly

recommended (Taniguchi & Kaufman, 2005), but these programs should complement – not duplicate – other support services (Bauman et al., 2004). Family situations provide both support and detriment to nontraditional students' college careers. Women in lower socioeconomic groups have little external support. Employer-funded tuition and costs – even partial or contingent reimbursement – can enhance students' completion rates (Taniguchi & Kaufman, 2005).

Intrinsic support, derived from higher levels of self-concept, is critical to nontraditional students' success (Gigliotti & Gigliotti, 1998). Positive reinforcement received from friends and family enhances students' feelings of self-worth. Appropriate social counseling can aid students in developing self-esteem (Bauman et al., 2004).

Stress and Depression

A significant relationship exists between self-efficacy and a student's depression or stress. As a student's sense of academic self-concept and self-efficacy increase, levels of stress and depression decrease (Gigliotti & Gigliotti, 1998). Higher levels of campus social involvement have a positive effect on students' completion. Socialization is a well-known method for remediating stress and depression among adults (Taniguchi & Kaufman, 2005). Chao and Good (2004) describe nontraditional students' "complex life roles across family, school, and the workplace" (p. 6) and discuss the need for effective counseling (see also Bauman et al., 2004).

Academic Locus of Control

A negative relationship exists between academic self-concept and students' attributing their success to external factors. Therefore, students' positive overall self-concept derives from internal locus of control (Gigliotti & Gigliotti, 1998). While not specifically addressing locus of control, Taniguchi and Kaufman (2005) report higher income and high-profile occupations – both of which are generally indicative of internal locus of control in individuals – enhance

students' program completion. It is reasonable to assume an individual's overall locus of control translates to the academic environment.

Satisfaction with Learning

Academic self-concept affects nontraditional students' satisfaction with their overall college experience. Students' skill at interacting with their peers and instructors in the classroom is identified as an important facet of self-concept (Gigliotti & Gigliotti, 1998). Nontraditional students report that college is "self-rewarding" and "self-fulfilling," and they experience "the joy of learning" (Chao & Good, 2004, p. 8).

Description of Methodology

Researching variables that affect the interwoven psychological factors self-efficacy, self-esteem, and self-concept among nontraditional students, showed a paucity of primary research. Kasworm (1980) was one of the earliest scholars who studied the adult undergraduate student, and her work continues to provide a foundation for current research. Once Kasworm's position as an authority on the subject was apparent, searches were performed in electronic databases (e.g., EBSCOHost, Academic Search Premier, JSTOR) and Google Scholar for cross-references to Kasworm's work. As a comprehensive bibliography began to form, search results were narrowed to focus on primary research articles that studied psychosocial aspects related to nontraditional students' self-efficacy, self-esteem, and self-concept.

After several dozen articles meeting the described criteria were reviewed, five articles were selected based on their focus on variables related to self-esteem, self-concept, and self-efficacy among nontraditional college students. Those five articles were organized chronologically for analysis and comparison in this paper. Table 1 contains a synopsis of the selected articles.

Table 1. Synopsis of Articles Selected for Interpretive Review

Study	Variables	Sample	Design & Quality	Results	Comments
Gigliotti & Gigliotti, 1998	Independent: undergraduate students age 25 or over Dependent: age, race, gender, income, earned college credits, GPA, class ranking, level(s) of success in courses completed Confounding: intrinsic and extrinsic motivation, general self-esteem, depression, stress, work commitments, and external support systems	Random selection of undergraduates age 25 or over from two different schools in two semesters (3-year gap) n=480 aggregate from 4 samples	Design: Mixed Quantitative – Descriptive, Correlational, and Causal-comparative. Measurement of "self-concept of academic ability" based on five sub-scales: motivation for attending college, general self-esteem, depression, stress, academic locus of control, and overall satisfaction with college experience. Quality: High, based on sound methodology, correlation among various data collection instruments, attention to possible bias in sample selection, and recognition of limitations in self-reported data	Nullified prediction of high levels of self-concept of academic ability among White, female, and higher-income students. Age effects were curvilinear, peaking at 36-40 years. Proved success in courses completed had a positive effect on self-concept of academic ability. Income had no effect. Successfully finishing classes and moving forward toward program completion had a greater effect than grades earned. Self-concept of academic ability has no relationship to motivation for attending college. It does, however, predict credit load carried by students until certain demographic factors are included in the analysis. Positive relationship exists between self-concept of academic ability and overall self-esteem and internal measures of academic success, with little attribution of academic success to external factors.	For the most part, study was effective, and report was engaging. Substantial information presented in highly readable format. Authors included tangential analyses that were unrelated to the hypotheses but were interesting asides more appropriate as side-bars in the article. Authors' experience with psychology and sociology of students allowed interesting observations from various analyses of data, and those analyses establish foundation for further studies.

Study	Variables	Sample	Design & Quality	Results	Comments
				Self-concept of academic ability significantly affects students' judgement of perceived success. Study indirectly proved previous theories suggesting experience and skill at classroom interaction has a positive effect on grades.	
Chao & Good, 2004	Independent: nontraditional college students Dependent: motivation, financial investment, career development, life transitions, support systems Confounding: age, GPA, culture, gender, family status, work responsibilities, geographic local, socioeconomic stratum, enrollment status (part- vs. full-time)	n = 43	Design: Mixed Qualitative using grounded theory analysis to code, categorize, and assign numeric values to self-reported survey responses (Descriptive) Quality: moderate, primarily resulting from small sample and apparent loss of focus by researchers.	Developed a theoretical model of nontraditional students' perception of "hopefulness" derived from their self-reported perspectives in five categories: career development, life transition, support systems, motivation, and financial investment. Discovery that nontraditional students actively manage intricate roles including student, employee, family member, and friend.	Methodology is sound. Stated purpose in introduction referred to exploration of reasons nontraditional students pursue college educations and effects of engaging in educational activities on students personally, their external support systems, and career goals. However, authors did not clearly explain how their focus on "hopefulness" fulfilled study's purpose.
San Miguel Bauman, Wang, De Leon, et al., 2004	Independent: nontraditional college students Dependent: family and external support systems Confounding: GPA, age, ethnicity, family status, work commitment, overall satisfaction with student	n=53	Design: Mixed Quantitative, quasi-Correlational (see "Comments"), and Descriptive Quality: weak, primarily because of concerns regarding limited sample and instrumentation reliability and construct validity.	Primary reasons reported for seeking college education were life or family transitions and career- or self-improvement. Seventy-six percent reported interest in use of institutional support services, which 60-80%	Sample was exceptionally limited. Data were self-reported. Authors created survey instrument from patchwork of reliable instruments, but the authors' instrument did not necessarily

Study	Variables	Sample	Design & Quality	Results	Comments
	experiences			(depending on question) reported strong external support (friends and family). Authors also reported positive relationship between greater social support and academic success.	inherit parent-instruments' reliability or item-level construct validity. Discussion of results is not in context to research questions. Descriptive statistics seemed irrelevant. Inclusion of correlation between social support and academic success was tangential and inappropriate.
Taniguchi & Kaufman, 2005	Independent: enrollment status, age, cognitive ability, occupational background, family status Dependent: nontraditional students divided into two groups -- completers and non-completers of college programs and stratified by gender Confounding:	n=1703 (792 male; 911 female) derived from NLSY79 data pool maintaine d by U. S. Dept of Education	Design: Correlational, using discrete-time logistic event history models for data analysis Quality: weak, primarily resulting from multiple threats to internal and external validity	Prior enrollment and full-time course loads increase likelihood of completion. Youth, high cognition, high-status occupations prevalent among completers. Socioeconomic status not directly related to completion. Gender effect seen among divorced and parents of young children.	Age delimiter for definition of "non-traditional" differs from NCES standard. Eight hypotheses. Self-reported data. Significant limitations, especially maturation and mortality among survey participants, are threats to internal validity. Should have developed own instrument.
Bye, Pushkar & Conway, 2007	Independent: academic course of study, gender, intrinsic motivation to learn, extrinsic motivation to learn, interest in learning, positive affect Dependent: age (used in assessing nontraditional student status) Confounding: socioeconomic status, financial	n=300	Design: Mixed Quantitative – Experimental, Descriptive, Correlational Quality: moderate – sample was somewhat random and of sufficient size, and data analysis was essentially sound; however, limitations were present in attempts to correlate data from responses	ANOVA test on data showed little difference in overall motivation between the groups (nontraditional and traditional students), while nontraditional students reported higher levels of intrinsic motivation. Nontraditional students had high levels of positive	Study was difficult to follow. On the surface, purpose, hypotheses, and methodology appeared sound. However, authors attempted to draw conclusions and show relationships among internal factors not easily quantifiable. Extrapolation of

Study	Variables	Sample	Design & Quality	Results	Comments
	support systems, family status, work commitment		to statements and questions compiled from three different instruments, non-standard definitions of "nontraditional" and "traditional" students, reliance on self-reported data without follow-up (e.g., interview), and reliance on ineffective prior studies for support.	affect derived from intrinsic motivation. Nontraditional and traditional students reported equal levels of extrinsic motivation to learn. By itself, age was not a significant predictor of positive affect. Nontraditional students have greater need to enjoy the educational process.	results to larger population difficult because authors' unnecessary and confusing definition of "nontraditional" that differs from accepted definition established by U. S. Dept of Education's NCES.

Review & Discussion of Selected Articles

The articles selected for this review are not only topically interrelated, all but one has design issues that lower the overall quality. Additionally, some studies define "nontraditional student" in substantially different terms than the U. S. Department of Education (NCES, n. d.). The aggregate weakness of the studies, coupled with non-standard definitions of the primary research subjects (e.g., "non-traditional student"), made analysis and synthesis of the selected articles extremely difficult.

"Self-Concept of Academic Ability and the Adult College Student" (Gigliotti & Gigliotti, 1998)

This quantitative research study of college undergraduates at least 25 years of age was designed to determine whether or not a relationship exists between academic self-concept and overall self-concept among nontraditional students. Drawing from their extensive prior studies of psychosocial aspects related to the Self, Gigliotti and Gigliotti (1998) provide a context for understanding their results by discussing prior studies of adult self-concept, self-reflection, and

self-efficacy especially as they relate to the adult learner. The importance of this study lies in its attempts to correlate nontraditional students' overall feelings of self-concept and their sense of academic self-concept.

Gigliotti and Gigliotti (1998) predicted nontraditional students' development of self-concept of academic ability would be similar to development in traditional-aged students. Specifically, students' academic self-concept would have a direct relationship to the aggregate result of previous academic success or failure. Academic self-concept would have a positive relationship to students' current course load, grades, and general satisfaction with their education. The researchers predicted no relationship between students' self-concept and specific types of motivation for attending college. The authors hypothesized academic self-concept would have a positive relationship to students' overall self-esteem and a negative relationship to students' sense of depression and stress. Finally, the researchers predicted high levels of self-concept of academic ability among White, female, and higher-income students.

Description of Research Study

To test their hypotheses, Gigliotti and Gigliotti (1998) developed a high quality, quantitative research plan with sound methodology that incorporated a mix of descriptive, correlational, and causal-comparative designs. The study measured students' self-concept of academic ability in relation to overall self-concept based on five sub-scales: motivation for attending college, general self-esteem, depression, stress, academic locus of control, and overall satisfaction with college experience.

The descriptive segment of this study involved collection and "strict" analysis of data related to their hypothesis. The correlational segment was designed to prove or disprove the existence of hypothesized relationships.

Description and Discussion of the Sample

The aggregate convenience sample tested by Gigliotti and Gigliotti (1998) appears to be sufficient for this study. Yet, convenience sampling has well-known limitations. Students over the age of 25 were randomly selected using different criteria in a total of four rounds at two colleges during two semesters three years apart. Sample 1 (n=302) contained students taking at least three hours' course load at a large, metropolitan, primarily commuter college where most students are part-time enrollees. Selected students (n=664) were telephoned and asked to complete a one-hour, self-administered survey questionnaire. Forty five percent were able to comply during the data collection phase. A second sample (n=49) was drawn contemporaneously from a random selection of students over age 25 enrolled in an introductory sociology course required of all students.

Three years later, Gigliotti and Gigliotti (1998) selected a new sample (n=100) from the same school and a separate sample (n=56) from a small, faith-based, liberal arts college in the same geographic region. The large-school sample was drawn from a random selection of enrolled students in both upper- and lower-division courses who were initially identified as over age 25 by instructors contacted by the researchers. Student ages were confirmed through on-line records. Five students from each instructors' selection (as confirmed) were randomly chosen to eliminate bias. One hundred of 118 questionnaires were returned. The small-school sample represents all but two students over age 25 enrolled during the data collection period.

Description and Discussion of Research Instrument and Measures

This study employed a self-administered questionnaire consisting of multiple instruments utilized to capture data related to five "subscales" of academic self-concept identified by the researchers: motivation for attending college, general self-esteem, depression, stress, academic locus of control, and overall satisfaction with college experience. Two of the instruments were devised by Gigliotti and Gigliotti (1998) for the purpose of this research: a 22-

item questionnaire using a five-point scale for self-reporting responses to statements related to adult learning skills and a 21-item questionnaire using a seven-point Likert-style scale that questioned participants on life experiences that could affect their motivation to seek a college education. Participants' sense of overall satisfaction with their college experience was gauged by responses to two general questions devised by the researchers.

Interestingly, this research did not utilize the *Academic Self-Concept Scale* ("ASCS") (Reynolds, Ramirez, Magriña & Allen, 1980), although the ASCS has high levels of reliability and validity when compared to the Rosenberg (1965) *Self-Esteem Scale*, which Gigliotti and Gigliotti (1998) used. Derogatis and Milisaratos' (1983) highly regarded, ten-item *Brief Symptom Inventory* was used to measure depression. Stress was measured through a revised version of Pearlin and Schooler's (1978) instrument that measures stress, strain, and coping. Lefcourt's (1981) twenty-four item *Locus of Control Scale for Academic Achievement* was used to measure survey participants' attribution of responsibility for their academic successes or failures. In the present study, weaknesses of the sample and instrument choices diminish the study's findings.

Self-reported descriptive statistics include individual students' demographic data. Information regarding each participant's academic standing was gleaned by permission from official student records. These data include "cumulative GPA," "semester GPA," "total credits earned," and "semester credit load" (Gigliotti & Gigliotti, 1998, p. 300).

Description and Discussion of Methodology

The researchers gathered and analyzed students' responses to the various instruments and derived correlation coefficients among the five identified subscales in order to predict the subscales' relevance to academic self-concept. One statement regarding analysis is confusing. Regression analysis included "a variety of social psychological and demographic variables" (Gigliotti & Gigliotti, 1998, p. 308); however, these variables are not identified in the article.

Description and Discussion of Results

Descriptive statistics. This study nullified the researchers' prediction that Whites, females, and participants with higher incomes would have higher academic self-concepts. Their prediction was based on traditional social expectations for the three demographics. Younger nontraditional students were expected to have higher academic self-concepts because of their more-recent student roles, and the study partially supported the researchers' prediction. Age effects were unremarkable, showing a curvilinear pattern peaking at the 36-40 year range. This research supported the hypothesis that participants who had successful academic experiences would have higher self-concepts.

Research outcomes. While demographics were insignificant, this study proved Gigliotti and Gigliotti's (1998) hypothesis that students' past academic experience is a predictor of academic self-concept. Successfully finishing classes and moving forward toward program completion had a greater effect than grades earned. Self-concept of academic ability has no relationship to motivation for attending college. It does, however, predict credit load carried by students until certain demographic factors are included in the analysis. A positive relationship exists between self-concept of academic ability and overall self-esteem and internal measures of academic success, with little attribution of academic success to external factors. Self-concept of academic ability significantly affects students' judgement of perceived success. The study indirectly proved previous theories suggesting experience and skill at classroom interaction has a positive effect on grades.

Description and Discussion of Limitations

Sample bias. Gigliotti and Gigliotti (1998) expressed concerns regarding potential sample bias in the article and explained measures taken to reduce its effect. Participants from four convenience samples provided similar responses. Thus, sample bias does not appear to be an issue in this study.

Self-reported data. Some subjects may intentionally or inadvertently provide incorrect responses to specific questions or comments. Because responses span a broad range across the entire sample population, self-reporting does not appear to have been a limitation.

Internal validity. As described above, this study has problems with internal validity in terms of history, selection of participants, and instrumentation.

External validity. Because Gigliotti and Gigliotti (1998) found the same results in their analyses of data from samples drawn from both large and small schools three years apart, extrapolation to the nontraditional student population as a whole is feasible. However, problems with internal (above) and external validity (especially interaction of selection and treatment), make extrapolation untenable.

Study Implications and Recommendations for Future Research

The intended purpose of this study was sound, and the report was engaging. However, important flaws that influenced interpretation of the results and subsequent conclusions detracted from validity of the results and, thus, the overall effectiveness of the research. Substantial information was presented in highly readable format. The article includes some tangential analyses that were unrelated to the hypotheses but were interesting asides. These would have been more appropriate as side-bars in the article.

Richard Gigliotti's prior, comprehensive experience studying the psychology and sociology of students provided interesting observations from various analyses of data, and those analyses establish foundation for further studies. For example, Gigliotti and Gigliotti (1998) refer to a possibility their study results reflected Meyer's (1977) hypothesis that accumulating credits and acquiring a terminal degree or certificate is more socially important than GPA. Additionally, this study ratified an earlier finding by Cross, et al. (1978), that adults' aggregate life experiences and current life circumstances influence their learning (Gigliotti & Gigliotti, 1998).

Replicating Gigliotti and Gigliotti's (1998) research within the framework of a longitudinal study could provide important information regarding the continuing effects, if any, of academic self-concept on nontraditional students' self-concept as learners in the workplace. The study raised several research questions that warrant further investigation.

"Nontraditional Students' Perspectives on College Education: A Qualitative Study" (Chao & Good, 2004)

In response to a dearth of primary research on several interrelated factors relevant to students' academic achievement – especially comparing traditional and nontraditional students as groups – Chao and Good (2004) engaged in qualitative research to study nontraditional students' perspectives on their college educations. Specifically, the researchers had interest in individuals' motivation, aptitude, process of learning, experiences with classroom instruction, and styles of learning. Citing several prior studies, the researchers observe that nontraditional students perform as well as or better than traditional students in these areas, yet nontraditional students lack confidence.

Description of Research Study

Advanced doctoral students at the time of this research, Chao and Good (2004) devised a mixed qualitative study that used grounded theory analysis to code, categorize, and assign numeric values to self-reported survey responses for descriptive statistics (demographics) and responses to questions during one 60-minute interview session. The article reports significant findings, but the authors appear to have lost focus while trying to explain how predicting "hopefulness" from the data fulfilled their study's purpose.

Description and Discussion of the Sample

Chao and Good (2004) solicited participants through flyers and instructors' classroom announcements at both a Midwestern, medium-sized, private college and a large public university. Participants were given $5.00 gift certificates for compensation. Nonetheless, the

sample size was inordinately small (n=43). Participants' ages ranged from 26 to 62 years, with a mean of 37.69. Other demographics represented include Caucasian (dominant), Latino, and African-American cultures; day and evening (dominant) programs; full- (dominant) and part-time enrollment; anticipated graduation within two years; and pre-college employment ranging from seven to forty years, with an average of 18.85 years. The limited selection resulting from convenience sampling raises concerns about the reliability of the results.

Description and Discussion of Research Instrument and Measures

This study employed one audiotaped and transcribed interview with each participant. Chao and Good (2004) served as interviewers and data analysts. The researchers established initial rapport with each participant. The researchers asked a series of structured, yet open-ended, questions and encouraged respondents to elaborate on each response.

Self-reported descriptive statistics include individual students' demographic data. Chao and Good (2004) do not report whether any methods were employed to confirm the demographic data.

Description and Discussion of Methodology

After all interviews were complete and audiotapes were transcribed, Chao, Good, and a third (unidentified) advanced doctoral student studied each transcript for themes or concepts. After conferring among themselves, the researchers compiled a listing of all concepts found in the interview transcriptions. Concepts were grouped into categories based on subjective interpretations of perceived interrelationships among topics. Care was taken to ensure each concept appeared in at least one category. In the next phase, axial coding, the researchers refined the category list to identify "key" categories comprising a group of interrelated categories. Once data were coded according to this scheme and entered into a data analysis program, the researchers identified and refined relationships among the key categories.

Because of the inherent potential for error in subjective coding processes, Chao and Good (2004) implemented an audit process and controls to ensure data validation. The article does not contain a description of the auditing protocols.

Description and Discussion of Results

Through the refining process, a "core" experience was identified for each participant and major themes emerged. Chao and Good (2004) compared the participants' major themes to themes found in a review of literature. As a result of that comparison, the researchers developed a theoretical model of nontraditional students' perception of "hopefulness" based on their self-reported perspectives in five categories: career development, life transition, support systems, motivation, and financial investment. Further, the researchers discovered nontraditional students actively manage intricate roles including student, employee, family member, and friend.

Description and Discussion of Limitations

Sample bias. The exceptionally small number of participants in this study (n=43) could have resulted in sample bias that was not addressed by Chao and Good (2004).

Self-reported data. Some subjects may intentionally or inadvertently provide incorrect responses to specific questions or comments. Because responses span a broad range across the entire sample population, self-reporting does not appear to have been a limitation.

Internal validity. Two threats to internal validity are plausible in this study, but neither is addressed by Chao and Good (2004). Selection validity results when participants are not randomly selected or assigned. Given the small sample size (n=43), it is possible the study suffered a selection validity threat. Experimenter bias occurs when researchers influence the outcome of their study in order to achieve success. Their reported development of a theoretical model and additional discoveries, especially in light of the qualitative nature of the study, raises

the threat of experimenter bias. The researchers acknowledge the need for a quantitative study of their findings.

External validity. Because the sample size is extremely small (n=43), extrapolation to the nontraditional student population as a whole is not feasible. Chao and Good (2004) acknowledge this limitation in their report.

Study Implications and Recommendations for Future Research

This study had great potential to provide important information that would be valuable to college counselors, instructors, academic department staffs, and student services personnel. That theme threads through the article. However, Chao and Good (2004) failed to report results that support the study's stated purpose, which was an exploration of reasons nontraditional students pursue college educations and effects of engaging in educational activities on students personally, their external support systems, and career goals. Unfortunately, the reported results focus on "hopefulness," with no clear explanation of how "hopefulness" relates to nontraditional students' perceptions on their college educations. One hopes this important topic will be investigated by others or, perhaps, by Chao and Good using a larger sample.

"Nontraditional Students' Service Needs and Social Support Resources: A Pilot Study" (San Miguel Bauman, Wang, DeLeon, Kafentzis, Zavala-Lopez, & Lindsey, 2004)

As discussed elsewhere in this review, student services is a critical factor in nontraditional students' academic success. The research undertaken by San Miguel Bauman et al. (2004) attempted to measure three types of support received by nontraditional college students: "instrumental," tangible or practical assistance, such as economic aid, provided by family and friends; "informational," advice and counseling to aid in coping with personal problems; and, "appraisal," positive reinforcement designed to encourage and enhance a student's sense of self-worth (p. 13).

This study had great potential for guiding policy development in student support services, especially counseling, but its overwhelming weaknesses make the reported results essentially worthless to the higher education industry.

Description and Discussion of the Sample

The sample in this study consisted of students identified as "nontraditional," although the researchers only infer their definition of the term is students over age 24. One hundred fifteen humanities or social sciences majors at a branch campus of a Pacific Northwest research university were identified from admissions and registration records. Of those solicited, only 53 students (46 women, 7 men) participated. Their ages ranged from 26 to 77 years, with a median age of 41. Caucasian, Hispanic, multiracial, and Asian/Pacific Islander were identified as cultural stratifications. Most participants had been married (87%), had children (74%), and were enrolled part-time (73%). Some participants received financial aid (59%), and nearly half (49%) were employed at least 19 hours each week.

Despite the fact the sample is flawed, San Miguel Bauman et al. (2004) do not report their reasons for the extreme limitations in their sample size and selection criteria. Likewise, the researchers do not explain their deviation from the NCES (n. d.) standard definition for employment among nontraditional students.

Description and Discussion of Research Instrument and Measures

For this study, San Miguel Bauman et al. (2004) developed a three-page instrument containing four sections. The researchers' description of the instrument raises concerns regarding its reliability and construct validity. As described in the article, the instrument suffers serious issues with concurrent, content, and predictive validity. Its reliability is questionable because the instrument was apparently only used for the reported study. Portions of the instrument derived from a proven-reliable instrument did not necessarily inherit the parent-instrument's reliability or item-level construct validity.

Sections One and Four of the instrument requested demographic data. Section One also asked participants to list from one to three reasons for their college reentry, but there is no indication the researchers suggested a format. Further, no mention is made of guidelines for encoding, categorizing, or auditing participants' responses. As discussed in the preceding article review, Chao and Good (2004) describe in detail the protocols adopted in their study to convert similar responses to quantifiable data.

Section Two of the instrument contained a list of ten college student services, derived from nebulous resources described as "those mentioned frequently in the nontraditional student literature" (p. 14). Participants rated their likelihood of using each service on a four-point scale that did not include an option for "not applicable." Based on the article's description, Section Two did not contain a space for students to list alternative services. Section Three contained three subscales of Macdonald's (1998) *Scales of Perceived Social Support* ("SOPSS"): appraisal, informational, and instrumental. The SOPSS measures support received from family and friends.

Description and Discussion of Methodology

One of the most significant weaknesses of this article is its lack of discussion concerning data analysis. There is no section in the article entitled "Methodology."

Description and Discussion of Results

Descriptive statistics. San Miguel Bauman et al. (2004) refer to GPA, age, ethnicity, family status, work commitment, and overall satisfaction with student experiences in the discussion of their research, yet the authors do not provide cogent explanations or correlations. The descriptive statistics seem irrelevant to the study.

Research outcomes. Survey participants reported their primary reasons for seeking college education were life or family transitions and career- or self-improvement. Seventy-six percent reported interest in use of institutional support services. Most (60-80%, depending on

question) participants reported strong external support (friends and family). The researchers reported a positive relationship between greater social support and academic success.

Description and Discussion of Limitations

Sample bias. As a result of the extremely limited sample size (n=53), bias is a significant concern in this study. The researchers do not acknowledge sample bias in their report.

Self-reported data. The use of self-reported data has inherent limitations because participants can misrepresent facts or fail to respond. Based on the description of the instrument used in this study, serious concerns can be raised about the value of self-reported data in this research.

Internal validity – instrumentation. As described in the preceding paragraphs of this article's review, the self-designed instrument had numerous issues with validity and reliability, raising concerns about its consistency. Perhaps the most egregious oversight is the researchers' failure to develop protocols for categorizing and encoding participants' reasons for enrolling in college as reported in Section One of the instrument.

Internal validity – selection. The methodology in this study does not include random selection criteria, and the researchers did not acknowledge this limitation on their results.

Internal validity – experimenter bias. Despite the poor description of their research and its inherent problems, the reported results from this research are highly positive and argue in support of answers to the researchers' questions. When contrasted with the serious limitations described in this review, experimenter bias is an apparent limitation the researchers failed to acknowledge.

External validity. The researchers acknowledge the small sample size (n=53) precludes generalization.

Study Implications and Recommendations for Future Research

This article was exceptionally difficult to understand. One wonders how these researchers were able to publish such a defective study. Their discussion of results is not in context to the research questions. Descriptive statistics seemed irrelevant to the research. The researchers' inclusion of a correlation between social support and academic success was tangential and inappropriate. Despite these problems, Bauman et al. (2004) argue the "general structure" of their research has value as a "framework" to college counselors providing services to nontraditional students (p. 16). The researchers' conclude their article with a valuable admonition to student services providers: assess students' needs to provide effective and efficient services that will enhance each individual's success. The warning leads to new research questions, such as "In what ways should students' needs be assessed?" and "How will service providers know whether the matching of needs and services is effective?"

"Degree Completion Among Nontraditional College Students" *(Taniguchi & Kaufman, 2005)*

The article by Taniguchi and Kaufman (2005) has a compelling title, and their research has a timely and important stated purpose. The article presents and discusses the results of their quantitative research. Although it appears in many ways causal-comparative, the researchers used a correlational research method to identify and determine relationships among factors that affect college degree completion among non-traditional students. Despite the appearance of sophisticated and logical analysis, coupled with solid evidence presented by Taniguchi and Kaufman (2005) to support their hypotheses and research questions, this reviewer observed several limitations the published article failed to address, especially regarding specific aspects related to the internal and external validity of their study.

Description of Research Study

Taniguchi and Kaufman (2005) compared several variables among two groups – completers and non-completers – in their study. Data for completers and non-completers were subdivided into male and female demographic strata. Therefore, quantitative research was the most-efficient and most-effective choice.

Correlational research is used in quantitative studies to determine if – and to what degree – two or more variables have a relationship. Correlational research can show the relationship, but it does not identify the cause of any relationship between or among the variables. The relationship can also be used to predict the nature, degree, and potential direction of variables under certain circumstances.

Description and Discussion of the Sample

Taniguchi and Kaufman (2005) used data from the National Longitudinal Survey of Youth (NLSY79), a well-known and repeatedly tested data set. While NLSY79 is an on-going data collection, the authors' arbitrary cut-off was information gathered through the year 2000.

Using NLSY79 gave the authors a source with generally accepted levels of reliability through both test-retest and internal consistency. Test-retest reliability assumes individuals will give the same answers each time they are asked to respond to a question or comment. Internal consistency is estimated from the responses supplied to similar (restated) questions and comments on an individual's single exposure to an instrument. NLSY79 does not specifically utilize test-retest methods. However, some questions are repeated on each iteration of the survey instrument. In the case of NLSY79, responses are expected to change as the study subjects mature.

NLSY79 also provided Taniguchi and Kaufman (2005) with a larger sample than would likely have been possible through distribution given the typically low return on surveys. Additionally, participants in NLSY79 who were current college students as of 2000 met the

definition of "non-traditional" as established by the National Center for Educational Statistics (NCES).

Taniguchi and Kaufman (2005) describe their data set thus: Data from NLSY79 were organized in a unit by person-year, which accommodates the start-stop nature of college enrollments. Records with incomplete data were discarded. The final sample had 5,555 cases for 792 men and 6,264 cases for 911 women. Taniguchi and Kaufman (2005) explained their choice of age 21 instead of the research-standard age of 25 for non-traditional status based on the legal "drinking age" in most U. S. localities.

Description and Discussion of Research Instrument and Measures

Taniguchi and Kaufman (2005) did not develop and employ their own instrument for this study. Rather, they relied on data collected by NLSY79 instruments. The researchers identify their outcome variable as whether or not a non-traditional college student completes a four-year undergraduate degree program. Independent variables are part-time enrollment; student age, cognitive ability, and occupational background; and family characteristics including marital status and the number and age of children.

Description and Discussion of Methodology

Taniguchi and Kaufman (2005) used Allison's discrete-time logistic event history models for their data analysis. Based on the researchers' explanation of their methodology, and the clear support their data give to the research hypotheses, the research measures were appropriate for this study. The researchers chose the discrete time logistic event history model for this research because it provides for expressing the "conditional probability of an event occurring at time *t*, given that it did not occur prior to time *t*" (p. 919). Further, discrete-time models fit with the multiple years required for college completion. The researchers believe application of continuous-time models would skew their results.

Description and Discussion of Results

Data analysis. Taniguchi and Kaufman (2005) sorted data from NLSY79 according to their identified variables and calculated means of the independent variables by gender and completion status. Data are reported in terms of person-year units, as stated in the authors' description of their data set organization. Descriptive statistics were used for the initial enrollment year because extrapolation across all person-years made the presentation less clear.

Descriptive statistics. Among the descriptive statistics, Taniguchi and Kaufman (2005) found part-time students have lower rates of degree completion among both genders. Students who enrolled at younger ages (23-24) and students who had multiple enrollments had higher completion rates. Two thirds of men and half the women who completed were likely to have scored higher than average for their age groups on tests of cognitive ability. Non-completers were more likely to be unmarried and have more children than completers. Interestingly, most of the completers had never married. Men showed the only significant occupational correlations: those in professional jobs were more likely to complete, while those in trade/craft jobs were less likely to complete. Non-completers were less likely to have student loans.

Research outcomes. While eight research hypotheses seems to be a large number, this study addressed each one sufficiently. Taniguchi and Kaufman (2005) found part-time enrollment has a significant negative effect on college completion, while prior enrollment has a positive effect. Further, youth, high cognition, and higher-status occupations facilitate completion, although there is a gender effect. Divorce and parenting young children, which are traditionally associated with low socioeconomic status among women, have an impact on both genders.

Description and Discussion of Limitations

Taniguchi and Kaufman (2005) failed to address several limitations observed by this reviewer. Questions can be raised regarding threats to both internal and external validity as well as the effect of self reporting by survey participants.

Self-reported data. NLSY79 has an inherent limitation because survey responses are self-reported. Some subjects may intentionally or inadvertently provide incorrect responses to specific questions or comments.

Internal validity – selection. Because they used an existing database, Taniguchi and Kaufman (2005) did not have direct input regarding candidates' suitability for the subject research. Further, Taniguchi and Kaufman (2005) chose a much-younger benchmark for age of nontraditional designation than is generally accepted among educational researchers. While they explained the rationale for their decision, deviation from a standard is highly unusual and should be recognized as a study limitation.

Internal validity – history. If significant time passes during the data collection phase of research, participants may be affected by outside influences. Historical validity is especially problematic in longitudinal studies such as NLSY79. In Taniguchi and Kaufman's (2005) study, news reports and communication with others could influence participants' perspectives and, subsequently, their responses to certain questions and statements on the survey instruments. Taniguchi and Kaufman (2005) had no way to control for such effects, yet they failed to address the potential limitation.

Internal validity – maturation. Ideally, researchers control for maturation among a sample group in a study by selecting participants who mature or develop similarly. Maturation limitations are inherent in longitudinal studies because participants change over time. Taniguchi and Kaufman (2005) failed to address this limitation.

Internal validity – mortality. As discussed in the preceding paragraph about selection, Taniguchi and Kaufman (2005) were unable to control certain aspects of participation among the individuals in their data set. The threat of mortality in a longitudinal study's sample group is more prevalent than in a short-term research project because participants are more likely to

lose interest or become unreachable for follow-up. Taniguchi and Kaufman (2005) failed to address this limitation.

External validity. Because of the threats to internal validity identified above, the external validity of Taniguchi and Kaufman's (2005) study is questionable. As a result, generalizations made by Taniguchi and Kaufman (2005), especially in their reports of descriptive statistics, are suspect.

Study Implications and Recommendations for Future Research

Taniguchi & Kaufman (2005) could have eliminated or ameliorated many of the threats to internal validity of their study by selecting an existing instrument or developing a new instrument that contained questions and statements specifically relevant to their research hypotheses. Further, selection of participants from among current nontraditional college students would have provided a more appropriate sample group. Selecting age 21 instead of the generally accepted age 25 as the benchmark age for study participants makes extrapolation of their results across a larger population inappropriate.

As the population of nontraditional students in undergraduate college programs continues to grow at an almost exponential rate, the issue of persistence to degree or certificate completion will continue to be a closely monitored topic among educational researchers. A comprehensive survey of current literature reveals a profusion of published studies, both quantitative and qualitative, with fewer limitations and findings that are much more representative than those reported by Taniguchi and Kaufman (2005). Because most of the other reported studies employ applicable instruments among targeted participants over a shorter data collection period, their results are more appropriate for generalization. If Taniguchi and Kaufman (2005) employ this methodology, a report of their new findings would be welcome.

"Motivation, Interest, and Positive Affect in Traditional and Nontraditional Undergraduate Students" (Bye, Pushkar & Conway, 2007)

The quantitative study described in this article was difficult to follow. The research design is unusual in that it appears to be a hybrid mixture of experimental, descriptive, and correlational. On the surface, the purpose, hypotheses, and methodology appear sound. However, the researchers attempt to draw conclusions and show relationships among internal factors that are not easily quantifiable. A significant flaw in the study arises from the researchers' choice of a non-standard age (28) to represent "nontraditional" student. Not only does this deviate from the generally accepted age of 25 (NCES, n. d.), individuals aged 25 through 27, inclusive, were apparently excluded from the survey. The researchers do not explain their reason for ignoring those ages, despite their acknowledgement of 25 as the age-related demarcation point in numerous prior studies. This flaw is exacerbated by researchers' unexplained analysis of only part of the submitted surveys.

Description and Discussion of the Sample

A relatively random selection of undergraduates (n=300) enrolled at a medium-sized, urban university were recruited for this study through a booth located in the campus library and received $10.00 as compensation. Comparison of the sample's cumulative demographics to the total undergraduate population confirmed a proportional representation of academic majors, gender, and age. The sample population's ages ranged from 18 to 60, with a median of 25. Fifty six percent were male. Sixty one percent of the participants were employed, although most worked only part-time. For an unclear reason, however, researchers only analyzed slightly more than half (n=169) of all survey responses in deriving their reported results.

Description and Discussion of Research Instrument and Measures

The survey instrument used in this study contained four parts. A form requested demographic data including academic major and history, age, gender, economic status, work history, ethnicity, and family status, although most of the demographic results were not

reported in the article. The second part of the instrument contained a segment of the *Motivated Strategies for Learning Questionnaire* ("MSLQ") developed by Pintirch et al. (1991). The MSLQ assesses college students' motivation. This study used 31 motivation-related questions that elicit responses on a Likert-style scale containing seven points. Prior studies report negatively skewed motivation scales in this instrument, yet Bye et al. (2007) argue the MSLQ is a reliable and valid instrument for measuring students' intrinsic and extrinsic learning motivators.

For the third part of the survey instrument, participants responded to questions related to emotions that relate to interest, recognizing interest as a motivator, using Izard, Libero, Putnam & Haynes' (1993) *Differential Emotions Scale IV-A* ("DES"). The DES has well-established reliability for effectively measuring levels of twelve emotions in study participants. The fourth part of the survey instrument was the *Positive and Negative Affect Schedule* ("PANAS"), developed by Watson, Clark, & Tellegen (1988). PANAS contains twenty terms that describe emotions, and participants' responses to ten of those terms were analyzed by Bye et al. (2007) for the present research. PANAS requests that respondents rate their experiences with each emotion in the preceding year on a 5-point Likert-type scale. PANAS' proven test-retest reliability and test stability allow for generalized measurement of affect among survey respondents.

Description and Discussion of Methodology

Surveys were separated into two groups (nontraditional and traditional students) based on age (28 and up, 21 and under, respectively). Before analyzing the raw data collected from surveys, Bye et al. (2007) determined less than 1% of the individual items were blank. The researchers replaced missing data for any item with the mean for that item drawn from the total sample. No responses required conversion. A mixed factorial analysis of variance (ANOVA) identified a significant relationship between each group and its associated motivation type. For confirmation, researchers performed post hoc tests of simple effects that indicated a significant

mean difference in levels of intrinsic motivation between the two groups. Finally, multiple regression analysis, controlled for student group and intrinsic motivation, tested the relationship between intrinsic motivation and positive affect in each group.

Description and Discussion of Results

Descriptive statistics. While a number of demographic data elements described in were collected from survey participants, the researchers only reported descriptive statistics on selected items. Two age groups, nontraditional (n=61) and traditional (n=108) were identified.

Research outcomes. Data analysis displayed little difference in overall motivation between the two groups (nontraditional and traditional students), while nontraditional students reported higher levels of intrinsic motivation. Nontraditional students reported high levels of positive affect derived from intrinsic motivation. Nontraditional and traditional students reported equal levels of extrinsic motivation to learn. By itself, age was not a significant predictor of positive affect. Nontraditional students have a greater need to enjoy the educational process.

Description and Discussion of Limitations

Sample bias. The sample in this study was somewhat random and of sufficient size (n=300) to remove potential sample bias. However, the unexplained elimination of nearly half (n=131) the responses and researchers' non-standard age definitions lend strong support to the likelihood of sample bias.

Self-reported data. Some subjects may intentionally or inadvertently provide incorrect responses to specific questions or comments.

Internal validity. Numerous limitations in this research have been described, although they have not necessarily been identified as threats to internal validity. The more substantial threats include Experimenter Bias, arising from the researchers' apparent desire to report results supportive of their predictions; Statistical Regression, based on researchers' apparent omission

of extreme scores; Selection, arising from unexplained elimination of nearly half (n=131) the survey responses during data analysis; Instrumentation, resulting from instrumental inconsistency, since hybrid instruments do not necessarily inherit the validity and reliability of their parent instruments.

External validity. Extrapolation of results to larger population difficult because authors' unnecessary and confusing definition of "nontraditional" that differs from accepted definition established by NCES (NCES, n. d.). Further, the researchers acknowledge a "possible" limitation resulting from the hybrid mixture of "global and specific measures" in the survey instrument (p. 155).

Study Implications and Recommendations for Future Research

This study was very difficult to evaluate. Several substantive arguments have no supporting references from data analysis or citations from prior research reports. For example, Bye et al. (2007) contend "[a]s students' positive affect dissipates in the face of deadlines, assignments, and evaluations, either self-regulation or high levels of intrinsic motivation have to take over as predictors of persistence" (p. 153). Nothing in the reported data specifically corroborates this conclusion. The researchers' self-defined "pedagogical implications" appear to be simply a restatement of concepts previously reported by Maslow (1954) and studies of psychosocial phenomena among nontraditional students. Although they do not refer to the research of Bauman et al. (2004), Chao and Good (2004), or Gigliotti and Gigliotti (1998), Bye et al. (2007) suggest nontraditional students receive support from instructors and student services nearly identical to recommendations found in these three studies and other research not reviewed here.

The Path to Self-Efficacy in Nontraditional College Students: Recommendations for Future Topical Research

Although this interpretive review is limited to a selection of five articles, they are representative of more than one hundred studies related to development of psychosocial elements – self-esteem, self-concept, self-efficacy, and self-actualization – in nontraditional college students read by this reviewer. Many of the published authors cite each other as authorities, which diminishes the credibility of their writing and, by extension, their research. Much of the primary research on psychosocial development reported in the past five years is low quality when compared to similar research performed in the late 20th Century. Weak design, limited sample size, poorly selected or explained statistical analysis, loss of focus, and over-reaching attempts at globalization of results are just a few of the seemingly endemic problems observed in preparing this interpretive review.

Interestingly, research results in the area of cognitive development among nontraditional students are transferable to psychosocial development, and published cognitive development studies are cumulatively stronger than published psychosocial research. For example, studies of students' metacognition, meaning-making, and self-authorship include such features as constructivism, reflective practice, and analysis of roles and perspectives (Baxter Magolda, 1998; Kegan, 1994; Moore, n. d.; Lerner, 2007; Morse, 2004). The pinnacle of cognitive development is transformation of self-perception (Baxter Magolda, 1998; Kegan, 1994), a critical component of self-concept leading to self-actualization (Gigliotti & Gigliotti, 1998; Maslow, 1954; Samuels, 2005).

While it is outside the scope of this document to detail them, several specific suggestions for service providers, students, and policymakers arose from synthesis of the findings presented by each study reviewed here. Likewise, a number of questions can be easily developed by future researchers. To enhance the value of future studies of psychosocial aspects among

nontraditional students, researchers should borrow the structure and protocols utilized by their peers who study cognitive development in the same population. Not only will the education industry benefit from clear and applicable knowledge, students will benefit from the implementation of principles and models derived from the results of high quality research.

References

Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of human behavior* (Vol. 4, pp. 71-81). New York: Academic Press. (Reprinted in H. Friedman [Ed.], *Encyclopedia of mental health*. San Diego: Academic Press, 1998). Extract retrieved June 20, 2007, from http://www.des.emory.edu/mfp/BanEncy.html

Baxter Magolda, M. B. (1998). Developing Self-Authorship in Graduate School. In Anderson, M. S. (Ed.). *The experience of being in graduate school: An exploration: New directions for higher education, no. 101*. San Francisco: Jossey-Bass.

Bean, J., & Metzner, M. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research, 55*(4).

Bundy, A. P., & Smith, T. B. (2004). Introduction to the special section – breaking with tradition: Effective counseling services for nontraditional students. *Journal of College Counseling 7*(1), 3-4.

Bye, D., Pushkar, D., & Conway, M. (2007). Motivation, interest, and positive affect in traditional and nontraditional undergraduate students. Adult Education Quarterly 57(2), 141-158.

Carney-Crompton, S., & Tan, J. (2003). Support systems, psychological functioning, and academic performance of nontraditional female students. *Adult Education Quarterly 52*(2), 140-154.

Chao, R. & Good, G. E. (2004). Nontraditional students' perspectives on college education: A qualitative study. *Journal of College Counseling 7*(1), 5-12.

Choy, S. (2002). *Findings from "The Condition of Education 2002": Nontraditional undergraduates* (NCES 2002012). U. S. Department of Education, NCES. Washington, DC: U.S. Government Printing Office.

Gigliotti, R. J., & Gigliotti, C. C. (1998). Self-concept of academic ability and the adult college student. *Sociological Inquiry 68*(3), 295-311.

Hart, N. K. (2003). Best practices in providing nontraditional students with both academic and financial support. In King, J. E., Anderson, E. L., & Corrigan, M. E. (Eds.) *Changing student attendance patterns: Challenges for policy & practice: New directions for higher education, no. 121*. San Francisco: Jossey-Bass.

Hermon, D. A., & Davis, G. A. (2004). College student wellness: A comparison between traditional- and nontraditional-age students. *Journal of College Counseling 7*(1), 32-39.

Johnson, C. (2005). Serving low-income adult students: What must colleges do? *The Presidency 8*(1), 30-32.

Horn, L. (1996). *Nontraditional undergraduates, trends in enrollment from 1986 to 1992 and persistence and attainment among 1989–90 beginning postsecondary students* (NCES 97–578). U. S. Department of Education, NCES. Washington, DC: U.S. Government Printing Office.

Huitt, W. (2004). Self-concept and self-esteem. *Educational psychology interactive*. Valdosta, GA: Valdosta State University. Retrieved June 20, 2007, from http://chiron.valdosta.edu/whuitt/col/regsys/self.html

Kasworm, C. (1980). The older student as an undergraduate. *Adult Education 31*(1), 30-47.

Kegan, R. (1982). *The evolving self*. Cambridge, MA: Harvard University Press.

King, J. (2003). Nontraditional attendance and persistence: The cost of students' choices. In King, J. E., Anderson, E. L., & Corrigan, M. E. (Eds.). *Changing student attendance patterns: Challenges for policy & practice: New directions for higher education, no. 121*. San Francisco: Jossey-Bass.

Knowles, M. (1990). *The adult learner: A neglected species* (4th ed.). Houston, TX: Gulf Publishing.

Lerner, J. E. (2007). Teaching students to learn. *College Teaching 55*(1), 40.

Macari, D. P., Maples, M. F., & D'Andrea, L. (2006). A comparative study of psychosocial development in nontraditional and traditional college students. *Journal of College Student Retention: Research, Theory and Practice 7*(3), 283-302.

Maslow, A. H. (1954). *Motivation and Personality*. New York: Harper.

Moore, W. S. (n.d.). *"My mind exploded": Intellectual development as a critical framework for understanding and assessing collaborative learning*. Retrieved April 12, 2007, from www.evergreen.edu/washcenter/resources/acl/iia.html

Morse, M. (2004). Enhancing the learning and retention of biblical languages for adult students. *Teaching Theology and Religion 7*(1), 45-50.

Quimby, J. L., & O'Brien, K. M. (2006). Predictors of well-being among nontraditional female students with children. *Journal of Counseling & Development 84*(4), 451-460.

Reynolds, W. M., Ramirez, M. P., Magriña, A., & Allen, J. E.. (1980). Initial development and validation of the Academic Self-Concept Scale. *Educational and Psychological Measurement(40)*, 1013-1016.

Samuels, W. (2005). *The persistence of adult undergraduates on a traditionally oriented university campus.* (Doctoral dissertation, Western Michigan University, 2005).

San Miguel Bauman, S. S., Wang, N., DeLeon, C. W., Kafentzis, J., Zavala-Lopez, M., & Lindsey, M. S. (2004). Nontraditional students' service needs and social support resources: A pilot study. *Journal of College Counseling 7*(1), 13-17.

Sumerlin, J. R. (1997). Self-actualization and hope. *Journal of Social Behavior and Personality 12*(4), 1101-1110.

Taniguchi, H., & Kaufman, G. (2005). Degree completion among nontraditional college students. *Social Science Quarterly 86*(4), 912-927.

U. S. Department of Education. National Center for Education Statistics. (n. d.). *Trends in nontraditional student enrollment*. Retrieved June 20, 2007, from http://nces.ed.gov/pubs/web/97578f.asp