Dropout and Academic Achievement Perceptions of Middle and High School Students of Mexican Descent: A Q-Methodology Study

Kathryn G. Swetnam
Walden University

Abstract. *The dropout rate for Mexican-descent students enrolled in the U.S. public school system is among the highest of any race or ethnicity. These students may be functionally illiterate in both English and Spanish. The purpose of this study was to investigate the perceptions of at-risk, Mexican-descent, adolescent students who expressed personal opinions towards academic success or failure, rather than to test a predetermined trait or a priori hypotheses. Thirty-two students from an independent school district in a Houston, Texas, suburb participated in this study. The male and female students were enrolled in school in grades 8–10 but were identified as at-risk learners. Their viewpoints were examined through Q methodology. Factor analysis of their Q sorts yielded three distinct attitudinal factors: (a) internally motivated perceptions, (b) family-motivated perceptions, and (c) disaffected perceptions. Distinguishing statements that represent each factor are discussed and compared against demographic data. The findings of this study support the contextual-ecological view of influences that affect minority cultures and impact school accomplishment. The relationship between academic success and dropout perceptions was multifaceted, comprising social ecological and commingled contextual influences on an individual's perceptions. Results of this study may assist educators and parents in understanding how to increase minority scholastic achievement and decrease dropout rates. This study increases the understanding of the perceptions of Mexican-descent adolescents toward academic success and dropping out of school in order to provide a basis for social change through communication and dialogue between Mexican-descent students and families and school administrators and faculty.*

Introduction

The low level of educated citizenry in the United States is alarming. In 2003 the National Center for Education Statistics (NCES) reported that 14.5 percent of adults lacked basic literacy skills and an additional five

Contact author: drkateswet@yahoo.com
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percent of adults were totally illiterate. Further studies conducted by NCES with this same population using fluency rates reported that 49 percent of the adults read at the lowest basic reading skill level of fewer than 60 words per minute (Baer, Kutner, & Sabatini, 2009). President Barack Obama (2009) in his address to the joint session of Congress concurred with the dire educational condition:

> In a global economy where the most valuable skill you can sell is your knowledge, a good education is no longer just a pathway to opportunity—it is a prerequisite. Right now, three-quarters of the fastest-growing occupations require more than a high school diploma. And yet, just over half of our citizens have that level of education. We have one of the highest high school dropout rates of any industrialized nation. And half of the students who begin college never finish. This is a prescription for economic decline, because we know the countries that out-teach us today will out-compete us tomorrow (pp. 60–62).

For the past 30 years, the dropout rate of students in the public school system has held at approximately 10 percent (KewalRamani, Gilbertson, Fox, & Provasnik, 2007). However daunting that statistic may be, even more demoralizing is the realization that 31 percent of all English second-language learners fail to graduate from high school (Klein, Bugarin, Beltranena, & McArther, 2004). Among language minority groups, Latino students face an even harsher reality. Currently 22 percent of the nation's school children are of Hispanic origin, with estimates of Latino students increasing to 39 percent by 2050 (U.S. Census Bureau, 2008). Hispanic students have the highest dropout rate of students (22%), more than African Americans (10%), Whites (6%), and Asians and Pacific Islanders (3%). Over 40 percent of Hispanic males aged 18–34 have not graduated from high school (NCES, 2007; Rumbaut, 2008b). Further, among the Hispanic subgroups, 58 percent of the dropouts were of Mexican or Central American descent (KewalRamani et al., 2007).

Clearly a dilemma has been identified. Powell and Kondracke (2009) asserted:

> More than 1.2 million students drop out of America's high schools each year. . . . This is more than a problem; it is a catastrophe. America's failure to educate tomorrow's leaders and workforce puts our entire economic and national security at risk. It's time for a nationwide "call to arms"— because we simply cannot afford to let nearly one-third of our kids fail (p. 2).

While the problem may be obvious, a myriad of factors comes into play to as to whether or not Mexican-descent students complete high school. Researchers over the past decades (Bronfenbrenner, McClelland,

Wethington, Moen, & Ceci, 1996; Deschenes, Cuban, & Tyack, 2001; Hao & Pong, 2008; Jimenez, 2002; Knight, Kagan, Nelson, & Gumbiner, 1978; Korenman, Miller, & Sjaastad, 1994; Martínez, 1999; Rumbaut, 2008a; Smith, 2008; Zhou, Lee, Vallejo, Tafoya-Estrada, & Xiong 2008) have delved into the reasons Latinos dropout from their studies. However, "the complexity of isolating factors into meaningful relations to individual students involved in unique and complex environmental situations makes it difficult to understand the dilemma facing dropouts" (Swetnam, 2005, p. 5). In addition, there has been little investigation considering the opinions and perceptions of the students themselves. This study examines educational success and failure from the perspective of the at-risk Hispanic student. Thus, the purpose of this study was to discover why Mexican-descent students are at risk of dropping out of school from their own subjective observations.

Theories Behind Dropout Issues

There are three basic theoretical perspectives concerning the matter of school achievement of minority students: (a) social-ecological, (b) cultural-ecological, and (c) contextual-ecological. Additionally, there are theories as to whether or not generational factors may have an effect on high school graduation rates. Each of these paradigms is briefly examined to create a background for this study.

Social-Ecological Framework

In recent years, the social-ecological theory of human behavior, as hypothesized by Bronfenbrenner (1979), has received attention from various fields of research including psychology, sociology, and education. Social ecology provides an initial scaffold for examining the research questions of the current study, confronting the difficult issues of human dynamics involving gender and generational status as well as family influences and the surrounding educational environmental-social structure. Bronfenbrenner's paradigm has been employed in educational settings as a child development theory. However, within the past decade Bronfenbrenner's theory has expanded to play a critical role in educational studies investigating the ecological forces between children's home and school environment in social and cognitive learning settings (Crosnoe, 2006; Portes & Fernández-Kelly, 2008; Vasquez, 2006). In this study Bronfenbrenner's theory provides an appropriate basis for investigating the influences and interactions involved in a student's exchanges between home and school. The study also utilizes the expansiveness of the ecological percepts of the social-ecological framework.

Bronfenbrenner's (1972) paradigm provides a powerful model that includes the microsystem of the home, the mesosystem of the school, the ecosystem of parental workplaces and social networks, and the

macrosystem of history and culture at large. The model provides an account of how relations interact among multiple settings. The interactions between the microsystem of the home and the mesosystem of the school environment are addressed in this current research as they apply to the specific research questions of this study. This section provides a succinct overall explanation of Bronfenbrenner's theory and concludes with the precise application of the social-ecological framework to the formation of the innovative tool in this research to investigate the perceptions of Mexican-descent adolescents toward academic success and failure.

Bronfenbrenner's (1979) social ecology model is built around the developing individual, the environment, and the constant interaction between the person and the environment. The theory of the ecology of human development involves the scientific study of progressive, mutual accommodation, *throughout the life course,* between an active growing human being and the changing properties of the immediate settings in which the developing person lives, as this process is affected by relations between these settings, and by the larger contexts in which the settings are embedded (Bronfenbrenner, 1992, p. 188).

According to Bronfenbrenner (1979), the ecological theory of human development is hierarchical in nature. The analogy of the Russian matrioshka dolls is used to illustrate the concentric circles of influence on a person. The family, the center doll, is referred to as the microsystem, because it is the focal point of influence in a child's life. The next circle of influence is the mesosystem (settings that interact with the family and developing individual), followed by the exosystem (social and community systems) and finally the macrosystem (political and social systems level). Bronfenbrenner (1979) cautiously noted that understanding human development requires more than direct observation: "It requires examination of multiperson systems of interaction not limited to a single setting and must take into account aspects of the environment beyond the immediate situation containing the subject" (p. 21). Thus, actions and events that occur at the level of the macrosystem influence the nature of the personal interaction at the microsystem level. Although the macrosystem and the exosystem of this paradigm are beyond the reaches of this study, it is important to note the ecological concentric circles of influence that come to play on an individual's perceptions of life at large. As such, Bronfenbrenner's paradigm permits the investigation of personal perceptions of individual students while acknowledging the interconnectedness of the microsystem and mesosystem upon the entire environment of a student.

Bronfenbrenner (1992) espoused the concept of "the person as an active agent who contributes to her own development" (p. 203). Smith (2008) observed the concept operating as an individual's perception of

personal responsibility is employed within the context of the social-ecological environment. Thus, the participants of this study can be understood as actively reflecting their individual viewpoints of factors that stimulate academic success or failure. An instrument that reveals student perceptions requires innovation. Based on Bronfenbrenner's (1972) ecological paradigm, the Q sample for this study was constructed with the following parameter: What microsystem and mesosystem variables (in the form of 32 statements) do at-risk, Mexican-descent middle and high school students perceive to lead students toward academic success or influence their decision to drop out of school?

Cultural-Ecological View

Literature from the cultural-ecological perspective, sometimes referred to as the secondary cultural discontinuity perspective, identifies external cultural factors that affect a student in a disconcerting, harmful manner so as to provide explanations for the development of negative perceptions towards academic success. Proponents of this theory are Ogbu (1981, 1991), Gibson (1998), and Suárez-Orozco and Suárez-Orozco (1995).

Ogbu (1991) suggested that there are two types of immigrant groups in the United States: voluntary and involuntary minorities. Voluntary minorities move to a new country to better their status in life and thus perceive the educational environment, economic opportunities, and political milieu in an optimistic manner in comparison to their former country. Involuntary minorities, according to Ogbu (1991), are those portions of the U.S. population for whom this country represents suppression, slavery, and loss of personal, political, and cultural privileges. Because involuntary populations do not have a homeland with which to compare their current status in life, they develop a negative attitude toward the adopted country and erect defensive walls of distrust, lack of acceptance, and repression towards the imposed society in which they live. Ogbu (1991) suggested that academic success for both the voluntary and involuntary minority was dependant on the "type of cultural model that guides them, that is, the type of understanding they have of the workings of the larger society and of their place as minorities in that working order" (p. 8). Based on this theory, Ogbu (1991) concluded that involuntary minorities "do not believe that the societal rules for self-advancement work for them" (p. 14), and consequently academic success in this repressed society was an impossible achievement. Ogbu included Mexican Americans, as well as Black and Native Americans, in a segment of society of disenfranchised involuntary minorities.

A variation of the cultural-ecological viewpoint is observed in the theory of segmented assimilation (Portes & Zhou, 1993; Portes &

Rumbaut, 2001). Segmented assimilation assumes that immigrants integrate into a new country and social environment based on individual and cultural factors. Immigrants who arrive in their new homeland with enough human and social capital to acquire academic success will assimilate well into society, similar to Ogbu's (1991) voluntary minority population. However, analogous to Ogbu's involuntary immigrant minority, other immigrants are, according to the segmented assimilation theory, destined to negative assimilation experiences and lack of access to power, projecting them to a lower cultural-ecologic status and its pervasive poverty and educational failure. Zhou et al. (2008) articulated the importance of the "cultural memory" from the immigrant's view of academic attainment in support of the segmented theory of assimilation (p. 57).

Contextual-Ecological View

Opposite to the secondary cultural discontinuity hypothesis, which claims exterior factors impinge on academic success, the contextual-ecological paradigm proposes that internal cultural factors within a minority group may affect school outcomes. From the viewpoint of this primary cultural discontinuity model, it is believed that environmental differences between the minority and dominant ethnic groups within the microsystem of the home structure play the major role in scholastic success and socialization skills of the student. While the contextual-ecological viewpoint admits differences in the standards and academic values between the new culture and the adopted academic environment, this model emphasizes the strengths of the close-knit family structure, as well as the high academic and behavioral expectations instilled into the children, which may lead to scholarly success.

Gándara's (1995) qualitative research into Latino families exemplified this paradigm. The family microsystem of the Hispanic family inherently produced a "culture of possibility" (Gándara, 1995, p. 112) for their children without the parents entering the front doors of the school. The parental observable behaviors of an exemplary work ethic, communication, and hope for a better tomorrow were mirrored in the school tasks of their children. Academic achievement was built from within the richness of the contextual environment. More recent research articulated support of the contextual-ecological viewpoint and hypothesized that marginalizing forces, which might appear on the face of it to inhibit social, educational, and capital growth, in fact may propel a new generation of immigrants to success in their new county (Kronberg, 2008; Trueba, 2002).

Generational Factors Associated With Academic Success

Kao and Tienda's seminal research (1995) suggested three hypotheses of immigrant academic success. The first model is called the straight-line

assimilation theory. According to this theory, the newest immigrants do the most poorly in an academic setting but increase in ability over time with each successive generation. Portes and Zhou (1993) refuted straight-line assimilation and argued that the more assimilated status an immigrant attains, a steeper academic decline may be observed. The second paradigm for immigrant scholastic accomplishment is accommodation without assimilation, which suggests that newcomers to a country will be eager to gain knowledge in their new country and overcome barriers to become successful. Immigrant optimism is the final conjecture, suggesting immigrant scholastic achievement increases only in the second generation due to encouraging parental desires of a better standard of living for their children than the parents have had to endure.

Research Questions

The literature related above, albeit broad and informative, still failed to relate what the individual middle and high school Mexican-descent students think about academic success or dropping out of school. The cultural-ecological view proposed that cultural mores, racial identity, and familial dynamics affect scholastic achievement (Ogbu, 1991; Portes & Rumbaut, 2001; Portes & Zhou, 1993). Other studies speculated factors influencing academic attainment are socioeconomic status (Bronfenbrenner et al., 1996; Harris, Jamison, & Trujillo, 2008; Korenman et al., 1994; Kronberg, 2008), inadequately trained teachers, poorly equipped schools, inappropriate curriculum (Ball, 2002; Cammarota, 2007; Deschenes et al., 2001; Vasquez, 2007; Villegas & Lucas, 2002), and generational influences (Delgado-Gaitan, 1993; Hao & Pong, 2008; Jimenez, 2002; Knight et al., 1978; Rumbaut, 2008a; Smith, 2008). Each of these studies add to the understanding of minority academic struggles in school but also reveal the need for a thorough examination of students' perceptions. Thus, this study sought answers to two questions:

1. What are the personal perceptions of Mexican-descent adolescent students toward academic success?
2. What insights are suggested by these perceptions, in light of the various theories about what influences successful academic outcomes?

Method

Stephenson (1953) described Q methodology as a "set of statistical, philosophy-of-science, and psychological principles" (p. 1). Q methodology was chosen for this study because it was a way in which to quantify subjective perceptions and allowed the comparison of relations between factors in order to provide internal generalization patterns (Brown, 1980). In addition, Q methodology did not compel the use of a

priori hypotheses but rather permitted abductive logic, which "begins with effects and pursues potential causes (plausibilities)" (Brown, 1980, p. 237). Thus, Q methodology was the only research design by which a descriptive study could explore new findings, given that "Q-technique . . . [presents] experimental possibilities not open to us before . . . a methodology . . . upon which a great deal indeed of behavioral science can be based" (Stephenson, 1953, p. 350).

Concourse

Central to Q methodology is the theory of concourse. I developed 81 concourse statements gathered from literature reviews relating to scholastic dropout factors and Hispanic academic achievement. Four areas of (a) individual, (b) family, (c) academic, and (d) social factors were addressed in the concourse construction based on the microsystem and mesosystem of the ecological paradigm (Bronfenbrenner, 1979). Some of the 81 concourse statements were combined, and ultimately 32 statements were selected as Q-sort items. These statements provided the structure of samples as presented in Table 1, based on Fisher's (1942) methods of experimental design (Brown, 1993; Stephenson, 1953).

Table 1: Concourse Theoretical Design

Independencies	*Levels*	*Items*
Perceptions toward academic success	(a) Individual (b) Family (c) Academic (d) Social	4
Perceptions toward dropping out of school	(e) Academic success perceptions (f)Dropout perceptions	2

Note. Interaction matrix: (4 x 2) x 4 (items) = 32 statements.

To assure validity of the collected concourse statements, an educator with 27 years of experience teaching Mexican-descent students in the study district perused the listed items and provided valuable input as to the most salient statements garnered from literature. This teacher selected statements based on the commonality of comments Hispanic students had made during many years of teaching experience in the district.

Setting, Participants, and Procedures

This research took place in a suburban independent school district outside of Houston, Texas. The district had 32,000 students enrolled, of which 50 percent qualified for free and reduced-price lunches. Further, 53 percent of the student population was Hispanic, and 30 percent of the

Hispanic population had immigrated to the United States within the past three years. A purposely chosen group of 32 students was selected based on the research questions. Of the 32 students, 10 (31%) were enrolled in a large middle school, and 22 (69%) were students at a local high school in 9th and 10th grades. The students were equally divided by gender. Fourteen (44%) of the students were identified as first-generation Mexican-descent children, 16 (50%) as second-generation children, and two (6%) as third-generation children. Academic achievement was based on the math portion of the Texas Assessment of Knowledge and Skills (TAKS™). According to research (Henderson, 1997; Viadero, 2005), math becomes the most critical subject for at-risk, ethnic students in middle and high school that causes them to consider dropping out of school. Seven students (22%) achieved a passing grade in TAKS math, 20 (63%) failed TAKS math, and five(15%) had no data due to a transitional entry date into the school district.

After permission was granted from the parents of these underage students, the 32 concourse statements were administered to the 32 participants one-on-one. The Q-sample items were placed in random order. One side was an English version of the statement and the other side contained a Spanish translation of the statement. The students were requested to place each of the 32 items into a quasi-normal distribution pattern using a 9-point scale (–4 through +4). In placing the statements, the students were asked to consider the degree to which each statement described their own perceptions about reasons for staying in school. Using the quasi-normal distribution offers an advantage in that "items placed in the middle categories will not affect the magnitude of a between-person correlation coefficient as much as those items placed in the categories that form the tails of the distribution" (Sexton, Snyder, Wadsworth, Jardine, & Ernest, 1998, p. 4). Brown (1993) explained, "Both the range and the distribution shape are arbitrary and have no effect on the subsequent statistical analysis" (p. 8). However, the factors that emerge reveal the "basic *law of Q methodology,* the 'transformation of subjective events into operant factor structure'" (Stephenson, as cited in McKeown & Thomas, 1988, p. 46). Additionally an interview followed the sorting of the concourse and is described below.

Results

Q methodology involves a three-step process of statistical analysis involving correlation, factor analysis, and the working out of the scores obtained from the factor analysis (McKeown & Thomas, 1988). All results of the participant sorts were recorded into the computer software program PQMethod 2.11 (Schmolck, 2002) to calculate correlation matrices from the Q sorts. A combination of principal components factor extraction and varimax rotation was used to isolate

and corroborate factor patterns. In addition, each individual Q sort is correlated with each of the factors to one degree or another, which allowed the investigator to examine (in an abductive, hypothesis-raising vein) potential associations between factor loadings and variables such as gender and generational status, in addition to the individual, family, academic, and social factors prompted by social-ecological theory that was used to structure the Q sample. The importance of factor rotation is that it allows factors to be repositioned so that connections may be observed between the data to obtain "simple structure" (Stephenson, 1953, p. 36).

Six factors emerged from the study after the varimax rotation. However, three factors explained 65 percent of the variance. A scree test and visual analysis were conducted, which revealed that each of these three factors offered at least 4 participants to adequately characterize a factor. Brown (1980) suggested that having fewer factors actually strengthens the remaining factors of the Q sorts.

Q methodology allows the analysis of factor according to factor scores. The factor scores created a "factor array" (McKeown & Thomas, 1988, p. 53) that was computed for every statement in all the factors using the PQMethod 2.11 (Schmolck, 2002) program. First, a "factor weight" (Brown, 1980, p. 240) was calculated for all three factors. Then, the factor array was produced by choosing statistically significant variables that are exclusively loaded on specific Q sorts and amalgamating them. The z-scores, as calculated by the computer program, permit "direct comparisons with scores for the same statements" (Brown, 1980, p. 243) across all factors. This process of assigning values assists in differentiating similarities and differences from each of the statements in order to ascertain unique characteristics of the perceptions represented by the participants in each factor. With the relationship between the three factors established, individual examination of each factor was required to discover the similarities and differences of each factor.

Qualitative Interviews

After sorting the Q items, an unstructured interview was conducted. During this conversation, the students were asked to clarify the placement of an item they might have moved from one column to another, to discuss items that might have been confusing to them, and to explain their reasoning behind the ranking of statements.

Factors

Factor 1: Internally motivated perceptions. Factor-1 students were identified because of their independent, individualistic, "can do" spirit to succeed at school and in life. While they appreciated parental and peer support, they alone were intrinsically motivated to stay in school to gain

the good life. Factor 1 accounted for 29 percent of the total variance, and 16 of the participants loaded significantly at $p < .05$ (0.353). Of the students loading on Factor 1, 68 percent also were from the first-generation group of student participants. Twenty-eight percent and four percent of the participants accounted for second and third generations, respectively. Of the 32 Q sort items, 14 were statistically distinguishing for Factor 1.

Statements that Factor-1 participants most agreed on (scored +3 and +4), two of which were also distinguishing statements (Statements 2 and 18), were as follows: (a) Statement 1, "I am determined to graduate from high school. . . "; (b) Statement 17, "School is important to help me get a job when I graduate"; (c) Statement 2, "I intend to graduate to thank my parents for all the sacrifices. . . "; (d) Statement 9, "My father [or] mother wants me to graduate from high school"; and (e) Statement 18, "My teachers are really helpful to me in class. . . ." See Appendix for the complete list of statements and scores.

Factor-1 students substantiated their individual responsibility toward personal academic success through statements of disagreement. Distinguishing statements for this factor were Statements 22, 23, 7, and 30. These statement scored –3 and –4 as follows: (a) Statement 22, "Class is boring and the teachers don't expect very much"; (b) Statement 23, "I skip classes and school a lot"; (c) Statement 7, "I have a lot of trouble with my behavior at school"; (d) Statement 24, "My teacher bugs me"; and (e) Statement 30, "I hang out with friends who do drugs."

Factor-1 students exhibited perceptions that individually made them accountable for academic success, but they depended strongly on the school and teaching faculty to supply impetus for their achievement. These results seem to provide support for Bronfenbrenner's (1979) ecological model that intricately amalgamates the microsystem of the individual with the mesosystem of the school.

Factor 2: Family-motivated perception. The students on Factor 2 posited perceptions that were readily identified as family-motivated. These students wanted to succeed academically but were motivated by family pressure to succeed and make a better life for themselves than that of their childhood environment. This group showed an incongruous internal motivation and also had a dichotomous peer support group of friends. Factor 2 accounted for 23 percent of the total variance, and 11 of the participants loaded significantly at $p < .05$ (.353). Fifty-seven percent of the students loading on Factor 2 were second-generation, Mexican-descent students. Thirty-three percent and 10 percent of the participants accounted for first and third generations, respectively. Of the 32 Q sort items, 11 were distinguishing for Factor 2.

The most agreed-upon statements (scored +3 and +4) for Factor 2 were the following: (a) Statement 17, "School is important to help me get a job when I graduate"; (b) Statement 1, "I am determined to graduate from high school"; (c) Statement 9, "My father [or] mother wants me to graduate from high school"; (d) Statement 25, "I have a few close friends who encourage me to stay in school." The statement that ranked +3 for this group of at-risk learners indicated that they have a few close friends who encourage them to stay in school. They also revealed their annoyance with the teaching faculty while disclosing their viewpoint that teachers have work expectations from them that involve classroom participation that is not boring. Additionally, their families support their education and do not require them to obtain a job and go to school at the same time. Statements 8, 11, and 25 were significant exclusively to Factor 2.

When asked what qualities it takes to be a successful student at their school, the majority of participants said that paying attention and not talking to friends in class was important. One young man in the Factor-2 group stated he needed to sit off by himself in class so he could "listen better and not be so distracted by my friends." This finding is consistent with other research that indicated that 80 percent of Hispanic students in high school attended classes to meet with friends (Snyder & Hoffman, 1993). Researchers have found that a few close friendships are helpful to keep students in school. Newman, Lohman, Newman, Myers, and Smith (2000) reported the larger the group of friends an at-risk adolescent has, the lower the academic performance. However, dissimilar to Factor-1 students, those participants loading on Factor 2 also had influencing friendships inside and outside school activities who did drugs. De Voss and Romanucci-Ross (1982) noted that for "many Mexican American youths . . . an ethnic peer group quickly replaces the primary family as the primary reference group" (p. 386). In summary, the perceptions of Hispanic adolescents identified in Factor 2 indicated the strongest influence on the academic success of the Mexican-descent, at-risk student is the familial value of education and the feelings of indebtedness for parental sacrifices to permit students to obtain an education. This factor provides evidence of the importance of the microsystem of the home as Bronfenbrenner (1979) hypothesized in his ecological theory. Garnier, Stein, and Jacobs (1997) also provided congruent evidence that the "strongest direct predictor" (p. 414) of academic success or dropping out of school is the familial influence.

Family issues influenced this group of students in two further ways: English-language proficiency and socioeconomic status. First, Factor-2 students spoke mostly Spanish in the home to other family members. However, in contrast to Factor-1 students, they did not perceive their bilingual abilities to be advantageous to their academic subjects. It may

be that Factor-2 students are not totally proficient in Spanish, continue to struggle in English, and ultimately fail to see any scholastic advantages of bilingualism. Second, despite the low income level of these families, the microsystem ideals of Factor-2 families indicated a value for education and a high school diploma to such an extent that they did not expect their child to maintain a job at the same time as attending school.

Factor 3: Disaffected perception. Eight of the 32 statements were distinguishing for Factor 3, disaffected-perception students. Only 5 of the 32 participants loaded significantly at $p < .05$ (0.353) on this factor. Factor 3 accounted for 13 percent of the total variance. Fifty-eight percent of the students on Factor 3 were second-generation, Mexican-descent students, and 42 percent were of first-generation heritage.

Whereas Factor-1 students reflected viewpoints of an internalized personal drive to succeed in school, and Factor-2 participants' subjective feelings expressed a primary incentive towards academic success attributed to their family connection, Factor-3 participants revealed influencing perceptions of an external nature that encouraged them less toward academic achievement and presented stronger enticements towards dropping out of school. Their responses of disagreement, along with the other ranked indicators, revealed their strongly disaffected perceptions and dichotomous view toward academic pursuits. While sensing obligatory perceptions for their parents and family, family did not motivate them to do well in school. Factor-3 students also strongly disagreed with the "American dream of becoming successful."

Distinguishing statements for this factor that were significant at $p < .01$ included Statement 13, "My father or mother value my education but expect me to keep a job," and Statement 20 (negatively significant), "I do well in my academic subjects because I am bilingual." Statements that ranked +3 and +2 in this factor indicated that family financial status required students to work and go to school, they had close friends who habitually did drugs, and they had behavioral problems at school. Statements that ranked negatively illustrated that student-participants placed friends before homework. Being bilingual was not perceived in a positive manner that could contribute to their scholastic achievement. They realized that a high school diploma would increase the likelihood of obtaining a better job and status in life; however, the key to these students' educational estrangement was their social structure of similarly disaffected peers.

Students loading on Factor 3 maintained a small group of like-minded peers who viewed school as a negatively shared social connection in their lives, rather than as an academic association. This finding supports the results of a recent study by Altschul, Oyserman, and Bybee (2008). These researchers indicated that third-generation young

people attempt to associate with the "in group" that increases the prospect of disassociation from academic opportunities. Socially connecting at school as the primary motivator for coming to school was summed up by one eighth-grade female student: "If you don't go to school, how are you going to make friends?" This finding is consistent with other researchers who found that "adolescents who turn to peer networks that have negative attitudes about academics may be at considerable risk for negative outcomes . . . especially increased substance use and other high-risk behaviors" (Newman et al., 2000, p. 390). These "high-risk behaviors" are the second key to the Factor-3 participant's perception of academic disconnection. Their views were reflected in their inappropriate deportment and lack of connection to studying and homework. Class was perceived as boring and the teachers as not demanding enough academically.

Overall, Factor-3 students felt dissatisfied with the way their education was going. Alienated from their teachers, either by their own personal attitudes or by responses from teachers to misbehavior and nonconformity to school norms, these students had become disaffected with academic achievement. Family pressures from financial circumstances, which required them to care for younger siblings and hold a job to provide for daily sustenance of the family, appeared to weigh heavily on these students. They lacked the internal motivation observed in Factor-1 students. Moreover, despite families who wanted them to graduate from high school and do better in American society than their parents had, similar to Factor-2 participants, students loading on Factor 3 were failing academic subjects at school, being pressured by peers to nonconformity, and exhibiting deviant behavior.

Influences on Factor Perceptions

Research Question 2 of this study sought insights into influences that may be important to successful academic outcomes among student of Mexican descent. To aid the search for such insights, a number of exploratory correlation tests were pursued, using the students' demographic details and their factor loadings. These exploratory analyses led to several interesting associations when the gender, generation, grade level, language, drug usage, father's education attainment, and mother's educational attainment were looked at. These variables were ascertained about each student as part of a larger study involving them, and prior to the Q study reported here. It is noted that the small unrepresentative sample used in the Q methodology study does not allow for demographic generalizations. Q studies do, however, support the abductive search for plausible connections.

Factors 1 and 2 showed clear associations with generation (negative for Factor 1 and positive for Factor 2), language usage, drug usage

among peers, and mother's educational level. Language and bilingualism appeared to be relevant influences. However, while previous research (Feliciano, 2001; Kroneberg, 2008; Roderick, 2000; Smith, 2008) has shown that bilingualism is an "additive" acculturation process (Lambert, 1991, p. 219) and that family culture and acculturation processes affect learning and motivation Gibson (1998), the Q study suggested that bilingual language usage can have different influences for different students. Home language usage seems important with Factor 2 (positively) and Factor 3 (negatively). Yet, Factor-3 students perceived their bilingual status to be helpful in their academic pursuits. Factor 1 appears linked negatively to drug usage among peers and mother's educational level. Somewhat surprisingly to the investigator, no insights were revealed involving gender.

Discussion and Interpretation

This study identified themes associated with three factors based on Mexican-descent student perceptions toward academic success and dropout behavior: (a) the family, (b) the relationship of the school environment to help students obtain future employment, and (c) stereotype changes occurring within the Hispanic youth culture. Each of these issues support Bronfenbrenner's (1979) social-ecological model, with the developing individual interacting with his or her environment of the microsystem of the home and the mesosystem of the school. However, the study also evidenced support for the contextual-ecological view, as evidenced by the family-motivated perceptions of these Hispanic participants.

The Family

First, the relational tie to family is evident. Students in each of the three identified factors placed the family as the preeminent reason why they continued in their schooling. They wanted to graduate to thank their parents for all the sacrifices they had made to allow them to continue educational pursuits. These findings are supported by those of a qualitative study performed by Gonzáles (2002), in an investigation that sought to make the connection between education and success. Gonzáles researched Mexican teenagers aged 15–17, in freshman and sophomore high school classes, all of whom were born in Mexico and primarily spoke Spanish. Using a combination of theoretical frameworks and "braiding knowledge" (p. 647), Gonzáles concluded that Mexican families provide the "tools and strategies for navigating though life and schooling" (p. 652), especially for young Mexicanas. Hispanic families highly value education and instill this vision into their young people (Kroneberg, 2008; Moreno & Valencia, 2002) through the sacrifices modeled by their daily existence. Mexican-descent young people perceive the life struggles their parents endure to give them a better life

in the future, and this spurs them—at least in words and emotions—to have the desire to remain in school.

Smith's (2008) qualitative study of Mexican students posited that family structure plays a significant role in the academic success or failure of immigrant children. Garnier et al. (1997) argued that students have a resiliency to adapt when supported by family members who express beliefs that value educational attainment. First-generation students were most likely to arrive in this country with goals set on obtaining better education to provide an improved way of life for themselves and their family and exhibited cooperative behavior in the classroom with their teachers. These observations call into question Ogbu (1981) and others' (Gibson & Ogbu, 1991; Suárez-Orozco & Suárez-Orozco, 1995) cultural-ecological view of minority-group dropout phenomenon and suggest that the first-generation participants of this study characterize the assimilation paradigm.

The Relationship of the School Environment to Future Employment

These students in this study perceived the school environment as conducive to obtaining the job that they like and that pays well when they graduate. Their perceptions embody the American dream of becoming successful, and school is the vehicle to this goal. Repeatedly in this study, the participants stated, "I think school is good for me. I want to be somebody." When quizzed as to what *somebody* meant to them, participants explained, "Somebody professional with a good job." These students envisioned education as helping them get better occupations than their parents. Coupled with the support of the family as explained above, Hispanic parents instill a value for the education they receive in American schools to such a degree that parents "entregan," or give away, their children to teachers, who thus become surrogate parents (Trueba, 1999, p. 605)

Limitations

The present study extends our understanding of the personal perceptions of Mexican-descent adolescents toward academic success and the commonly stated perceptions about deciding to drop out of school. However, this study has several limitations.

1. This investigation centered on the Mexican-descent student at-risk population only. Although the results may apply fairly broadly to additional Spanish subgroups or other ethnic groups, generalizations as such would not be valid.

2. This study did not include Mexican-descent students who had already dropped out of school and whose participation might have provided new insights to the perceptions of dropout behavior.

3. This study involves the assumption that subjective responses from

participants could provide meaningful explanations as to their beliefs toward academic success or failure. However, socially desirable response bias to the Q-sort items among these participants may be represented in this study.

4. Finally, although Q methodology is quantitative in nature, it does not propose to provide a priori meaning (McKeown & Thomas, 1988), except in relationship to the participant's self-reflection. It was not the intent to determine causal factors for Mexican-descent students' academic success and dropout rates, but rather to expose the thoughts of the student population.

Recommendations for Action

In view of these observations, two implications for educational policies and research become apparent related to Mexican American dropouts. Implications are in areas of Hispanic families and intergenerational differences.

Hispanic Families

Mexican students should be viewed as an entity that includes their entire family in order to capitalize on the unique home environments represented by these students to promote academic success. Suárez-Orozco and Suárez-Orozco (1995) reported that Latinos "see the family as the single most important aspect of their lives" (p. 115). Family is not only the mother and father, but extends to the aunts and uncles, grandparents, and siblings of students. The extended view of the family for Hispanic families is built on an interdependent structure rather than on the individual. The educational aspirations of Latino parents and students affect the academic success or failure of this population (Feliciano, 2001; Kugler & Price, 2009). Administrators, principals, and teachers need to accommodate their thinking to include the many family members behind the individual student on the campus and to view them as a unit. Education of the entire family through on-campus, family-resource centers may establish a working partnership for parent, student, and campus to support the academic success of Hispanic students. Hispanic families not only want assistance but also are willing to participate if help is provided (Roderick, 2000).

Intergenerational Differences

Based on a subject-centered approach, the perceptions of the Hispanic participants of this study indicated they are motivated to achieve academic success by two distinctive reasons. Factor-1 students were individually and internally motivated to do well in school. Factor-2 students responded to an external familial impetus for academic achievement. Based on this information, it is recommended that strategies that appeal to these differing stimuli be incorporated into

school learning environment. Harris et al. (2008) indicated that considering within-group comparisons and differences would assist the understanding of potential academic outcomes of immigrant and nonimmigrant students. Ramirez and Carpenter (2009) stated, "Teachers, leaders, and policy makers should expend uniqueness of treatment to the individual level, based on the students' personal needs and the professional judgment of the educators who work with him or her" (p. 659). Whether or not linear or segmented assimilation theories are realities, educators should consider educational avenues to appeal to the unique perceptions that may motivate Hispanic youth to graduate from high school, as revealed by the participants in this study.

Future Study

Q methodology could be used to examine the thought processes of younger Mexican-descent students in lower grade levels. Such a study could reveal even earlier interventions that school districts could make to impact a higher graduation rate for these students. Another area of investigation that would be highly informative and productive would be to study at a later time participants from this current study to ascertain what helped those students who did obtain their diploma and to discover other subjective behaviors of those participants who decided to drop out of high school. A study of this nature would permit the exploration of changes in subjective behavior towards schooling that may be influenced over time by numerous factors introduced into the microsystem and mesosystem of the subjects. Third, Q methodology would provide an advantageous means by which to study parental patterns of thinking within the family to discover the perceptions of parents towards academic success or failure. Finally, a parallel study to this current research employing highly successful Mexican-descent students could complement these findings. If individual responsibility and family influences are motivators for at-risk students, are they also motivators for students who do well in school? Future study should embrace both qualitative and quantitative methods that best suit the research questions.

Conclusions

On balance, the findings of this study support the contextual-ecological view of influences that affect minority cultures and impact school accomplishment. The relationship between academic success and dropout perceptions was multifaceted and contextual, with commingled influences that came into play with an individual's perceptions.

Q methodology was essential for eliciting the shared operant communicability among participants that identified and gave form to the structure of their subjectivity. Q methodology revealed how participants'

points of view clustered within particular factors of meaning. The three factors—(a) internally motivated perception students, (b) family-motivated perception students, and (c) disaffected-perception students—provided a picture of different subjective frames within domains of common experiences at school. Previous research has focused on parts of the gestalt, defining some results as the best explanations for why Mexican-descent students succeed or fail in school. The current study has identified other important factors that also provide useful explanations for understanding persistence and dropout attitudes among these students. Some of the contradictions identified between different research findings and this Q-methodology study may be based on the comprehensive nature of capturing subjectivity versus defining objective traits often used by other probabilistic research methods.

The three factors that emerged in this study revealed students who are neither angry nor victimized, as theorized by Ogbu (1981), but are all struggling for success in the academic setting. One set of students relied on inner, core values of character that appeared to spur them to stay in school. Another group depended deeply on cultural and family values that provide a wellspring of renewal to a commitment to attain the goal of high school graduation. Still another fringe faction of these students clung to the hope of a diploma while fending off inner distractions of alienation and attitudes of failure. All believed in the American dream that is best summed up by one participant: "Like when I grow up I want to be somebody and not like people out on the street. I want to have a happy family and home." Educators dare not deny these young people the chance to become somebody and provide the necessary educational outlets that will achieve academic success in the public school system.

Sharing the results of this study may guide others to pursue the nonlinear and dynamical human behavior, leading to the discovery of multiple elements that interact and connect, to produce structures of meaning or points of views about any situation (Ramirez & Carpenter, 2009). As demonstrated in this research, the study of human subjectivity is an accurate channel to reveal the entire flow of experience that becomes our operant communicability. For the Mexican-descent participants, the operant communicability shared in this research is the everyday reality that exemplifies the life process as students that helps them either to succeed or fail in pursuing the American dream.

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Appendix: Factor Q-Sort Values for Each Statement

	Factor Score		
Statement	***1***	***2***	***3***
1. I am determined to graduate from high school because I know that the subjects I am studying will help me get the job I want to become successful and ultimately get me what I want in life.	4	3	3
2. I intend to graduate to thank my parents for all the sacrifices they have made for my education and for me.	3	4	4
3. I work hard in school so that I don't embarrass my family.	1	2	-2
4. I work hard in school to keep up with my friends.	0	-1	-1
5. I have always found it hard to learn new material—even in elementary school.	0	-2	0
6. I feel overwhelmed in my studies at school because there are so many problems in my life and at home.	-2	0	-1
7. I have had a lot of trouble with my behavior at school.	-3	-1	2
8. I don't have a lot of friends at school.	-1	0	-3
9. My mother/father want me to graduate from high school.	3	3	4
10. I work hard in school because my parents put pressure on me to do well.	0	2	0
11. I speak mostly Spanish at home with my father/mother and family members.	1	0	2
12. My mother/father are actively involved in my education by either coming to school for a meeting, helping me with my homework, or talking to my teachers.	1	1	0

	Factor Score		
	1	2	3
13. My mother/father value my education but expect me to keep a job and do well in my school studies at the same time.	0	-3	3
14. I am responsible for taking care of younger family members.	0	1	0
15. Boys are to be macho and assume financial responsibilities early in life, and girls should marry and have children and not plan for a career.	-2	-4	-4
16. I have moved a lot to different schools and/or school districts in elementary and middle school.	-1	-1	-2
17. School is important to help me get a job when I graduate.	4	4	3
18. My teachers are really helpful to me in class, care about me, and want me to succeed.	3	1	2
19. I have a teacher or older student at school that I trust and can go to for help if I need it.	2	0	1
20. I do well in my academic subjects because I am bilingual and speak and read English and Spanish proficiently.	1	-1	-3
21. I can get a job that I like without graduating from high school.	-1	-3	-3
22. Class is boring and the teachers don't expect very much from me in class.	-4	-2	1
23. I skip classes and school a lot.	-4	-2	-2
24. My teacher bugs me.	-3	1	-2
25. I have a few very close friends who encourage me to stay in school.	0	3	0
26. It is important to do my homework before hanging out with my friends.	2	2	-1
27. I do not feel discriminated at school.	2	2	1
28. My school has after-school activities that provide me opportunities to have a social life that does not get me into trouble.	2	0	1
29. I have a steady boyfriend/girlfriend that interests me more than my education.	-2	-3	-1
30. I hang out with friends who do drugs.	-3	0	2
31. The American dream of becoming successful in life is for somebody else, not for me, so school is useless to me.	-2	-4	-4
32. I have a job that I work at during the week.	-1	-2	0