

## 2005 AIR RESEARCH GRANT PROPOSAL

### Predicting Remedial Students' College Performance: Applying the Theory of Planned Behavior to A National Sample

**Databases: NELS:88-2000; PETS 2000**

Grant Amount Requested: \$30,000

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## **Project Summary**

According to NCES (1996), remediation is offered in all community colleges and in 81% of 4-year postsecondary institutions. Nationally, 41% of students in community colleges take at least one remedial course, and 22% at 4-year institutions take remedial coursework. Burley (1997) found that in one state, Texas, 88% of all community college students took at least one remedial course and that large numbers of these students were not meeting with success.

The purpose of this study is to employ the Theory of Planned Behavior (TPB) (Ajzen, 1991) to explain college outcomes for college remedial students. This general theory of psychology argues that any behavior, like academic performance can be predicted from a student's intentions, perceived behavioral control, and actual behavioral control. Intention can be predicted from perceived behavioral control, subjective norms (perceived opinions of key persons), and attitude toward the behavior. Also, various belief constructs support the predictors of intention. The outcomes include measures of persistence and academic success drawn from the NELS:88/2000 data set and its companion PETS 2000 data set.

Structural equation modeling will be used to test TPB and its predictive power of remedial students' persistence and academic success. Goodness-of-fit tests will be used to determine the adequacy of the model and variations on the model, as needed. Also, the study will be replicated with underrepresented minority students as the subjects. The results of the study should be of interest to policymakers, various university administrators, institutional researchers and educational researchers.

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### **Statement of the Problem**

Lack of readiness for study in higher education dooms too many students to failure. The response from colleges and universities has been to remediate those students not ready for the typical higher education curriculum. The National Center for Educational Statistics (1996) estimated that 100% of public community colleges offered remedial courses compared to 81% for 4-year public institutions. Forty-one percent of students at 2-year public institutions and 22% of 4-year public institution students took at least one remedial course. Minority enrollment ranged from a low of 26% remediation placement to 46% in some institutions (NCES, 1996). A report by Burley (1997) found that 88% of community college students in Texas took some remedial courses, typically remedial mathematics. Only 10% were successful after 3 years.

The idea of remediation in college appears to be as controversial as it is ubiquitous. Generally, state policymakers want students to pursue college degrees, but they do not want to pay for the same type of instruction twice. Some states relegate remediation to 2-year colleges while others place restrictions on the amount of remediation that they will fund. However, key researchers indicate that our current notion of remediation as the re-teaching of high school material is overly simplistic. Hunter Boylan, Director of the National Center for Developmental Education decries the oversimplifications concerning remediation, including the use of the term “remediation.” According to Boylan (1995) students fail to do well for many reasons, only one of them being poor reading, writing, and mathematics skills. Personal autonomy, self-confidence, ability to deal with racism, study behaviors, or social competence affect performance as much as preparedness does. Developmental education is what he calls those programs that address these issues along with academic preparation, a sophisticated

concept rooted in cognitive and developmental psychology (Boylan, 1995). Clifford Adeleman, a senior researcher for the National Center for Education Statistics, also sees the issue as a complex one that cannot be fixed with a singular solution. In his research he found that it is difficult to characterize remedial students. For example, he found that in the South Atlantic regions of the United States, suburban students dominate remedial classes, while in the Mid-Atlantic and East North Central United States, urbanites dominate remedial courses (Adelman, 1998), two groups of students bringing very different characteristics and experiences to the remedial classroom. He called remediation a “way of life” at community colleges and not a serious impediment to completion of an associate’s degree. Also, the kind of remediation was a tell-tell indicator of the potential for completion. For example, a weak mathematics student who had a poor Algebra 2 experience may need two semesters of remediation to fix the problem. Coupling this problem with a reading deficiency make the chances for degree attainment become very poor (Adelman, 1998). As the problem is inextricably intertwined with the quality of the high school educational experience, Adelman and others (See Burley, 1997) call for remediation solutions that involve partnerships with secondary educational institutions.

Educational researchers have concluded that the strength of high school education is associated with college degree attainment (Adleman, 1999; Cabrera & La Nasa, 2001). Researchers also agree that the most important factor in establishing a predisposition toward college enrollment is parental support and encouragement (Stage & Hossler, 1989). Still there are unanswered questions. Which students stand to gain the most from remedial coursework? How can we make the most of students’ academic, cognitive, and

social profile in order to make remediation more effective. Do the subjective norms (cultural and school factors) established by parents, peers, and teachers cause students to get higher grades in high school and commit to college, or do these significant others first recognize students with potential, then encourage them to succeed? Also, does this parental push differ for different groups in different contexts? The theory of planned behavior (TPB) promises to provide a fresh perspective on these important issues by focusing on attitudes, subjective norms, and belief systems as key causal agents to behavior—in this case academic success. With its focus on attitudes, subjective norms, and belief systems rather than student interaction with the institution, TPB, may provide a more reliable tool for identifying and correcting barriers to student success than the respective Tinto, Bean, and Nora & Cabrera/Nora models.

The purpose of this project is to utilize data from the National Educational Longitudinal Study (NELS:88/2000) and the Postsecondary Education Transcript Study 2000 (PETS 2000) to test the ability of the Ajzen (1991) TPB model to explain student academic success and dropout behavior. This series of studies will examine success and dropout behavior for all college students and those who received remediation in the NELS:88/2000 data set. Further, the TPB theory will be tested for African American and Latino students in the NELS data set. Ajzen's (1991) theory holds that "behaviors of different kinds can be predicted with high accuracy from attitudes toward the behavior, subjective norms, and perceived behavioral control." (p.179). He contends that these independent variables account for considerable variance in actual behavior. He also argues that intentions mediate the effect of attitudes, norms, and behavioral control and that intentions can themselves be predicted from attitudes, norms, and behavioral control.

These variables or their proxies will be included in the causal model developed and adapted for this project. Furthermore, the latest adaptation of the model will be employed (Ajzen, 2001a,b). Other variables potentially included in a final model will include descriptions of households, high school variables, and general attitudes of the students.

### **Review of Relevant Literature**

In social psychology, the TPB is regarded as the dominant account of the association between how a person thinks and the resulting behavior (Cooke & Sheeran, 2004). However, this theory has rarely been used to explain the behavior of students in educational settings.

To understand the persistence/dropout behavior of students in postsecondary institutions, Tinto's Student Integration Model (1988) and Bean's Student Attrition Model (1988) have dominated the field. In Tinto's Student Integration Model (1988) various pre-college characteristics are believed to directly influence a student's initial commitment to their academic goals, thereby influencing that student's later decisions to stay or to leave. This theory has been tested extensively (e.g., Cabrera, Nora, & Castaneda, 1992, 1993; Cabrera, Nora, 1987; Nora, Attinasi, & Matonak, 1990; and others). Braxton, Sullivan, and Johnson (1997) tested the 13 primary factors in Tinto's (1975) model, finding that only four were supported when multi-institutional test was used, but concluded that the model did explain the impact of academic integration on both student institutional commitment and dropout decisions.

Bean's Student Attrition Model (1985) focuses on a student's satisfaction with the institution as a precursor for dropping out. This "satisfaction" was rooted in personal factors influencing departure decisions, including low self-esteem and daily pressures.

Many studies have unsatisfactorily tested both the Bean and Tinto models, prompting Cabrera and La Nasa (2001) to combine the two models producing a model that depends much more on psychological and sociological processes rather than institutional characteristics. In 2003, Nora proposed the Student/Institution Engagement Model that focused on the connection between the student and the institution, including precollege characteristics and specific environmental pull-factors.

TPB requires a different set of assumptions than the Tinto, Bean and Nora & Cabrera/Nora models, which appear to explain immediate causes for student persistence or departure (e.g. poor institutional fit, heavy workload, poor preparation). The use of TPB in this study requires an assumption that the seeds for postsecondary persistence/departure have been planted by the 10<sup>th</sup> grade. According to TPB, a human behavior like staying in college is influenced by three major factors: a favorable or unfavorable evaluation of the behavior, perceived social pressure to perform or not perform the behavior, and self-efficacy in relation to the behavior (Ajzen, 1991). This last point shadows the work of Bandura's (1982) description of self-efficacy, simply defined as the judgment individuals place on their abilities to behave in a certain way in a certain situation. TPB takes this notion one step further, considering external resources, like the availability of time and money, that may need to be available for a person to successfully perform the behavior (Ajzen, 1991). Attitude toward the behavior (subjective norm) and the perception of behavioral control lead to the formation of a behavioral intention. The more favorable the attitude and subjective norm and the greater the perceived behavioral control, the stronger the person's intention to perform the behavior in question. Given enough actual control over the behavior, people are expected

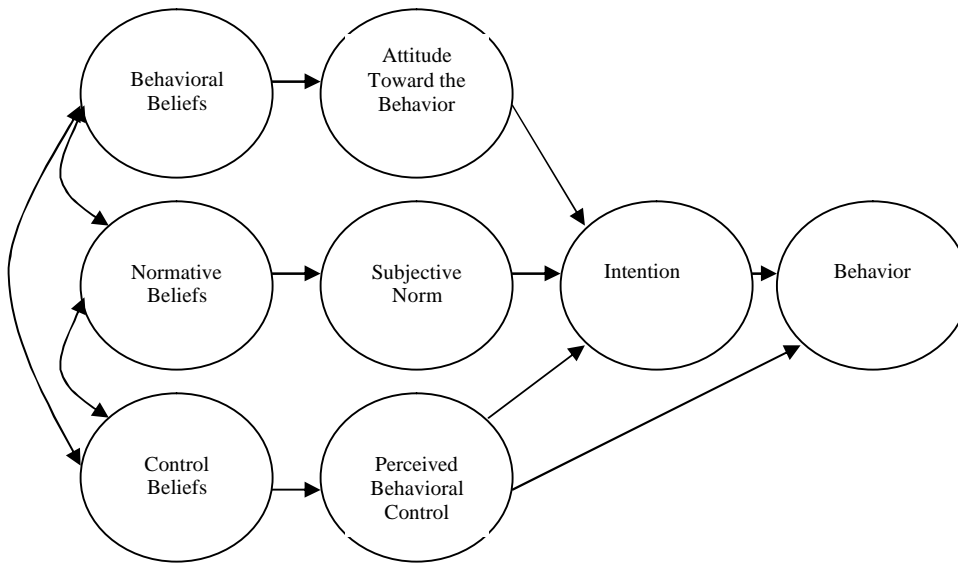
to carry out their intentions when the opportunity arises. For example, TPB would posit that the combination of beliefs and attitudes from a student's home experience along with a strong sense that one can control the educational situation should be a better predictor of staying in school than the Tinto's environmental context (e.g. a hostile or extremely competitive environment) or Bean's situational factors.

According to Davis, Ajzen, Saunders & Williams (2002), the three major factors in the theory of planned behavior—attitudes toward staying in school, subjective norms, and perceptions of behavioral control are tied to behavior-related beliefs. This is consistent with an expectancy-value model (Feather, 1982) so that staying in college would result from beliefs about consequences of leaving weighted by the value of college. Similarly, normative beliefs help determine the subjective norm regarding staying in school in conjunction with motivation (intention). Finally, TPB adds to the above determinants of behavior, perceived behavioral control, where a student's perception of the ease or difficulty of completing college is assessed (Ajzen, 1991). Ajzen's (2002b) concept of perceived behavioral control reflects subjects' confidence in completing the behavior under investigation.

Armitage and Conner (2001) meta-analyzed 185 studies of TPB, finding that TPB accounted for 27% the variance in behavior and 39% of the variance in intention. They reported that in studies using self-reports, 11% more of the variance was accounted for than those that did not. Cooke and Sheeran (2004) meta-analyzed 44 studies that empirically tested TPB. They reported that TPB provides for a good explanation of wide range of behaviors. For example, they found studies that indicated that attitudes, subjective norms, and perceived behavioral control accounted for 39-42% of the variance

in intentions, while intentions and perceived behavioral control predicted between 28 to 34% of the variance in behavior. None of these studies occurred in an educational context. In a study of African American high school completion rates that tested TPB, Davis, et al. (2002) found intentions and perceived behavioral control predicted graduation almost 3 years later ( $R=.50$ ). Clearly, such a finding points to specific areas for interventions. Fishbein and Ajzen (in press) suggest that in the context of TPB, interventions targeted at specific behaviors can be very effective and that there are many methods for producing belief and behavior change. A schematic of the theory is shown in Figure 1.

TPB also has a distinct and singular advantage over the Tinto, Bean and Nora & Cabrera/Nora models, in that it is a general theory of psychology, explaining behaviors across the full range of human action rather than in only one context, like postsecondary education.



**Figure 1. Theory of Planned Behavior**

### **Proposal of Work**

Because the ability to predict over long periods of time is critical to the development of effective early interventions, the TPB will be tested using the beliefs and attitudes of 10<sup>th</sup> graders in the NELS:88 data set. These students will have attended postsecondary institutions sometime between 1990 and 2000 and will have received some remedial instruction. Also, these student should have had the opportunity to have taken Algebra I while in high school.

*The objectives of the project are as follows:*

(1) For students receiving college remediation (developmental education studies), is the TPB model consistent with the observed correlations among these constructs: academic success, intention, attitude toward academic success, subjective norm, perceived behavioral control, behavioral beliefs, normative beliefs, and control beliefs.

(2) For students receiving college remediation, if the model is consistent, what are the estimated direct, indirect, and total causal effects among the variables?

(3) The above objectives will we replicated for African American and Latino students.

**Data Base and Sample.** The data bases used will be the NELS:88/2000 and the NELS:88/2000 Postsecondary Education Transcript Study (PETS 2000). Approximately 40% of students who were “likely participants” took at least one remedial course (Adelman, Daniel, Berkovits, & Owings, 2003). According to Adelman, et al. (2003) “All likely postsecondary participants” include 1) those from whom a transcript was received and 2) those for whom a transcript was not received, but other NELS information indicates that they attended a postsecondary institution. These students will be screened so that each has a usable answer or performance indicator for each variable in the TPB model. Approximately, 2,674 will make up the initial data set of NELS postsecondary students who received remediation. Endogenous measures will be taken from the fifth wave of the NELS study with variables drawn from the NELS:88/2000 data set and its companion PETS 2000 data set. Independent measures will come from the first follow-up questionnaire conducted in 1990 when the respondents were 10<sup>th</sup> graders. This questionnaire was chosen because more of the items fit the TPB model than other waves. Table 1 below presents the TPB constructs along with the NELS and PETS items chosen to represent them.

**Endogenous Variables.** Target Behavior. Behavior is the manifest, observable response in a given situation with respect to a given target (Ajzen, 2002b). The target behaviors for this study will consist of outcomes taken from the students’ post-secondary academic experience, including years of full-time post secondary education coursework,

continuous enrollment, earned credits, grade point average, and degree earned. In a discussion on constructing a TPB questionnaire, Ajzen (2002b), suggests that the behavior of interest must be defined with consideration to the target, action, context, and time (TACT). We define these TACT elements as follows: by the year 2000, respondents must have earned credits, GPA, and a degree and persisted to some degree, after enrolling in at least 1 remedial course.

**Exogenous Variables.** Intention. This construct examines the respondents' intention to achieve academic success in college, that is, a persons' cognitive readiness to perform the given behavior (Ajzen, 2002b). Proxies will be used for the expectation of academic success including, the respondent is sure to go to college, chances the respondent will go to college, and amount of Algebra I coursework.

Attitude. In TPB, attitude is an overall evaluation of the behavior (Ajzen, 2002b) concerning its intrinsic value as either positive or negative. The NELS variables used to determine a direct measure of attitude are the value of working hard for good grades, asking challenging questions, solving problems with new ideas, getting good grades, getting an education to get a job. An indirect measure of attitude (A) will also be used and (A) is determined by the strength of each belief (b) weighted by the evaluation of the belief (e). Therefore,  $A \propto \sum b_i e_i$ .

Subjective norm. Subjective norm (SN) is the perceived social pressure to engage or not engage in a behavior(Ajzen, 2002b), that is, to be academically successful in college. Items chosen to establish a direct measure of subjective norm are how far in school father and mother wants respondent to go to college, and favorite teacher's, close relatives, and friend's desire for respondent. Drawing on Bandura's (1982) work, the

strength of each normative belief (n) is weighted by the motivation (m) to comply.

Therefore, additionally  $SN \propto \sum n_i m_i$  will be used as an indirect measure of subjective norm.

Perceived behavioral control. Perceived behavioral control (pbc) is defined as a person's perception of their ability to be academically successful. Direct measures chosen are how far respondent thinks he will get, how respondent feels about him/herself, respondents control over his/her life and effectiveness of respondent's planning. An indirect measure of this construct is defined as the strength of each control belief (c) is weighted by the perceived power (p) of the control factor. Therefore,  $PBC \propto \sum c_i p_i$  (Ajzen, 2002b).

Behavioral beliefs. A behavioral belief is the subjective probability that the behavior will produce academic success (Ajzen, 2002b). The items chosen for this construct are that education is important for later jobs and it is important to continue to continue education past high school.

Normative beliefs. Normative beliefs are the refer to the perceived expectations of important individuals in the person's life, like parents, friends, and teachers (Ajzen, 2002b). These items are parents trust the respondent to do what they expect, an admired person thinks the way the respondent does, and respondent does not know why he/she should obey parents.

Control beliefs. Control beliefs refer to the perceived presence of factors that may facilitate or impede the performance of the behavior (Ajzen, 2002b). These proxies items include the perceived importance of various college factors that could be impediments to academic success and persistence. Table 1 presents the detail.

Actual behavioral control. Actual behavioral control refers to the extent a person has the skills resources and other prerequisites needed to perform the given behavior (Ajzen, 2002b). This construct is not on the original model, but can be used with perceived behavioral control to predict behavior, or in this case, academic success (Ajzen 2002a,b). Items chosen for this construct are how much coursework in Algebra I and II, emphasis on further study in math, socio-economic status, parent education level, reading proficiency and mathematics proficiency. The emphasis on mathematics here is a result of research indicating that the level mathematics deficiency is a key indicator of remedial students' chances of academic success (Burley, 1997).

**Analyses.** Structural equation modeling (SEM) will be used to examine the TPB model and its utility in predicting the success of remedial students in college. SEM is a set of statistical techniques that allows for the examination of multiple relationships between one or more exogenous variables and one or more endogenous variables (Tabachnick & Fidell, 2001). Prior to analysis, the data will be screened for missing data, outliers (using Mahalanobis distance) and multivariate normality and transformed as needed. Composite and proxy variables will be created as needed.

SEM analysis typically requires five steps. First, SEM requires that a theoretical model be specified. The theoretical model for this study is TPB as discussed above. Variations on the model will be tested based on differences among the endogenous variables. Second, the model parameters must be identified as free, fixed, or constrained. AMOS 5.0 © software can identify models and offer suggestions on which parameters should be altered in order to achieve a properly identified model (Arbuckle & Wothke, 1999). Third, parameter estimation begins with a correlation matrix that makes

comparisons between the sample and an estimated population. Fit indices will be based on the closeness of the sample and estimated population correlation matrices. Fourth, the series of fit indices generated by AMOS will be examined including chi-square, Joreskog and Sorbom's goodness-of-fit, adjusted goodness-of-fit, Bentler and Bonnet's normed fit index or nonnormed fit index, and Bentler's normed comparative index (Tabachnick and Fidell (2001). Fifth, following this examination, the model will be adjusted as needed in order to create a better goodness-of-fit index.

### **Dissemination Plan**

Principal places to present the result of this series of studies will be the annual meetings of the Association for Institutional Research, the Association for the Study of Higher Education and the American Educational Research Association. For publications, the investigators will submit to the *Journal of Developmental Education*, *the American Educational Research Journal*, and *Research in Higher Education*.

### **Description of Policy Relevance**

Robert McCabe (2000) and others (See Astin 1998) argues that in many ways the United States depends on college remediation because these programs sit at the nexus of our economic and workforce future, the changing ethnic makeup of the nation, marginal public schools, endemic poverty, increasing numbers of children at risk, and the aging of the population. Helping more students in remedial college courses reach academic success is a key factor of our national success and prosperity. The results of this study should point to the type and intensity of early intervention programs in public school and in communities that will help students avoid remediation or require less remediation. Also, this will give remedial instructors and curriculum designers more information on the cognitive nature of students in remediation so that these students can be taught more

effectively. Early intervention programs and more efficient remedial programs should serve to alleviate some of financial pressures placed on states by the funding of remedial programs.

### **Innovative Aspects of the Project**

This project will extend the literature by examining college persistence and academic success in the light of a general theory of psychology, the TPB behavior. This study will also apply this theory to minority students.

### **Audience To whom the Project Will Be Important.**

Academic success and degree completion is associated with higher salaries and lower crime (McCabe, 2000). Also, many students, particularly community college students, need and take remedial coursework (Adelman, 2003; Burley, 1997). Unfortunately, they do not perform as well as students not needing remediation. Therefore, the performance of students in remediation should be the concern of policymakers, secondary and postsecondary educators, college remediation instructors, and educational researchers.

**Table 1. Variables Selected for Theory of Planned Behavior Model Analysis**

<b>Endogenous Variables</b>	<b>Exogenous Variables</b>	
<p><b>Behavior</b></p> <p>F4EYRPSE: Years of full-time PSE coursework (persistence).</p> <p>CONTIN: Continuous enrollment (persistence)</p> <p>TCRDATT1: Credits attempted in first calendar year (Academic performance)</p> <p>GPA: Grade point average (Academic performance)</p> <p>F4EDEGR: Degree earned since last contact (Academic performance)</p>	<p><b>Intention</b></p> <p>F1S18B: Respondent is sure to further education after high school</p> <p>F1S64B: Chances that respondent will go to college</p> <p>F1S22C: How much coursework in Algebra I.</p> <p>F1S51: Does respondent plant to go to college after high school</p> <p><b>Attitude Toward Behavior</b></p> <p>F1S11A: It's OK to work hard for good grades</p> <p>F1S11B: It's OK to ask challenging questions</p> <p>F1S11C: It's OK to ask solve problems using new ideas</p> <p>F1S38: How important are good grades</p> <p><b>Subjective Norm</b></p> <p>F1S48A: How far in school father wants respondent to go</p> <p>F1S48B: How far in school mother wants respondent to go</p> <p>F1S47F: Favorite Teacher's desire for respondent after high school</p> <p>F1S47D: Close relative's desire for respondent after high school</p> <p>F1S47C: Friend's desire for respondent after high school</p> <p><b>Perceived Behavioral Control</b></p> <p>F1S49: How far in school respondent thinks he will get</p> <p>F1S62A: Respondent feels good about him/herself</p> <p>F1S62B: Respondent doesn't have enough control over his life</p> <p>F1S62K: When makes plans, respondent is sure they will work</p> <p>F1S62G: Respondent fells plans hardly ever work out</p> <p><b>Behavioral Beliefs</b></p> <p>F1S66D: Education is important to get a job later</p> <p>F1S70I: Important to continue education past high school</p>	<p><b>Normative Beliefs</b></p> <p>F1S108A: Parents trust respondent to do what they expect</p> <p>F1S71I: Admired person thinks the way respondent does</p> <p>F1S108B: Respondent doesn't know why he should obey parent</p> <p><b>Control Beliefs</b></p> <p>F1S52A: How important are college expenses</p> <p>F1S52B: How important is financial aid</p> <p>F1S52C: How important are specific courses</p> <p>F1S52D: How important is the college athletic program</p> <p>F1S52E: How important is social life at college</p> <p>F1S52F: How important is it to attend college and live at home</p> <p>F1S52G: How important is it to attend college and not live at home</p> <p>F1S52H: How important is a religious environment</p> <p>F1S52I: How important is a low crime environment</p> <p>F1S52J: How important is college job placement</p> <p>F1S52K: How important is reputation of the college</p> <p>F1S52L: How important is easy admission standards</p> <p><b>Actual Behavioral Control</b></p> <p>F1S22C: How much coursework in Algebra I</p> <p>F1S22E: How much coursework in Algebra II</p> <p>F1S31C: Emphasis on further study I math</p> <p>F1SES: Socio-economic status</p> <p>F1PARED: parents highest education level</p> <p>F12XRSTD: Reading standardized score</p> <p>F12XMSTD: Mathematics standardized score</p> <p>F12XRPRO: Overall reading proficiency</p> <p>F12XMPRO: Overall math proficiency</p>

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## **Biographical Sketches**

### **Autobiographical Statement: Hansel Burley**

Dr. Hansel Burley is an associate professor of Educational Psychology at Texas Tech University, Lubbock Texas. His research interests center around the development of diverse, at-risk students in academic settings. In his scholarly work, he has examined the effectiveness of college remedial programs, the role of student affairs programs in remedial programs, the impact of magnet schools on minority students, the influence of poverty on test scores, the experiences of minority faculty at research intensive universities, and the role of culture in understanding the performance of minority students. His dissertation meta-analyzed 185 studies of college remedial programs.

Dr. Burley has also conducted several evaluations of state and local programs. His consulting work for the Texas Higher Education Coordinating Board examined issues influencing remediation for the state. This final report, *From Policy to Learning*, helped to change many state rules and practices concerning remedial programs. This work also help Dr. Burley to gain experience working with very large data sets. He has prepared evaluations including, a survey of African American Alumni for Texas Tech University, a study of Texas Tech Students' performance of teacher state licensure exams, and the evaluation of a remedial program at Stephen F. Austin State University.

Dr. Burley has been a member of the Association for Institutional research for 10 years. He received train-the-trainer training at NCES on the Integrated Postsecondary

Data Set (IPEDS) when the surveys were moved to an Internet format. He traveled to several state and regional conferences training institutional researchers and registrars on the new IPEDS format. Finally, Dr. Burley worked as an institutional researcher for 3 years and sits on the editorial board of the *Journal of Developmental Education*.

Dr. Burley has received several grants including a grant from the Texas Higher Education Coordinating Board to study remediation, a grant to provide computer-based instructional support and mentors to students at a Title I school, and a Jumpstart grant, funded by Americorps, which pairs reading mentors to low-income pre-kindergarten children.

Dr. Burley's research on at-risk students in post secondary institutions points to the need for early intervention, as early as pre-kindergarten, if poor and minority students are to succeed in college. The longitudinal nature of the NELS data set make it an excellent tool for exploring general theories of psychology that could help enhance practice in schools. His longitudinal study of remedial students in Texas found wide variations in student readiness. In that study, only 10% of a data set of 68,000 community college remedial students were successful. This proposed study will provide insights from a general theory of psychology on the performance of college remedial students. It should open a line of research concerning the impact of attitudes, beliefs, and norms, one to be explored for some time.

Finally, Dr. Burley has collaborated with Dr. Butner on numerous projects, relying upon her deep experience and research in student affairs issues. Because of her familiarity with the underlying constructs, she will play a critical role in the selection and

creation of variables and proxies for variables and in the interpretation of various models produced by this series of studies.

### **Abbreviated Curriculum Vitae**

Ph.D. 1993 Curriculum and Instruction, Texas A&M University  
M.A. 1985 English, Stephen F. Austin State University  
B.A. 1982 English Communication Arts St. Mary's University of San Antonio

### **Professional Experience**

2004-present Associate Professor, Educational Psychology, Coordinator, EPSY  
2002-2004 Associate Dean, Teacher Education, Teacher Certification Officer  
1999-2002 Associate Professor, Educational Psychology  
1995-1999 Assistant Professor, Curriculum and Instruction

### **Selected Publications**

Burley, H., & Price, M. (2003). What works with authentic assessment. Educational Horizons. 81(4), 193-196.

Marbley, Aretha; Butner, Bonita; Burley, Hansel; Bush V, Lawson; Causey-Bush, Tonia; & McKisick, Sheketa (2002). It takes a Village: The retention of students of color in predominantly white institutions. National Association of Student Affairs Professionals Journal. 5(1), 40-49.

Cejda, B, McKinney, C. & Burley, H. (2001). The career lines of chief academic officers in public community colleges. Community College Review. 28(4), 31-46.

Burley, H., Butner, B. & Cejda, B. (2001). Using statewide data to examine stopout/dropout patterns for Texas community college students. Community College Journal of Research And Practice. (25), 767-782.

Burley, H., Yearwood, B., Elwood, S., Martin, L., & Allen, D. (2001) Partners in cyberspace: Reflections on developing an ePDS. The Educational Forum(65)2, 166-175.

Bush, L., Burley, H., & Causey-Bush, T. (2001). Magnet schools: Desegregation or resegregation? Students' voices from inside the walls. American Secondary Education, 29, 33-50.

Burley, H., Butner, B., Marbley, A. , Bush, L. & Morgan-Fleming, B. (2001) Standardized Testing: For Richer or Poorer, for Democracy or Meritocracy? Connections: Journal of Principal Development and Preparation, 3, 15-19.

Burley, H. (2001). The importance of proper procedure in the scoring of diagnostic essays. Traditionally Black Colleges and Universities Research Journal, (2)1, 1-9.

Morris, R., Morgan-Fleming, B. & Burley, H. (2000). Walking on their own feet: Is reflective inquiry alive and well in the elementary social studies classroom. Southern Social Studies Journal, 26(1), 20-32.

Burley, H. & Butner, B. (2000). Should student affairs offer remediation? Community College Journal of Research and Practice. 24, 193-205.

Butner, B. & Burley, H., Marbley, A. (2000). Coping with the Unexpected: Blacks at predominately white institutions. Journal of Black Studies. 30, 453-462.

Burley, H. (1998). Does the medium make the magic? The effects of cooperative learning and conferencing software. Computers and Composition: An International Journal for Teachers of Writing 15, 83-95.

Burley, H. & Butner, B. (1998, Spring). The power of poverty and its influence on 8<sup>th</sup> grade TAAS math pass rates. Texas Study of Secondary Education. 24-27.

Burley, H. (1997) Texas Blues: Higher education remediation in Texas and African Americans. Traditionally Black Colleges and Universities Research Journal. 1(1), 8-20.

Burley H. (1996) Individualization and diversity: Antecedents to institutional effectiveness. Community College Journal of Research and Practice, 20, 75-85.

### **Selected Technical Reports**

Burley, H.(1997, July). From Policy to Learning: The Effectiveness of Developmental Education at Texas Community Colleges. Report on higher education remediation in Texas prepared for the Texas Higher Education Coordinating Board.

### **Autobiographical Statement: Bonita K. Butner**

Dr. Bonita K. Butner is an associate professor in the Higher Education program at Texas Tech University. Her research explores the interaction between minority access, the academic experiences in higher education and student success. In her work she has examined minority participation at both the graduate and undergraduate level. Dr. Butner has experience with both qualitative and quantitative methodologies. Her qualitative research has examined persistence utilizing coping behavior, motivation, and self-efficacy as a framework. Her quantitative research has been principally with local and regional size data sets. She has published studies using these analytic strategies in refereed journals including the *National Association of Student Affairs Professionals*, *Journal of Black Studies*, and the *Journal of College Orientation and Transition*.

Dr. Butner has worked collaboratively with Dr. Hansel Burley on previous projects that examined developmental education. Their research has been presented at various conferences and published in refereed journals. Dr. Butner has submitted an application to attend the AIR/NCES Data Policy Institute in June to get basic instruction in working with large databases. Given her academic background and research interest and Dr. Burley's experience working with large data sets, this grant will allow her to become more familiar with the NELS:88 database, expand her research in remediation, and pursue further studies related to student success.

## Abbreviated Curriculum Vitae

### Education

Ph.D.	University of Missouri-Columbia – Higher Education
Ed.S.	University of Missouri-Kansas City – Higher Education
M.A.	University of Missouri-Kansas City – Adult and Continuing
Education	
B.S.E.	Central Missouri State University – Health & Physical Education

### Professional Experience

2002-Present	Associate Professor, Higher Education, Texas Tech University
2002-2004	Program Coordinator, Higher Education Program
1996-2002	Assistant Professor, Higher Education, Texas Tech University

### Selected Publications Pertinent to the Project

Burley, H., Butner, B., Cejda, B. (2001). *Dropout and stopout patterns among developmental education students in Texas community colleges*. Community College Journal of Research and Practice, 25, 767-782.

Butner, B., Caldera, Y., Kennedy, F., Herrera, P., Frame, M, Childers, C. (2001). *The college choice process of African American and Hispanic women: Implications for college transitions*. Journal of College Orientation and Transition, 9(1), 24-32.

Burley, H., Butner, B., Bush, L., Morgan-Fleming, B. (2001). *Standardized testing: For richer or poorer, or democracy or meritocracy?* Connections: Journal of Principal Development and Preparation, 3, 15-19.

Burley, H. & Butner, B. (2000). *Should student affairs deliver remedial education?* Community College Journal of Research and Practice, 24(2), 1-13.

**Budget**  
**Predicting Remedial Students' College Performance: Applying the Theory of  
Planned Behavior to A National Sample**

	<b>AIR Grant</b>		
<b>Personnel</b>			Current Support
Principal Investigator H. Burley .15 FTE @ \$7,377/mo for 9 months	\$9,959		Texas Tech: .5 FTE \$33,197
Co-Principal Investigator B. Butner .15FTE @ 6,302/mo for 9 months	\$8,509		
<b>Total Salaries and Wages</b>		\$18,467	
<b>Fringe Benefits</b>			
H. Burley	\$2,578		
B. Butner	\$2,287		
<b>Total Fringe</b>		\$4,865	
<b>Travel</b>			
H. Burley	\$2,000		
B. Butner	\$1,900		
<b>Total Travel</b>		\$3,900	
Materials and supplies (including SEM software)	\$2,768		
<b>Total Materials and supplies</b>		\$2,768	
<b>Total Amount of Award</b>		\$30,000	

**Budget Justification**

Funds requested in the budget are primarily to compensate the two investigators for the time they will spend conducting the analyses and preparing manuscripts and reports related to their findings. These funds will cover travel related costs for presenting findings at professional conferences. Furthermore, these funds will be used to buy the latest version of SPSS AMOS software and supporting equipment to help disseminate the findings.

### **Current and Pending Support**

This proposed research has earned H. Burley faculty development leave (sabbatical) for the fall 2005 semester. This award is funded at .5 FTE or \$33, 197 plus fringes. Texas Tech University is very committed to the successful completion of this project.

### **Facilities Equipment and Other Resources**

The investigators have the facilities, equipment, and resources needed to complete the project. At Texas Tech University, researchers are equipped with state-of-the-art personal computers. Therefore, they current have access to all of the necessary office equipment and space to complete this project. Funding of this project will allow the researchers to upgrade current SEM software. A license to all restricted data files will be requested from NCES.

2005 AIR RESEARCH GRANT PROPOSAL

Predicting Remedial Students' College Performance: Applying the Theory of  
Planned Behavior to A National Sample

Databases: NELS:88-2000; PETS 2000

Grant Amount Requested: \$30,000

Principal Investigator

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Co-principal Investigator

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Hansel Burley

  
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AIR 2005 Burley & Butner 1