THE EFFECTS OF A CULTURALLY SENSITIVE HIGH SCHOOL INTERVENTION PROGRAM FOR NATIVE HAWAIIANS ON STUDENT ALIENATION, ACADEMIC ACHIEVEMENT, AND DROPPING OUT

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A culturally sensitive high school intervention program based on the 1989 Carnegie Council Turning Points report and designed as a deterrent to at-risk students of Native Hawaiian ancestry dropping out of school was studied. The Dean (Shoho, 1996) and Margins of Society (MOS) alienation scales (Travis, 1993) were administered to 200 students who participated in the intervention program and a comparable regular program in a large high school in Hawaii. The intervention program is known as the Aloha Academy in the dissertation.

The four-factor alienation construct (isolation, normlessness, powerlessness and cultural estrangement) was validated using scores from 190 of the 200 students. A principal components analysis was conducted on 38 items with an oblique rotation. Fourteen items were found to measure the four aspects of alienation in this multi-ethnic cultural group.

A two-way multivariate analysis of variance (MANOVA) procedure was used to determine the effects of the Aloha Academy on student alienation with particular interest in students of Native Hawaiian ancestry. The MANOVA was conducted of four dependent variables of alienation, cultural estrangement, normlessness, isolation, and
powerlessness. The independent variables were program (Aloha Academy vs. regular program) and ethnicity (Native Hawaiian and non-Native Hawaiian). In the MANOVA, 75 students were determined to be comparable in the sample (Aloha Academy, 36, and the regular program, 39). None of the three effects from the 2 X 2 MANOVA were statistically significant.

Three years (1997-1998 through 1999-2000) of grade point averages (GPA), and Stanford Achievement tests (SAT) for reading and mathematics were examined as indicators of academic achievement. The ANCOVA procedures was used for this analysis with the dependent variables program (Aloha Academy vs. regular program) and ethnicity (Native Hawaiian vs. non-Native Hawaiian). The independent variables were GPA, and SAT Reading and Mathematics scores from 1998-1999 and 1999-2000. The covariates were GPA and SAT Reading and Mathematics scores from 1997-1998. Findings from this data showed significance for the intervention program in GPA but not for the contrast between Native Hawaiians vs. non-Native Hawaiians after controlling for the covariate. There was no significance found for any of the effects with SAT scores.

The most dramatic results were found with students who stayed in school through their senior year. Five
hundred seventy-seven ninth grade students who entered school in 1998-1999 were examined as to how the intervention program reduces the dropout rate of Native Hawaiian and non-Native Hawaiian students. Eighty-five percent of the students who participated in the intervention program during their ninth grade school year stayed in school through their senior year (12th grade). Seventy-two percent of students from all other programs also stayed in school.

A logistic regression model was conducted. It was found that students who participated in the intervention program had lower odds of dropping out (chi square = 7.5969, p = 0.0058). The effect of ethnicity (Native Hawaiian vs. non-Native Hawaiian was non-significant. The interaction effect (ethnicity X program) was also non-significant.
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CHAPTER 1
INTRODUCTION

Background

Recent acts of violence in the nation's public schools along with continuing high levels of school dropout rates, truancy and other forms of adolescent rebellion, call for a careful inquiry into the alienation of students and the failure to remedy these conditions (Carnegie Council, 1989, 1995; Jackson & Davis, 2000; Klein, 1999). Research studies have noted numerous challenges during adolescence and the transition into high school (Carnegie Council, 1989, 1995; Eccles, Flanagan, Lord, Midgley, Roeser, & Yee, 1996; Jackson & Davis, 2000). One of these challenges is related to the effects of adolescent alienation. Although empirical research on the topic is scarce, there has been widespread speculation that public schools, as presently conceived, may actually contribute to adolescent alienation and subsequent dropout rates (Calabrese, 1987; Klein, 1999; LeCompte & Dworkin, 1991; Shoho, 1996; Shoho & Petrisky, 1996). Despite such claims, most of the interventions offered by public schools to address problems that adolescents face have been superficial, failing to reach the underlying problems (Cuban, 1993, 2000; Klein, 1999).

School reform measures have occurred in incremental changes that have served only to improve the efficiency and
effectiveness of existing structures of schooling rather than transform or alter basic structures (Cuban, 1993; Cuban & Shipps, 2000). To date, public schools have not systematically responded in any meaningful way that demonstrates a commitment to resolve the problems that contribute to adolescent alienation and school failure (Cuban & Shipps, 2000; Felner, Jackson, Kasak, Mulhall, Brand, & Flowers, 1997; Klein, 1999; LeCompte & Dworkin, 1991; Shoho, 1996). In fact, relatively few intervention programs have been established to respond to the problems associated with alienated students during these tumultuous years (Carnegie Council, 1989, 1995; Felner et al., 1997; Klein, 1999; Mau, 1989, 1992; Shoho, 1996; Shoho & Petrisky, 1996).

The difficulty in addressing adolescents' alienation and student dissatisfaction with schools has been expressed by many researchers (Carnegie Council, 1989). The "massive, impersonal schools," where most adolescents learn from unconnected and seemingly irrelevant curricula, where they know and/or trust few adults have been tolerated for many years (Carnegie Council, 1989).

Purpose of the Study

This study examined an intervention program that was designed as a school within a large high school to provide a culturally sensitive learning environment for students of Native Hawaiian ancestry. The basic premise was that
students who participated in the intervention program, the Aloha Academy, would experience less alienation than the comparable group in the regular program, and therefore, attain higher levels of academic achievement. It was hypothesized that Native Hawaiian students within the intervention program’s culturally compatible program would experience even more noticeable decreases in alienation than their counterparts within the same intervention group. It was expected that Native Hawaiian students would demonstrate higher levels of academic achievement than their non-Native Hawaiian counterparts. It was further hypothesized that students who have participated in Aloha Academy would have a lower dropout rate than all other students in their grade cohort.

Research Questions

The specific research questions to be addressed in this study were

(1) Can the theoretical four-factor (isolation, normlessness, powerlessness, and cultural estrangement) model underlying the construct of alienation be validated with data from the adolescent population in Hawaii?

(2) Does the culturally compatible Aloha Academy reduce the alienation felt by at-risk Native Hawaiian and non-Native Hawaiian adolescents, as compared to their counterparts in the regular education setting?
(3) Does the culturally compatible Aloha Academy improve the grade point average (GPA) of at-risk Native Hawaiian and non-Native Hawaiian adolescents, as compared to their counterparts in the regular education setting?

(4) Does the culturally compatible Aloha Academy improve the SAT9 Reading and Mathematics Scores of at-risk Native Hawaiian and non-Native Hawaiian adolescents, as compared to their counterparts in the regular education setting?

(5) Does the culturally compatible Aloha Academy reduce the dropout rate of at-risk Native Hawaiian and non-Native Hawaiian students?

Definition of Terms

For the purposes of this study, alienation is defined as the gap between an individual's or groups' expectations and experiences, or between their potentials and objective realities (LeCompte & Dworkin, 1991). There are four factors to further define this construct: (1) Isolation - feelings of loneliness, (2) Normlessness - value system inconsistent with school norms, (3) Powerlessness - lack of control over one's choices, and (4) Cultural Estrangement - feelings of anomie and social isolation based on a lack of cultural compatibility with the school. Cultural Compatibility is defined as the correspondence between the organizational culture of the school and the home culture of the child. The term Dropout is taken from the Hawaii
Department of Education's 2000 Superintendent's report which describes those students in a given age range that have not finished high school and are not enrolled in school in a given four year period (HIDOE, 2002).

Limitations of the Study

The population was teacher- and self-selected participants in the Aloha Academy who were registered one full year and a comparable group of 9th grade students in the regular education classes. A limitation was that some comparable students had been removed to alternative classes that did not provide a comparable education experience. This factor did figure in the overall analysis of students who dropped out of school by the 12th grade.

Theoretical Framework

The premise of this study is based on Bronfenbrenner's bio-ecological model. Briefly described, this model presents a conceptual framework that addresses the issue that hereditability measures only a proportion of variation in individual human differences, whereas the environment contributes to the psychological growth in "proximal processes" or "nature vs. nurture" concept (Bronfenbrenner & Ceci, 1994).

Contributions

This study adds to the research on school alienation and high school dropouts in the following ways. First, there are very few studies involving the alienation of
Native Hawaiian students. Second, there are few studies of Native Hawaiian students' achievement pertaining to dimensions of alienation. Third, this study contributes to the body of work that addresses recommendations of the Carnegie Council Turning Points and Great Transitions reports (1989, 1995). Fourth, this is the first study to examine the effects of an intervention program designed to alleviate the problems of alienation and low academic achievement associated with culturally incompatible schooling in Hawaii. Fifth, this study provides a significant look at an intervention program that provides a deterrent to at-risk students dropping out of school.
Chapter 2
LITERATURE REVIEW

In 1989, the Carnegie Council on Adolescent Development published Turning Points: Preparing American Youth for the 21st Century, a report examining the problems of adolescence. This report noted that "a volatile mismatch exists between the organization and curriculum of middle grade schools and the intellectual and emotional needs of young adolescents" (Carnegie Council, 1989, p. 8). The Council described the young adolescent as "caught in a vortex of changing demands," where engagement of learning diminishes, and rates of alienation, substance abuse, absenteeism, and dropping out rise (Carnegie Council, 1989, p. 9).

Early studies of alienation (e.g., Bronfenbrenner, 1977; Mackey, 1977) generally have concluded that adolescent alienation is a result of the conflict between the children's developmental needs and that of the world that surrounds them. As Cuban (1993) and Klein (1999) pointed out, these studies failed to discuss public schools' involvement, and thus, their conclusions are insufficient. Later studies indicate a more direct link between public schools' and adolescent alienation (Cuban & Shipp, 2000; Shoho & Petrisky, 1996). This chapter critically reviews the literature regarding adolescent
alienation, high school and minority student alienation, specifically that of Native Hawaiian adolescents. The chapter then considers the "dropout" phenomenon or students who do not stay in school to receive a high school diploma, followed by a summary and critique of the existing literature, and a discussion of the specific research questions and hypotheses suggested by the review and examined in this dissertation.

Alienation

The central point within the concept of alienation is a sense of a gap between the expectations and experiences, or between potentials and objective realities that individuals and/or groups feel (LeCompte & Dworkin, 1991). This concept received much attention in the late 1960s, when it was used to explain nearly every kind of aberrant behaviors (Mackey, 1977). Seeman (1983) noted in his review that the concept, alienation, refers to the ways in which individuals, in their own sentiments, are related to the social structure or their conception of the world. Of the many problems associated with finding appropriate definitions of alienation, Seeman (1983) described this definition as lacking in clarity of the meaning of the alienation construct. The second problem, he said, is the reference to alienation as a personality trait, and the third problem is in the association of the construct with
the political-societal problems of the times (Seeman, 1983).

Researchers have identified several dimensions of the alienation theme. These include (a) "powerlessness," referring to a person's lack of control over events, a sense of helplessness, or the lack of decision-making abilities; (b) "meaninglessness," referring to the incomprehensibility of social dynamics that cannot be predicted; and, (c) "social isolation," describing a failure to integrate into supportive social networks or experience the sense of community (Seeman, 1983). Additional dimensions identified as important descriptors of alienation are (d) "self-estrangement," which involves concepts of the despised, disguised, and detached selves; (e) "normlessness," referring to the belief that socially unapproved behaviors are required to be recognized; and, (f) "cultural estrangement," where the adolescent explicitly rejects the predominant value systems of society (Mackey & Ahlgren, 1977; Seeman, 1983). The meaning of the word "alienation" has traditionally had negative connotations suggesting that the individual is not grounded in society in terms of efficacy, inclusion, meaningfulness, engagement, trust and value commitment (Seeman, 1983). However, this negative connotation maybe culturally derived from a western perspective.
Dean (1961) defined alienation as an affective construct consisting of isolation (loneliness), normlessness (value system inconsistent with school norms), and powerlessness (lack of control over one’s choices). The Dean Alienation Scale is a 24-item five-point Likert-type scale which has been widely used to assess levels of alienation with a variety of groups ranging from adolescent students to teachers and administrators (Shoho & Petrisky, 1996). However, the Dean Alienation Scale assesses adolescence from a global perspective and lacks specificity to a given context, (i.e., schools). As a result, researchers like Calabrese (1987) and Shoho (1996) have either modified its wording or developed new items to make it more sensitive to issues experienced by adolescents in schools.

The Margins of Society (MOS) Alienation Scale encompasses theories of anomie and social isolation (Travis, 1993). The MOS scale was used to interview Alaskan natives in social situations of “outside looking in” (Travis, 1993). It was also used to measure adolescent alienation in a juvenile delinquency study (Sankey & Huon, 1999). The MOS scale is a 14-item five-point Likert-type scale.

Adolescent Alienation

Early adolescence, ages 10–14, is characterized by significant growth and change, physically, mentally, and
emotionally (Carnegie Council, 1989). Early adolescents often experience an increased sense of self, the development of puberty, an enhanced capacity for intimate relationships and a new capacity to think in more abstract and complex ways (Carnegie Council, 1989). Middle adolescents, ages 15–17, mature intellectually at a significant rate, and experience increased autonomy and experimentation (Carnegie Council, 1995). Late adolescents, ages 18–20+, include those who delay maturation through continued schooling and other socially constraining behaviors (Carnegie Council, 1995). The alienated adolescent characteristically lacks a sense of belonging and feels cut off from family, friends, and/or school (Bronfenbrenner, 1986). Adolescents considered to be at greater risk than others tend to be low achievers with low involvement, negative self-images and those who have trouble conforming to society’s norms (Calabrese, 1987).

The relationship between alienation and adolescence can be further described as including deviant, delinquent, and dysfunctional behaviors (Calabrese, 1987; Calabrese & Adams, 1990; Calabrese & Raymond, 1989; Goswick, & Jones, 1982). Although the existence of adolescent alienation is well documented, researchers note that it has not been taken seriously as a major problem of contemporary society (Calabrese, 1987; Mackey & Alghren, 1977). Societal alienation is reported to have important explanatory power
in examining the relationships between delinquency, alienation, and environmental differences such as classroom practices, peer interaction, and school attachment (Calabrese & Adams, 1990; Sankey & Huon, 1999). Other contributors to adolescent alienation are inappropriate media representations of role models without the parental support structure needed to facilitate a normal transition to adulthood (Calabrese, 1987).

In addressing these concerns, Mackey (1977) and Seeman (1983) identified several operational dimensions of the alienation theme through the development of alienation scales based on the conceptual dimensions of powerlessness, meaninglessness, social isolation, self-estrangement, normlessness, and cultural estrangement. Seeman suggested that these attitudinal variables are the most important predictors of school achievement and should be used to evaluate school and community programs (Mackey, 1977; Mackey & Ahlgren, 1977). Calabrese (1987) and Shoho (1996) created modified versions of Dean's (1961) Alienation Scale that included the dimensions of powerlessness, normlessness, and isolation. These were designed for use in several research studies with high school students (Calabrese, 1987; Shoho, 1996; Shoho & Petrisky, 1996).

**High School Student Alienation**

While Mackey (1977) suggests that the reason for alienation in high school students is the increase in
societal violence, technological advances, and the overall
issues of social change, Bronfenbrenner (1986) blames
changes in family structure and values, suggesting that
alienating behaviors begin with the family and are carried
to school. Other researchers argue that instructional
constraints in the schools force controls over adolescents
segregating them by age and intellectual ability, and
separating them from the outside adult world (Calabrese,
1987; Eccles, Buchanan, Flanagan, Fugiliani, Midgley, &
Yee, 1991). Calabrese (1987) has further suggested that
schools, counselors, and family exacerbate the "pace of
life" for the adolescent thereby increasing alienation.

Another study found significant relationships between
alienated students and unsafe activities (Tucker-Ladd,
1990). Students felt teachers and others did not respect
them, saw the school as "unchanging," felt powerless, and
disliked school rules (Eccles et al., 1991; Eccles et al.
1996; Tucker-Ladd, 1990). Students' family, friends and
their ethnic group's social support for education was found
to have a direct positive effect on staying in school
(Rosenthal, 1994). In rural schools, researchers found that
middle adolescents felt more normless and powerless than
early adolescents and that those adolescents who
participated in extracurricular activities were less
normless than non-participants (Shoho & Petrisky, 1996).
Motivational variables such as teachers' criticism and
peers' resistance to school norms were found to be stronger predictors of alienation than economic status although both operated uniquely or as additive predictors (Murdock, 1999).

One study found student achievement to be directly related to feelings of school belonging (Roeser, Midgley & Urdan, 1996). Student-teacher relationships, negative attitudes towards cheating, and other identifiable aspects of alienation have also been correlated with measures of academic achievement as derived from standardized test scores and cumulative grade point averages (Loughrey & Harris, 1992; Roeser, Midgley, & Urdan, 1996; Roig & Neaman, 1994).

**Minority Student Alienation**

Are the factors that influence alienation generalizable to all ethnic groups? Do minority students experience higher levels of school alienation? LeCompte and Dworkin (1991) report that minority students believe they receive poorer treatment and lower grades from teachers, and have less rewarding school experiences while majority students seem to assume that everyone, including the minority students, is treated the same. "The reality," according to Klein (1999), "is that ethnic minority children continue to grow alienated, bored, and frustrated by a system that underestimates their potential, expects them to behave badly — and ignores the different cultural
backgrounds that are intrinsic to the way they act and think" (Klein, 1999, p. 7).

An unexpected relationship between ethnicity and alienation in a Texas rural school revealed that Hispanic adolescents were less isolated than Caucasians, although Caucasian students felt less normless than African American and Hispanic adolescents (Shoho & Petrisky, 1996). In another rural school study, Shoho (1996) found that gang affiliation was significantly related to stronger feelings of isolation and that Hispanics felt more powerless to influence their education than Caucasians. Of the immigrant minorities, Hispanics have often been linked to a lack of school success, although several studies indicate that this is limited to Hispanics of lower socioeconomic status that continue to measure a disproportionate connection to alienation (Klein, 1999; McLain, 1998; Ogbu, 1991; Shoho, 1996).

Ethnographers suggest that minority students' school failure is caused by discontinuities in culture, communication, and power relations (Ogbu, 1991). Studies that have attempted to verify these observations note an inconsistency among the feelings of minority students (Murdock, 1999). Ogbu (1991) observed that there were different successes in school for immigrant and non-immigrant minorities. Findings from comparative research distinguish among minority groups who do relatively well in
school from those who do less well in the type and influence of the cultural model that guides them (Ogbu, 1991). Ogbu (1991) has identified non-immigrant minorities as those who were brought into their present society through slavery, conquest or colonization as involuntary minorities who resent the loss of freedom and the perceived social, political and economic barriers as oppression. Involuntary minorities such as Native Americans, African Americans, and Native Hawaiians, who have suffered suppressive domination by the majority culture, may have subsequently experienced long term cultural underdevelopment (McLain, 1998; Ogbu, 1991).

Differences in teacher/student interactions may have cultural roots as evidenced in collectivist vs. individualistic societies (Brislin, 1993; Hofstede, 1986). Collectivists' values establish close relations to others that are dependent upon the collective or extended family to share resources and assist each other (Brislin, 1993). Individualistic cultures keep a distance from others, expecting individuals to function independently (Brislin, 1993). Individualistic cultures are found in North America, Western Europe, Australia, and New Zealand while collectivistic cultures are more common in Asia, Africa, Central and South America and the Pacific Islands (Brislin, 1993).
The challenges that students experience as they move between the culture of their home and that of their school may seem incomprehensible to the minority student (Phelan, Davidson, & Cao, 1991). Students' perceptions of the boundaries between the multiple worlds of family, peers, and school cultures and the lack of strategies needed to negotiate between these worlds may make transitions seem impenetrable (Phelan, Davidson, & Cao, 1991).

The conflict that students face when expected to embrace two worlds with different value systems metaphorically asks them to "walk with one foot on one side of a river bank and the other foot on the other side, with a raging torrent in the middle" (Henze & Vanett, 1993, p. 130). Clearly, minority students experience inequities in the public schools, particularly those involuntarily placed in this position (Klein, 1999; McLain, 1998; Ogbu, 1991).

Calabrese (1987) suggested four remedies to adolescent alienation that would reduce risks, reintegration of all ages into learning groups, elimination of ability grouping, assimilation of adolescents into the society, and enfranchisement of the adolescent by giving them a voice in decision-making that affects their world. Other researchers have suggested that educational environments should be designed for adolescents that provide them with more control over their lives (Eccles et al., 1991).
Mau (1989) conducted a study of student alienation in Hawaii's public schools using four dimensions of alienation: powerlessness, meaninglessness, normlessness, and social estrangement. Cumulative grade point averages, class tracking, socio-economic status, student ethnicity, and relationships with teachers and peers were examined in relation to student alienation in the study. Students with low academic achievement and in non-college preparatory "tracks" experienced more alienation than their counterparts. Her study, including all ethnic groups without differentiation, suggests that student alienation is manifested in such a highly multi-cultural school context by poor academic performance, truancy, and rebellion. Mau (1989) suggests that the alienation may be the result of the lack of power students feel when they have no control over school policies, class tracking, and academic position (Mau, 1989, 1992). Glasser (1990) suggests that the lack of power students feel results from the "get tough, coercive, boss management approach" to teaching that is prevalent in public schools. He offers the idea of a non-coercive, "lead-teacher" who persuades students to learn through involvement. The findings presented by these researchers may be seen as a partial cause for students leaving school before high school graduation.
The Dropout Phenomenon

Many researchers who examine adolescent alienation and problems that deter student achievement express concern for the students who leave school before graduation from high school (Calabrese, 1987; Calabrese & Adams, 1990; Carnegie Council, 1989, 1995; LeCompte & Dworkin, 1991; Shoho, 1996; Shoho & Petrisky, 1996). The U. S. Department of Education (1996) defines "status" dropouts as those in a given age range that have not finished high school and are not enrolled in school.

By 1989, one of the National Education Goals had become that 90% of all students would complete high school (HIDOE, 2000). Hawaii high schools' saw only 70% of the students who entered ninth grade in 1997 graduate with a high school diploma four years later (Education Trust, 2004). The Hawaii Superintendent's 2000 report discussed the dropout phenomenon and how the concern has changed since the 1960s. The 13th Annual Report of the Hawaii's Superintendent noted that of the students who entered in the fall, 1998, just under 80% graduated from high school within four years (HIDOE, 2003). There are programs in place in Hawaii's public schools to address the issues of students who are at risk for dropping out of school.

One statewide program is the Hawaii Comprehensive Student Alienation Program (CSAP), designed to provide support for at-risk students (HILEG, 1996). The goal of
CSAP was to provide the appropriate instructional and counseling support and services to students identified as alienated/at-risk to insure that they were able to meet high school graduation requirements (HILEG, 1996). State level support was provided to all middle and high schools that includes an outreach counselor and special motivation teachers who work with school level teams to identify students using a set of criteria for participation in alternative learning educational environments with small class sizes and alternative instructional strategies.

**School Reform Recommendations**

Researchers often refer to the 1989 Turning Points Report when speaking of reform movements and the need for change in America's schools (Carnegie Council, 1995; Felner et al. 1997; Lipsitz, Jackson, & Austin, 1997; Oakes et al. 1993). The prescriptions of the Turning Points Report called for a restructuring of schools as an antidote to the traditional large, cold and impersonal school. The Carnegie Council report called for schools to direct full attention to the education and nurturing of the whole adolescent (Hechinger, 1993). The Carnegie Council's final report, Great Transitions (1995), made concluding recommendations to (a) re-engage families with their adolescent children, (b) create developmentally appropriate schools for adolescents, (c) develop health promotion strategies for young adolescents, (d) strengthen communities with young
adolescents, and (e) promote the constructive potential of the media.

The 1995 Great Transitions report described the most serious risks faced by the young adolescent as (a) physical injuries, (b) firearm homicide, (c) child abuse and neglect, (d) alcohol and drug use, (e) pregnancy, and (f) an increased rate of suicide. In 1994, only 28% of eighth graders scored at or above the proficiency level in Reading while 12%-14% became high school dropouts (Bayh, 1995; Carnegie Council, 1995). This 1995 report for school reform recommended that educators (a) emphasize cooperative/collaborative community efforts toward learning; (b) conduct comprehensive self-assessments of learning and teaching styles; (c) seek ways to interact with adolescents in more personalized school units; (d) create positive teacher-student relationships; and (e) create meaningful school experiences involving community service (Carnegie Council, 1995).

School reform components resulting from these recommendations include (a) teacher teams who share students in the same block of time; (b) flexible scheduling; (c) advisories; (d) heterogeneous grouping; (e) teachers trained in adolescent needs/learning styles; (f) parent/teacher communication; and (g) field learning experiences (Carnegie Council, 1989, 1995; Felner et al., 1997; HIDOE, 1995).
The Carnegie Council used a bio-ecological model, developed by Bronfenbrenner (1977), as a means to examine the downward trend in adolescent behaviors (Carnegie Council, 1995). This model suggested that enhancement of the proximal processes or societal mechanisms in the environment will increase the potential for developmental competence (Bronfenbrenner, 1977; Bronfenbrenner & Ceci, 1994; Carnegie Council, 1995; Felner et al., 1997). This model presents a conceptual framework that stipulates systematic variation in heretability as a joint function of these proximal processes and the characteristics of the environment in which the processes take place. The model also deals with variation in heretability as a function of the nature of the developmental outcomes under consideration, as well as providing an assessment of the absolute level of developmental functioning around which the genetically based individual differences are occurring. Finally, the bio-ecological model addresses the issue that heretability measures only a proportion of variation attributable to individual differences in the actualized genetic potential; the extent of non-actualized potential remains. The interim strategies for testing the limits of the substantial role of both genetics and environment in contributing to individual differences in psychological growth are based in the investigation of "proximal processes" (Bronfenbrenner & Ceci, 1994). Bronfenbrenner
(1986) suggested that according to the bio-ecological model, the best way to counteract youthful alienation is for schools to create links or connections between the child's home culture and the school's culture. The Turning Points recommendations were purported to encourage schools to create systemic reforms that would provide more culturally compatible links with students' homes.

**Turning Points 2000**

The Turning Points 2000 report reflects on the outcomes of the Carnegie Council's Turning Points and Great Transitions reports' recommendations (Carnegie Council, 1989, 1995; Jackson & Davis, 2000). As cited in the Turning Points 2000 report, Fien and his colleagues reported in their Illinois middle school's study that in schools that implemented the Turning Points' recommended practices with greater fidelity, students' scores on standardized tests of Mathematics, language arts, and Reading achievement increased significantly (Jackson & Davis, 2000).

The new Turning Points 2000 recommendations reflect what has been learned in the decade since the first Turning Points and Great Transitions (1989, 1995) publications (Jackson & Davis, 2000). The next steps call for schools that service adolescents to ensure success for every student by 1) teaching a curriculum grounded in rigorous, public academic standards; 2) using instructional methods designed to prepare all students to achieve higher

23
standards and become lifelong learners; 3) staffing schools with teachers who are expert at teaching adolescents and engaging teachers in ongoing, targeted professional development; 4) organizing relationships to create a climate of intellectual development and a caring community of shared educational purpose; 5) governing democratically, through direct participation of all school staff; 6) providing a safe and healthy school environment as part of improving academic performance and developing caring and ethical citizens; and 7) involving parents and communities in supporting student learning and healthy development (Jackson & Davis, 2000). How these new recommendations have been implemented is being studied as U.S. public schools move forward with school reform (Jackson & Davis, 2000).

Native Hawaiian Culture and Adolescent Alienation

Overall, the research on adolescent alienation has not included studies comparing Native Hawaiians to students of other ethnic groups or cultures. There are, however, numerous reports citing the high number of Native Hawaiian youths who demonstrate many of the contributing components of adolescent alienation. The 1993 Native Hawaiian Educational Assessment (NHEA) reports that Native Hawaiian children (a) are unready to enter kindergarten, (b) score the lowest of the four major ethnic groups in Hawaii and below national norms on standardized achievement tests, and (c) have high dropout levels, high truancies, and are
highest in student attrition (Kamehameha Schools/Bishop Estate, 1993).

Based on Bronfenbrenner's bio-ecological theory, the NHEA proposed the "Cultural Loss/Stress" hypothesis as a link to the negative outcomes of Native Hawaiians (Kamehameha Schools/Bishop Estate, 1983). The hypothesis links the development of these outcomes (physical health, mental well being, alienation, and performance) to a hierarchy of systems influencing individual development (Minerbi, McGregor, & Matsuoka, 1993). The development of modern Native Hawaiians, the report states, has resulted in poor physical health, depression, alienation, and low academic performance (Hammond, 1988). The NHEA report indicated that Native Hawaiian students suffer from a "lack of parity" with their peers, scoring the lowest in nationally normed standardized tests of Reading and Mathematics, and higher in special education needs, and culturally related academic needs (Gibson & Ogbu, 1991; Hammond, 1988; Tharp & Gallimore, 1988; Yamauchi et al., 1996).

Bronfenbrenner's (1986) theory of bio-ecological systems, which provided the underlying theoretical guideline for the NHEA final report as well as the Carnegie Council's 1986 and 1995 reports, suggested that the best way to counteract the problems adolescents face was for
schools to create links or connections with the child's home culture.

The NHEA report described Native Hawaiian cultural values in a five-way diagram demonstrating the relationships of "Lokahi", harmony and balance; "Malama 'aina," caring for the land; "Ohana," family unity; "Kokua," helping others, and "Aloha 'aina," spirit of caring, kindness, and acceptance (Minerbi et al., 1993; Kamehameha Schools/Bishop Estate, 1983).

![Native Hawaiian Cultural Values Diagram](image)

Figure 1. Native Hawaiian Cultural Values.

A 1995 report noted that Native Hawaiians have become more "multi-ethnic" as a result of interracial marriages, developing different values and different ways of doing things (Takenaka, 1995). Before 1776, approximately 300,000 pure Native Hawaiians led healthy lives engaged in "aloha
'aina," "malama 'aina," and "laulima," working together, loving, and taking care of the land (Takenaka, 1995). The concept of family (ohana) and helping others (kokua) was the unifying force. The 1990 U.S. Census now lists Native Hawaiian families with the highest poverty levels, infant mortality, and teen pregnancies (Takenaka, 1995). Native Hawaiian students' scores are the lowest for school readiness and academic achievement in schools.

Although Hawaii's youth experience a diverse multi-ethnic cultural environment in public schools with a multitude of different learning styles, the traditional classroom continues to be the norm (Yamauchi, 1996; Tharp & Gallimore, 1988). This creates a dichotomy between the home culture and the school's structure, thereby discouraging Native Hawaiian students' participation and interest (Tharp & Gallimore, 1988). Just as Native Alaskan youths describe themselves as "walking in two worlds," Native Hawaiian students are expected to follow role expectations of the school culture (Henze & Vanett, 1993; Yamauchi, 1996; Tharp & Gallimore, 1988).

Culturally, Native Hawaiians have become "strangers in their own land" - losing values, lifestyle, language, beliefs - resulting in alienation and self-disparagement (Hammond, 1988). Very often, the school's expectations of students may not be modeled in the home culture (Yamauchi, 1996).
Culturally Compatible Programs for Native Hawaiians

Cultural compatibility, as used in this study, refers to the home culture of the child and its compatibility with the child's outside world (Jordan, 1985, 1992). Educators of minority children are advised to use what is known of the student's home culture to inform and develop educational practice (Jordan, 1992). Schools with programs that provide for culturally compatible classroom environments report that students experience increased learning (Jordan, 1989, 1992; Tharp & Gallimore, 1988; Yamauchi, 1996; Yamauchi et al., 1996). Examples of such culturally compatible classroom environments in Native American classrooms were discussed by Yamauchi and Tharp (1991) suggested classrooms be designed for the particular population of students, considering both general principles of human learning and those which are culturally specific. Native American students became more involved working in small groups where learning is contextualized to relate to their native culture (Yamauchi & Tharp, 1991). An experimental schooling skills class in a large public high school in Hawaii, designed to meet the specific needs of low achieving students, found that the significant effect of the program on grade point averages (GPA) depended on the exposure time (more than one semester) and the support of adults (Zhang & Barnard, 1995). Changing the structure of classroom interactions and activities so that they are
more compatible with home cultures appears to promote increased learning (Jordan, 1989, 1992; Ogbu, 1991; Tharp & Gallimore, 1988; Yamauchi, 1996; Yamauchi et al., 1996; Yamauchi et al., 1998).

Yamauchi, Greene, Ratliffe, and Ceppi's (1998) study of culture and education on Molokai, an island with 49% Native Hawaiians, found contradictory values between the importance of education and the threat to one's identity as a Native Hawaiian. The Molokai project addressed the educational needs of this island, where in a dominant Native Hawaiian culture there are ongoing issues in resolving conflicts between the Native culture and the public schools' expectations (Yamauchi, et al., 1998). Greene's 1998 study of the ethnic identities of adolescents in Hawaii did not support depictions of Native Hawaiian students as self-disparaging or alienated. In contrast, his research found pride and self-assurance among these adolescents (Green, 1998). Several school programs developed in Hawaii have attempted to provide culturally responsive intervention programs for Native Hawaiian students (Ceppi, 2000; Kane, 1997; Yamauchi et al., 1998).

Although there is little empirical evidence to demonstrate that a drop in alienation increases student achievement, there is research that indicates culturally sensitive school programs provide an increase in student learning and a reduction in feelings of alienation (Shoho,
The issues of alienation in other involuntary minority mainland cultures such as Native Americans and African Americans may share similar features, but the problems of Native Hawaiians are unique (McLain, 1998; Ogbu, 1991). The characteristics of many mainland reform programs designed to meet the needs of alienated youths are seen in the local Native Hawaiian programs such as small groups working with a team of mentoring teachers in hands-on community learning activities (Ceppi, 2000; Klein, 1999; LeCompte & Dworkin, 1991). The more than 100 years of colonization of Native Hawaiians in the very multi-ethnic and populated islands have resulted in both "assimilation" and "marginalization" (Ah Nee-Benham & Heck, 1998; Takenaka, 1995). The unique factor that differentiates the Native Hawaiian programs from others in the mainland is that the State of Hawaii professes two state languages (Native Hawaiian and English) making the "culture" available in the inter-workings of the local governments and daily living. While Hawaii's public schools remain very similar to the mainland schools, the Native Hawaiian culture, though suppressed, is present.

A study of the effects of school processes on student alienation, as well as the effects of intervention programs, may provide a better understanding of how to
reduce adolescent alienation, particularly of Native Hawaiian high school students (Bronfenbrenner, 1977, 1986; Bronfenbrenner & Ceci, 1994; Mau, 1992).

Waianae Hawaiian Studies Program

Two programs that address the issues of Native Hawaiian student alienation in the Hawaii Department of Education (HIDOE) are the Waianae High School Hawaiian Studies Program and the Kaneohe Castle High School Aloha Academy.

The components of the Waianae high school Hawaiian Studies Program (HSP) include school-community partnerships, an integrated curriculum and weekly fieldwork (Ceppi, 2000). Students learn about Native Hawaiian culture through hands-on experience at the Cultural Learning Center at Kaala. Teachers work together as a team, developing integrated curriculum into interdisciplinary units tying to the community cultural experience (Ceppi, 2000). Community members act as mentors to HSP students sharing Native Hawaiian cultural practices during the course of study. Ceppi's research suggests that the close relationship of the teachers and community mentors encourage students' personal and academic victories in school.

Aloha Academy

A second program that addresses alienation issues for Native Hawaiian students in Hawaii is Castle High School's Aloha Academy. This program in Windward School District
provides the sample for this study. It was initiated in 1997 as a 'school-within-a-school' to be culturally compatible for Native Hawaiian high school students. This program, based on the Turning Points recommendations that were implemented in the school's "Gold Core" program, was redesigned with a new focus on at-risk students of Native Hawaiian ancestry. Curriculum activities are often integrated thematically and with sensitivity to students needs. Homeroom teachers act as advisors making frequent contact with the students' homes in parent/teacher communication. The team met daily to discuss students' progress and plan activities. The purpose of this program was to provide an educational program for low achieving ninth grade students, that is both culturally sensitive and academically challenging, and meets the emotional and social needs of Native Hawaiian students (Kane, 1997; Zhang & Barnard, 1995).

The two programs differ structurally in response to the available resources of these two large high schools (Ceppi, 2000; Kane, 1997). The Waianae program is able to provide a more intense cultural experience in the locale on Waianae coast, where there are Native Hawaiian mentors available to promote cultural activities. Due to its' inclusion on the main campus as a "school-within-a-school," the Aloha Academy is more integrated into the regular school program (Yamauchi et al., 1998).
Summary

Recent studies on student alienation include recommendations for future research on intervention programs designed to reduce alienation, numbers of school dropouts, and to further examine the relationship between ethno-cultural factors and alienation (Bronfenbrenner, 1977, 1986; Calabrese & Adams, 1990; Carnegie Council, 1995; Shoho, Katims, & Wilks, 1997; Shoho & Petrisky, 1996; Travis, 1993). Several studies indicate that schools, as organizations, contribute to the alienation of students (Calabrese, 1987; LeCompte & Dworkin, 1991; Shoho, 1996; Shoho & Petrisky, 1996). Increased awareness of the effects of school processes on alienation, the development of sensitivities to cultural differences, and new studies of the effects of intervention programs may provide a better understanding of how to reduce adolescent alienation and high school dropout rates (Bronfenbrenner, 1986; Bronfenbrenner & Ceci, 1994; Mau, 1992; McLain, 1998; Ogbu, 1991).
CHAPTER 3
METHOD

The methods of analysis and the procedures used for this dissertation are described within this chapter. This study, illustrated below, examines the concept of student alienation. It further examines the effects of the Aloha Academy on alienation, academic achievement and dropping out of school with concern for the particular effects on the Native Hawaiian student population.

![Diagram of Dissertation Study]

Figure 2. Diagram of Dissertation Study
Population and Sample

The participants in this study were drawn from the public school population in the Windward District of Hawaii. The Hawaii Department of Education (HIDOE) has a centralized school system that incorporates seven geographical districts. Four districts are located on Oahu (Honolulu, Windward, Leeward, & Central). One includes the entire island of Hawaii, another, Kauai, and the remaining district encompasses Maui, Molokai and Lanai. The HIDOE reported a student population in 1998 of 185,000 that included Native Hawaiian students (23.4%), Caucasians (21.5%), Asians (16.4%), Filipinos (13.2%) and smaller numbers of other ethnic groups (HIDOE, 1998). For this study, Native Hawaiians include both students reported as full Hawaiian and Part-Hawaiian. This report notes, that "of the students who entered high school in Hawaii in fall, 1998, just under 80% graduated from high school within four years" (HIDOE, 2002, p. 2). These figures are reported because this study began with the 1998-1999 school year. The Windward District of the State of Hawaii Department of Education is located on the windward side of the island of Oahu and had a student population of 19,424 in four high schools and their 25 feeder schools (HIDOE, 2002).

The high school students selected for this study were enrolled in the ninth grade during the 1998-1999 school year with a designated four-year graduation date of June
2002. The total school population in 1998 was 1981 students. The total school ethnic distribution was 37% for Native Hawaiians, 24% Asians, 13% Caucasians, 8% Filipinos, and 18% other ethnic groups. Other demographic data available are 32% of low socioeconomic status (low SES, as defined by students who qualify for free or reduced price lunch), 48% female, 52% male, 12% certified for Special Education (SPED), and 1% as English as Second Language Learners (ESLL). The ninth grade population had 577 students, of which the major ethnic groups were Native Hawaiian (41%), Asian (20%), Caucasian (15%), Filipino (6%), and (19%) other ethnic groups. Thirty-seven percent were from the low SES, 46% female, and 54% male, 6% SPED and 1% ESLL. Of the 577 students enrolled in the ninth grade in 1998-1999, 74% stayed in school through their senior year.

Eighty-nine students participated in the Aloha Academy, (52% were males, 55% were Native Hawaiian, 58% were low SES, and 5% were certified for Special Education).

The Aloha Academy provided for (a) an interdisciplinary team of four teachers who shared two common meeting/preparation periods, (b) integrated curricula with flexible scheduling, (c) advisory teachers communicating regularly with the parents, and (d) exploratory/field experiences with community resources. Each teacher maintained his or her classroom and was the
advising teacher for the period 1 class. Communication with parents occurred weekly or daily as needed, with written progress reports going home every two weeks. Classes met singly, in pairs, or in whole group activities. The model for this academy, the Gold Core Program, was based on the Carnegie Council's Turning Points recommendations that also provide the basis for Hawaii's 1994 Middle School Project (Carnegie Council, 1985, 1993; Kane, 1997; Wang, Brandon, Sakaguchi, & Peecook, 1994). The vision of the redesigned 1998 model for the Aloha Academy was rooted in aspects of Native Hawaiian culture. It provided for a community of learners committed to nurturing and challenging the mind, body and spirit through: Aloha - spirit of caring, kindness and acceptance, Lokahi - harmony, Ohana - family unity, Hoiihi - respect, and Alu like - teamwork. The curriculum included the literature and social/environmental issues of the local culture. For example, a project to restore ancient Native Hawaiian fishponds was a long-term integrated activity involving students working side by side with local community restoration groups.

The structure of the redesigned Aloha Academy continues to be based on several of the school reform components recommended by the Carnegie Council's Turning Points and Great Transitions reports (Carnegie Council, 1989, 1995; Kane, 1997). As an academy, the program acts as a "school within a school" with a team of four teachers and
a counselor sharing the same students and planning periods. The program starts in the ninth grade. Students are promoted to the tenth grade within the Aloha Academy and then return to the regular program in the eleventh grade.

Four hundred and eighty-eight students were registered in the regular education program (55% male, 38% Native Hawaiian, 33% low SES, and 10% certified for Special Education). The curriculum for the regular ninth grade classrooms during the 1998-1999 school year (SY) can be described as "traditional" with approximately 30+ students in each class. Teachers were isolated from their peers with only one preparation period and no common meeting time with their colleagues. The only organized focus on Native Hawaiian culture was through the Modern Hawaiian History class. All other core classes followed a typical core subject curriculum script. School counselors provided advising on a referral basis only. Typically, teachers communicated with parents through a quarterly progress report.

Study Sample for Validation of the Alienation Scales

Data for the student variables included in this study were obtained from HIDOE databases, and surveys were administered by Language Arts teachers and coordinated by this researcher. A total of one hundred ninety students at the participating high school were administered the alienation scales. Sixty-five (65) of the one hundred
ninety students were participants in the Aloha Academy, and one hundred twenty-five (125) students from the regular education low level ("YZ") Language Arts classes. (This high school tracks students into three tracks.) The Gifted/Talented track includes students who have been identified as "gifted" in elementary school and proceed at an accelerated pace through school. The rest of the general education program places students according to their academic achievement into the "X," i.e., high level, or the "YZ" track that includes middle and lower level students as well as students who are certified for Special Education services. This sample of one hundred ninety students provided the data for the validation of the multidimensional alienation construct.

Additional demographic data such as gender, ethnicity, and socioeconomic status were also collected. Of the 190 students who were administered the Alienation Scales, 114 were male (33 Aloha Academy + 81 regular), 76 were female (32 Aloha Academy, 44 regular), 86 were of Native Hawaiian ancestry (38 Aloha Academy, 48 regular classroom), 104 were non-Native Hawaiians (27 Aloha Academy, and 77 regular).
Table 1. Total Sample - Demographics

<table>
<thead>
<tr>
<th>Program</th>
<th># Students</th>
<th>Ethnicity</th>
<th>Gender</th>
<th>SES</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Hawaiian</td>
<td>Male</td>
<td>Low SES</td>
<td>Not Low SES</td>
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</tr>
<tr>
<td>Aloha Academy</td>
<td>65</td>
<td>38(58%)</td>
<td>33(51%)</td>
<td>43(66%)</td>
<td>22(34%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>27(42%)</td>
<td>32(49%)</td>
<td>49(39%)</td>
<td>76(61%)</td>
<td></td>
</tr>
<tr>
<td>Regular Program</td>
<td>125</td>
<td>48(38%)</td>
<td>81(65%)</td>
<td>49(39%)</td>
<td>76(61%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>77(62%)</td>
<td>44(35%)</td>
<td>49(39%)</td>
<td>76(61%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>190</td>
<td>86(45%)</td>
<td>114(60%)</td>
<td>92(48%)</td>
<td>98(52%)</td>
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</tr>
</tbody>
</table>

Ninety-two of this sample of students were of low SES (43 Aloha Academy, 49 regular). Ninety-eight were not of Low SES (22 Aloha Academy, 76 regular).

For the eighth grade school year, 1997-1998, students in the Aloha Academy showed a mean Grade Point Average (GPA) of 2.3 while those in the regular classrooms recorded a 2.9 GPA. The average eighth grade Stanford Achievement Test (SAT) Total Reading stanine for students who enrolled in the Aloha Academy was 2.8 while those who remained in the regular program showed an eighth grade Reading stanine mean of 3.7 (Psychological Corporation, 1992). Similarly, the Aloha Academy's mean stanine for the SAT Total Mathematics from the eighth grade 1998 period was 3.6, whereas the Mathematics 1998 mean eighth grade stanine for the students who stayed in regular classes was 4.6.

Study Sample – Comparable Groups

Several steps were taken to select the two comparable pre-treatment samples required by research questions 2, 3,
and 4. Students were selected from those who had participated in the Aloha Academy during the school year of 1998-1999, along with a comparable group of students who did not participate in the Aloha Academy during this year. Student records were collected from the 1997-1998, 1998-1999, and 1999-2000 school years. These records were then organized into a longitudinal Grade 8 through Grade 10 cohort. The cohort consisted of students who took the SAT during grade 8, grade 9, and grade 10 and remained in school during grade 12.

The student sample of 190 was split to create two smaller but comparable groups (Aloha Academy and the regular program). Students were selected as comparable if their eighth grade SAT scores for Reading and Mathematics were between stanines 1 and 5. Students were eliminated if they had incomplete data for SAT Reading, Mathematics, and for GPAs, 1998 through 2000. The final sample of comparable students included 75 students, of whom 36 students had participated in the Aloha Academy for two years and 39 students who had remained in the regular education "YZ" Language Arts classes.

Table 2 reflects the mean academic scores for the two comparable groups (Aloha Academy GPA - 2.4, SAT Reading - 2.6, SAT Math - 3.6; regular program GPA - 2.6, Sat Reading - 3.1, SAT Math - 3.5). The mean scores for total sample of
75 students were GPA - 2.5, SAT Reading - 2.9, and SAT Math - 3.5.

Table 2. Comparable Participants' Mean Academic Scores

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Aloha Academy</td>
<td>36</td>
<td>2.4</td>
<td>2.6</td>
<td>3.6</td>
</tr>
<tr>
<td>Regular Program</td>
<td>39</td>
<td>2.6</td>
<td>3.1</td>
<td>3.5</td>
</tr>
<tr>
<td>Total</td>
<td>75</td>
<td>2.5</td>
<td>2.9</td>
<td>3.5</td>
</tr>
</tbody>
</table>

A two-group MANOVA on the three 1998 academic indicators (SAT Reading, Mathematics and GPA) ensures the comparability of the two groups, the Aloha Academy (36) and the regular (39) students. The MANOVA results revealed no significant difference between the two sample groups \( \lambda = .919, F (3, 71) = 2.099, p > 0.05 \).

Instruments and Variables

Alienation Measures

Levels of alienation were measured by administering the Dean Alienation and MOS Scales to the 190 students in the Aloha Academy and regular classrooms at the beginning of tenth grade. Each student's levels of alienation for normlessness, isolation, and powerlessness were measured using the modified Dean Alienation Scale (Shoho, 1996). The Dean Alienation Scale (1961) had been modified and tested with adolescents using more appropriate language (Calabrese, 1989; Shoho, 1996). The MOS Scale (1993) was
administered to the same students in this study to provide additional alienation information pertaining to cultural estrangement. A PCA was conducted to verify the four factors (dimensions) expected from the modified Dean scale (normlessness, isolation, and powerlessness) and the MOS scale (cultural estrangement).

Dean (1961) defined alienation as an affective construct consisting of isolation (loneliness), normlessness (value system inconsistent with school norms), and powerlessness (inability to influence one's choices). The Dean Alienation Scale (modified) is a 24-item five-point Likert-type scale which has been widely used to assess levels of alienation with a variety of school groups ranging from adolescent students to teachers and administrators (Shoho & Petrisky, 1996). The total score ranges from 24 to 120. The three sub-construct scores have different ranges: isolation, 9 to 45; powerlessness, 10 to 50; and normlessness, 6 to 30. Higher scores on The Dean Alienation Scale represent higher levels of alienation in that particular respect.

The MOS Scale, which encompasses theories of anomie and social isolation, was first used to interview Alaskan natives in social situations of "outside looking in" (Travis, 1993). It was also successfully used to measure adolescent alienation in a juvenile delinquency study (Sankey & Huon, 1999). The MOS scale is a 14-item five-
point Likert-type scale and was used to measure cultural estrangement in this study. The scoring range for the MOS scale is 14 to 70 with higher scores representing higher levels of the construct of cultural estrangement.

Academic Variables

The student academic variables included in this study were obtained from HIDOE databases including the Stanford Achievement Test, 8th Edition, the Stanford Achievement Test, 9th Edition and students' Grade Point Averages (GPA). The Stanford Achievement Test, 8th Edition, was developed by the Psychological Corporation in 1992 to measure academic achievement (Psychological Corporation, 1992). Individual student scores (stanines) from the Stanford Achievement Test Total Reading and Total Mathematics administered during the eighth grade 1997-1998 school year were used to select academically comparable students for the study. After the end of ninth grade (1998-1999) and the tenth grade (1999-2000), the Stanford Achievement Test, 9th Edition developed by Harcourt-Brace in 1997, was used to test students in the state of Hawaii. The scores from the two test versions, Stanford Achievement, eighth Version and Stanford Achievement, 9th Version were adjusted using the publisher's conversion tables (Harcourt, 1997). The Total Mathematics (number concepts and Mathematics computations) and Total Reading (reading, vocabulary, and reading comprehension) composite scores from the Stanford
Achievement Tests (SAT) were used as indicators of individual student’s Reading and Mathematics achievement. Grade point averages (GPA, 0-4.0) for the school years (SY) 1997-1998, 1998-1999, and 1999-2000 were also collected from the HIDOE database to provide academic variables for this study.

Other Variables

Students of Native Hawaiian ethnicity were identified from Hawaii Department of Education Student Information records. The eligible participants from the Aloha Academy were those who had participated one academic year in the program and took eighth, ninth, and tenth grade SAT tests. Participants from the regular ninth grade program were those who participated two academic years in the regular program and took the eighth, ninth and tenth grade Reading and Mathematics SAT tests. The participants from both groups were deemed comparable by their eighth grade SAT scores (stanines 1 through 5) and their academic year exposure. Those who were attending special education or alternative education classes were eliminated from the database as not representative of the true population.

Procedure

The criteria for protection of human subjects were met with approval given by the University of Hawaii’s Committee on Human Studies for use of the student data and by the participating high school’s administration.
Teachers, as instructed by this researcher, administered the two alienation instruments (MOS & modified Dean) to students during class time. Data were collected from these surveys and entered into a database containing additional information gathered from the HIDOE student records.

Analysis

This study used a quasi-experimental design to investigate the effects of the Aloha Academy on self-perceived alienation and academic achievements of Native Hawaiian and non-Native Hawaiian students. The study followed a two-group pre-post design over the period of one year without random assignment. The quasi-experimental design was used instead of a true experimental design because participation in the Aloha Academy was voluntary according to relevant HIDOE policies. In this study, it would be difficult to use the true experimental design because of the voluntary participation or self-selection of the treatment group. Data were collected from those who participated in the alienation surveys and possessed all the academic data needed for the survey. Figure 3 describes the pre-post treatment design with the symbol of 0 representing the pre-post data entries for the ninth grade students included in this study and the symbol of X, the treatment of the Aloha Academy.
Data analysis proceeded in the following stages:

Stage 1 - A PCA was used to address the first research question. This question sought to validate the theoretical four-factor model underlying the construct of alienation with data from the adolescent population in Hawaii.

Stage 2 - A 2-way multivariate analysis of variance (MANOVA) was used to determine the effects of the Aloha Academy on four aspects of student alienation. This procedure addressed the second research question as to whether the Aloha Academy reduces the alienation felt by at-risk Native Hawaiian and non-Native Hawaiian adolescents, as compared to their counterparts in the regular education setting.

Stage 3 - Grade point averages (GPA) and standardized achievement tests (SAT) in Reading and Mathematics were examined in relation to the effects of the Aloha Academy. An analysis of covariance (ANCOVA) procedure was used to address the third and fourth research questions. These questions asked whether the culturally compatible Aloha Academy improves the GPA and the SAT Reading and Mathematics scores of at-risk Native Hawaiian and non-Native Hawaiian adolescents, as compared to their counterparts in the regular education setting. The
covariates in this procedure were the scores from the 8th grade GPAs and the SAT Reading and Mathematics.

Stage 4 - The last research question examined whether the culturally compatible Aloha Academy Program reduces the dropout rate of at-risk Native Hawaiian and non-Native Hawaiian students. For this study, a logistic regression was used to measure the effect of the Aloha Academy on the dropout rate.
Chapter 4
ALIENATION CONSTRUCT

This chapter addresses the first research question of whether the theoretical four-factor model underlying the construct of alienation could be validated with data from the adolescent population in Hawaii.

Principal Component Analysis

A PCA was conducted on the thirty-eight alienation items (Appendix A), with twenty-four items representing the three factors of isolation, normlessness, and powerlessness from the 1996 modified Dean Scale and fourteen items representing "cultural estrangement" from the MOS Scale (Shoho, 1996; Travis, 1993). According to Hatcher (1994), the minimum number of need to be at least five times the number of variables in the PCA. Because of the low ratio of 38 items with the 190 subjects, obtaining clear factors might be difficult. With the pre-selection of four factors and the deletion of bad items, the ratio could be increased. Using PCA, the 38 items (24 Dean & 14 MOS) from the 190 surveys were factor-analyzed with an oblique (Promax) rotation. Only fourteen items were found to be distinctly loaded on the intended factors. The four factors of Cultural Estrangement, Normlessness, Isolation, and Powerlessness include the following items respectively.
1) Cultural Estrangement (4 items)

MOS 1 - "I feel all alone these days."
MOS 5 - "My whole world feels like it's falling apart."
MOS 8 - "I never feel all alone these days."
MOS 10 - "My whole world feels like it is running smoothly."

(Note: MOS 8 & 10 were negatively scored items.)

2) Isolation (3 items)

Dean 1 - "Sometimes I feel all alone in school."
Dean 3 - "I don't get invited out by my friends as often as I'd like."
Dean 24 - "I don't get to visit my friends as often as I'd really like."

3) Normlessness (4 items)

Dean 4 - "It doesn't matter how you get good grades as long as you get them."
Dean 12 - "I don't understand what school is all about."
Dean 16 - "The only thing I can be sure of in school is to be sure of nothing."
Dean 19 - "With so many different teachers, I really don't know which rules to follow."

4) Powerlessness (3 items)

Dean 2 - "I worry about the future."
Dean 15 - "There are so many decisions that I have to make that sometimes I could blow up."

Dean 21 - "I feel like a number in my school."

The negatively scored MOS items (8 & 10) were reverse coded before the PCA was conducted with a non-orthogonal (Promax) rotation method. The rotated factor structure matrix is displayed below. The loadings in Table 3 can be understood as correlation coefficients.

Table 3. PCA Promax Factor Structure Matrix for 14 Items

<table>
<thead>
<tr>
<th>Alienation Items</th>
<th>Factor 1 Cultural Estrangement</th>
<th>Factor 2 Normlessness</th>
<th>Factor 3 Isolation</th>
<th>Factor 4 Powerlessness</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOS 1</td>
<td>.518</td>
<td>.245</td>
<td>.043</td>
<td>.250</td>
</tr>
<tr>
<td>MOS 5</td>
<td>.759</td>
<td>.066</td>
<td>.187</td>
<td>-.07</td>
</tr>
<tr>
<td>MOS 8</td>
<td>.833</td>
<td>-.016</td>
<td>-.258</td>
<td>.012</td>
</tr>
<tr>
<td>MOS 10</td>
<td>.820</td>
<td>.216</td>
<td>.091</td>
<td>-.137</td>
</tr>
<tr>
<td>Dean 4</td>
<td>-.026</td>
<td>.637</td>
<td>-.291</td>
<td>.040</td>
</tr>
<tr>
<td>Dean 12</td>
<td>.118</td>
<td>.671</td>
<td>.030</td>
<td>-.002</td>
</tr>
<tr>
<td>Dean 16</td>
<td>-.122</td>
<td>.726</td>
<td>-.460</td>
<td>.057</td>
</tr>
<tr>
<td>Dean 19</td>
<td>-.078</td>
<td>.607</td>
<td>.361</td>
<td>-.234</td>
</tr>
<tr>
<td>Dean 1</td>
<td>.152</td>
<td>.177</td>
<td>.048</td>
<td>.605</td>
</tr>
<tr>
<td>Dean 3</td>
<td>-.150</td>
<td>-.061</td>
<td>-.064</td>
<td>.909</td>
</tr>
<tr>
<td>Dean 24</td>
<td>-.025</td>
<td>-.134</td>
<td>.281</td>
<td>.545</td>
</tr>
<tr>
<td>Dean 2</td>
<td>.066</td>
<td>-.254</td>
<td>.637</td>
<td>.152</td>
</tr>
<tr>
<td>Dean 15</td>
<td>-.019</td>
<td>-.038</td>
<td>.724</td>
<td>-.059</td>
</tr>
<tr>
<td>Dean 21</td>
<td>-.058</td>
<td>.215</td>
<td>.646</td>
<td>.117</td>
</tr>
</tbody>
</table>

Convergent and Discriminant Validity

Convergent validity is evident from the Promax Factor Structure Matrix for the final 14 items. Four items from the MOS scale represent Cultural Estrangement. Each of the four items (MOS 1, 5, 8, 10) is highly correlated with Factor 1. The four MOS items show low correlations with Factor 2 (-.016 to .245), Factor 3 (.258 to .187), and
Factor 4 (-.137 to .250). Factor 2 shows high correlations with Normlessness (Dean 4, 12, 16, 19). The four items describing Normlessness have low correlations with Factor 1 (-.076 to .118), Factor 3 (-.460 to .361) and Factor 4 (-.234 to .057). For Powerlessness, Factor 4 has 3 highly correlated items (Dean 1, 3, 24). A low correlation is shown between each of the items in this factor and Factor 1 (-.150 to .152), Factor 2 (-.134 to .177) and Factor 3 (-.064 to .231). The three items for Factor 3, Isolation (dean 2, 15, 21), are highly correlated. The other three factors show low correlations with these Isolation items, Factor 1 (-.025 to .066), Factor 2 (-.134 to .177), and Factor 4 (-.059 to .152). This data provides evidence of the convergent validity of the four factors.

For discriminant validity, the inter-factor correlation matrix shows the four factors to be quite distinct. None of the inter-factor correlations exceeded 0.373.

Table 4. Inter-factor Correlation Matrix

<table>
<thead>
<tr>
<th>Component</th>
<th>Cultural Estrangement</th>
<th>Normlessness</th>
<th>Isolation</th>
<th>Powerlessness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural Estrangement</td>
<td>1.000</td>
<td>.0735</td>
<td>.301</td>
<td>.373</td>
</tr>
<tr>
<td>Normlessness</td>
<td>1.000</td>
<td>1.000</td>
<td>.275</td>
<td>.200</td>
</tr>
<tr>
<td>Isolation</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Powerlessness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The four factors account for 55.22% of the variance in the data. The following scree plot shows that after the
first four factors, the remaining factors each contribute very little to the overall proportion of variance accounted for in the data.

![Scree Plot of PCA Promax Analysis](image)

Figure 4. Scree Plot of PCA Promax Analysis

Reliability

For subsequent analysis, four alienation variables were created, based on the four factors. These variables were computed from scores entered on the two alienation surveys (modified Dean and MOS). The scores for both scales were based on a five-point Likert-type scale with the higher scores representing higher levels of alienation after the recoding of the negative questions.

Cronbach's Alpha was calculated for each of the measures: Cultural Estrangement, \( \alpha = .74 \); Normlessness, \( \alpha = .59 \); Isolation, \( \alpha = .56 \); and Powerlessness, \( \alpha = .55 \). Except
for Cultural estrangement, the internal consistencies were less than satisfactory which might affect the results of the subsequent analysis on the form dimensions of alienation.

Although the study started with 38 items from the Dean and MOS scales, only 14 items were retained. With the addition of the MOS scale, it was not possible to replicate Shoho's (1996) scale results. And, unfortunately, the reliabilities turned out to be lower than expected.
Chapter 5
ANALYSIS OF THE ALIENATION CONSTRUCT

Alienation Results

This chapter addresses the second research question of whether the Aloha Academy reduced the alienation felt by at-risk Native Hawaiian and non-Native Hawaiian adolescents, as compared to their counterparts in the regular education setting.

The Aloha Academy sample included those students who continued to participate in the Aloha Academy during their tenth grade year. A two-way multivariate analysis of variance (MANOVA) procedure was used to determine the effects of the Aloha Academy on student alienation with additional interest in the possible differential effects on students of Native Hawaiian and non-Native Hawaiian ancestry. Seventy-five students were in the sample (Aloha Academy, 36, and the regular, 39). The number in each subgroup is as follows: non-Native Hawaiian in the regular program, 21; non-Native Hawaiian in the Aloha Academy, 15; Native Hawaiian in the regular program, 18; and Native Hawaiian in the Aloha Academy, 21. Table 5 reports the mean scores and standard deviations for the four alienation factors by ethnicity (Native Hawaiian, non-Native Hawaiian) and school program (regular, Aloha Academy).
A MANOVA was conducted on four dependent variables of alienation (Cultural Estrangement, Normlessness, Isolation, and Powerlessness). The independent variables used were program (Aloha Academy and regular) and ethnicity (Native Hawaiian vs. non-Native Hawaiian). The main effect of program was non-significant, \([\lambda = 0.91, F (4, 68) = 1.65, p = 0.17]\). The main effect of ethnicity was non-significant, \([\lambda = 0.95, F (4, 68) = .86, p = 0.49]\). The interaction
between program and ethnicity was also not significant \( \lambda = 0.97, F (4, 68) = 0.6, p = 0.65 \). These results indicate that participation in the Aloha Academy did not reduce alienation in either the Native Hawaiian or the non-Native Hawaiian groups. This finding is unfortunate and has raised questions about the appropriateness of the design of the supposedly "culturally sensitive" Aloha Academy.

An examination of the univariate results for the four alienation variables revealed the same pattern of non-significant main and interactive effects. The low reliabilities are considered as one cause for the lack of statistical significance in the comparisons as well as the low alphas as \( .70 \) is the minimum acceptable level.
Chapter 6
ANALYSIS OF GRADE POINT AVERAGES

This chapter addresses the third research question regarding the academic achievement of the comparable sample groups (75) that include students in the Aloha Academy (n = 39) and the regular program group (n = 36). This question asked whether the Aloha Academy improved the grade point average (GPA) of at-risk Native Hawaiian and non-Native Hawaiian adolescents, as compared to their counterparts in the regular education setting.

Table 6. Grade Point Averages: Means and Standard Deviations

Regardless of ethnic background, the mean GPA for the Aloha Academy shows an increase and then a decrease, whereas for the regular program, it's GPA shows a consistent decline. Generally speaking, the decline from 1998 to 2000 seems to be greater in the regular program than in the Aloha Academy.

For GPA, an ANCOVA was run with the dependent variables of GPA scores from 1998-1999 and 1999-2000 respectively. The independent variables were program (Aloha Academy vs. Regular program) and ethnicity (Native Hawaiian vs. non-Native Hawaiian). The covariate variables were GPA scores from 1997-1998. It was found that program had an immediate effect for the 1998-1999 GPA data ($F = 18.924$, p
< 0.001) in favor of the Aloha Academy. There was no significant effect for ethnicity, (F = .123, p > 0.05). The interaction between program and ethnicity was non-significant (F = 0.064, p > 0.05). Regarding the dependent variable of GPA for 1999-2000 SY, again program showed a statistically significant effect (F = 8.566, p = 0.005), although not as strong as for the first year (1998-1999). The effect of ethnicity was non-significant (F = 0.123, p > 0.05).

The GPA results indicate that while students were being exposed to treatment in the Aloha Academy, there was an immediate positive effect (1998 to 1999). This effect decreased by the second year (1999-2000) although still significant.

In summary, for statistical results in GPA, the regular program showed a greater decline in 1998-1999 and 1999-2000 while the students of the Aloha Academy showed a significant increase in 1998-1999 and a slight increase in 1999-2000. For ethnicity, the regular program showed a consistent decline in GPA while the 1998-1999 for Aloha Academy increased their mean GPA and for 1999-2000, a decrease in GPA.
Chapter 7

ANALYSIS OF STANFORD ACHIEVEMENT TEST SCORES

The fourth research question asked whether the culturally compatible Aloha Academy program improved the SAT Reading and Mathematics Scores of at-risk Native Hawaiian and non-Native Hawaiian adolescents, as compared to their counterparts in the regular education setting.

Table 7 shows the mean 1997-1998 SAT Reading stanine for students who enrolled in the Aloha Academy was 2.6, in 1998-1999 was 2.9, and in 1999-2000, was 3.7; while those who remained in the regular program showed Reading stanine means of 3.1 in 1997-1998, 3.2 in 1998-1999, and 3.7 in 1999-2000.

Table 7. SAT Reading Stanines by Program

<table>
<thead>
<tr>
<th>Program</th>
<th># Students</th>
<th>Reading SAT SY</th>
<th>Mean Stanine</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aloha Academy</td>
<td>36</td>
<td>1998</td>
<td>2.6</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1999</td>
<td>2.9</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2000</td>
<td>3.7</td>
<td>1.3</td>
</tr>
<tr>
<td>Regular Program</td>
<td>39</td>
<td>1998</td>
<td>3.1</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1999</td>
<td>3.2</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2000</td>
<td>3.7</td>
<td>1.1</td>
</tr>
<tr>
<td>Total</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Similarly, Table 8 shows the Aloha Academy's mean stanine for the SAT Mathematics from the eighth grade 1997-1998 tests was 3.6, in 1998-1999, 3.8, and in 1999-2000, 3.7. The Mathematics 1997-1998 eighth grade mean stanine
for the students who stayed in regular classes was 3.5, in 1998-1999, 4.0, and in 1999-2000, 3.8.

Table 8. SAT Mathematics Stanines by Program

<table>
<thead>
<tr>
<th>Program</th>
<th># Students</th>
<th>Mathematics SAT SY</th>
<th>Mean Stanine</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aloha Academy</td>
<td>36</td>
<td>1998 3.6</td>
<td>1999 3.8</td>
<td>2000 3.7</td>
</tr>
<tr>
<td>Regular Program</td>
<td>39</td>
<td>1998 3.5</td>
<td>1999 4.0</td>
<td>2000 3.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>75</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SAT Reading

For Reading achievement, an ANCOVA was run with the dependent variables of SAT Reading scores from 1998–1999 and 1999–2000, respectively. The independent variables were program (Aloha Academy Vs. non-Native Hawaiian). The covariate variables were SAT Reading scores from 1997–1998.

The program effect, Aloha Academy vs. regular program, was not significant \( (F = 0.089, p > 0.005) \). The ethnicity effect on SAT Reading stanine scores was also not significant \( (F = 0.000, p > 0.05) \). The interaction between program and ethnicity did not reach statistical significance \( (F = 2.317, p > 0.05) \). As to SAT Reading scores from 1999–2000, the program effect was non-significant \( (F = 0.902, p = 0.3460) \). The ethnicity effect
(Native Hawaiian vs. non-Native Hawaiian) was also not significant (F = 0.139, p = 0.711). The interaction between program and ethnicity failed to reach significance (F = 0.558, p = 0.458).

**SAT Mathematics**

Table 10. SAT Math Stanine Means & Standard Deviations

<table>
<thead>
<tr>
<th>Program</th>
<th>Ethnicity</th>
<th># Students</th>
<th>SAT Math SY</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aloha</td>
<td>Hawaiian</td>
<td>21</td>
<td>1998</td>
<td>3.6</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1999</td>
<td>3.7</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2000</td>
<td>3.7</td>
<td>1.2</td>
</tr>
<tr>
<td>Regular</td>
<td>Non-Hawaiian</td>
<td>18</td>
<td>1998</td>
<td>3.4</td>
<td>1.1</td>
</tr>
<tr>
<td>Program</td>
<td></td>
<td></td>
<td>1999</td>
<td>3.8</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2000</td>
<td>3.9</td>
<td>1.6</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aloha</td>
<td>Non-Hawaiian</td>
<td>15</td>
<td>1998</td>
<td>3.5</td>
<td>0.8</td>
</tr>
<tr>
<td>Academy</td>
<td></td>
<td></td>
<td>1999</td>
<td>3.8</td>
<td>0.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2000</td>
<td>3.8</td>
<td>1.3</td>
</tr>
<tr>
<td>Regular</td>
<td></td>
<td>21</td>
<td>1998</td>
<td>3.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Program</td>
<td></td>
<td></td>
<td>1999</td>
<td>4.2</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2000</td>
<td>3.7</td>
<td>1.5</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>36</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For Mathematics achievement, an ANCOVA was run with the dependent variables of SAT Mathematics scores from 1998-1999 and 1999-2000, respectively. The independent variables were program (Aloha Academy Vs. non-Native Hawaiian). The covariate variables were SAT Mathematics scores from 1997-1998.

The program effect (Aloha Academy vs. regular program) was not significant ($F = 1.697, p = 0.197$). Ethnicity was not significant ($F = 0.770, p = 0.383$). The interaction between program and ethnicity was also not significant ($F = 0.121, p = 0.729$).

For the program effect (Aloha Academy vs. regular program) there was no significant difference ($F = 0.289, p = 0.592$). Ethnicity (Native Hawaiian vs. non-Native Hawaiian) also showed no significant difference ($F = 0.018,$
p = 0.894). The interaction between program and ethnicity failed to reach statistical significance (F = 0.675, p = 0.414).

In summary, the program effect for SAT Reading and Mathematics was not significant. Likewise the ethnicity effect showed no significance for SAT Reading or Mathematics. The interaction effect between program and ethnicity showed no effect for SAT Reading or Mathematics.
CHAPTER 8

ANALYSIS OF DROPOUT RESULTS

Dropout Analysis

The last research question examined the percentage of students who dropped out of high school before graduation. This study examined the intervention program, the Aloha Academy, which was designed to provide a deterrent to at-risk students dropping out of school. This chapter addresses the question of whether the culturally compatible Aloha Academy Program reduced the dropout rate of at-risk Native Hawaiian and non-Native Hawaiian students. For this study, a logistic progression procedure was used to measure the effects of the Aloha Academy as opposed to all other students enrolled in the ninth grade in 1998-1999. This was done with a particular interest in the students of Native Hawaiian ancestry.

Population

The ninth grade of this high school in the 1998-1999 school year included 577 students. Two hundred twenty-nine students were registered in Gifted and Talented (GT) or "X" (high) level classes, 294, in "YZ" (middle and low) level classes, 51 in SPED, with the remaining assigned to the special motivation class (alternative program). Of the 577 students, 89 participated in the Aloha Academy during ninth grade (49 Native Hawaiian, 40 non-Native Hawaiian, 46
males, 43 females, 52 Low SES, 37 not low SES). All other students in the 1998-1999 SY amounted to 488 (185 Native Hawaiian, 303 non-Native Hawaiian, 268 males, 220 females, 161 low SES, 327 not low SES).

Table 11. Students in Ninth Grade 1998-1999

<table>
<thead>
<tr>
<th>Program</th>
<th># Students</th>
<th>Ethnicity</th>
<th>Gender</th>
<th>SES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Hawaiian</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-Hawaiian</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aloha Academy</td>
<td>89</td>
<td>49(55%)</td>
<td>46(52%)</td>
<td>52(58%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40(45%)</td>
<td>43(48%)</td>
<td>37(42%)</td>
</tr>
<tr>
<td></td>
<td>185(38%)</td>
<td>303(62%)</td>
<td>268(55%)</td>
<td>327(77%)</td>
</tr>
<tr>
<td>All Other 9th Grade</td>
<td>488(85%)</td>
<td>303(62%)</td>
<td>220(45%)</td>
<td>327(77%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>268(55%)</td>
<td>161(33%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>577</td>
<td>343(59%)</td>
<td>314(54%)</td>
<td>263(46%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>213(37%)</td>
<td>364(63%)</td>
<td></td>
</tr>
</tbody>
</table>

The academic achievement demonstrated by these students during the 1998-1999 SY was as follows. The 89 students in the Aloha Academy showed a mean GPA of 2.2, a mean SAT Reading stanine of 2.9, and a mean SAT Mathematics stanine of 3.8. All other students (488) in the 1998-1999 SY show a mean GPA of 2.3, a mean SAT Reading stanine of 3.7, and a mean SAT Mathematics stanine of 4.6. The average scores for all 1998-1999 ninth grade students (577) was 2.3 GPA, 3.4 SAT Reading stanine, and 4.3 SAT Mathematics stanine.
Table 12. 1998-1999 Ninth Grade Mean Academic Scores

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Aloha Academy</td>
<td>89</td>
<td>2.2</td>
<td>2.9</td>
<td>3.8</td>
</tr>
<tr>
<td>All Other 9th Grade</td>
<td>488</td>
<td>2.3</td>
<td>3.7</td>
<td>4.6</td>
</tr>
<tr>
<td>Total</td>
<td>577</td>
<td>2.3</td>
<td>3.4</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Dropdown Data

Records obtained from the HIDOE's student information system provided the data for those students enrolled in the 1998-1999 SY at James B. Castle High School and those who were still in school during the 2001-2002 SY. Four hundred and twenty-seven students stayed in school through their senior year (twelfth grade). Of those, 76 had participated in the Aloha Academy during their ninth and tenth grade school years. Three hundred fifty-one students from all other ninth grade programs also stayed in school. The number of students of Native Hawaiian ancestry from the Aloha Academy who stayed in school was 41 while those with no Native Hawaiian ethnicity were 35. Native Hawaiians in the other ninth grade programs numbered 126 with 225 non-Native Hawaiians. There were a total of 167 Native Hawaiians who stayed in school with 260 non-Native Hawaiians. One hundred fifty students left school by their senior year; 67 were Native Hawaiian and 83 not Native Hawaiian. Of the 13 students from the Aloha Academy, 8 were
of Native Hawaiian ancestry and 5 were not. Of the 137 students who were not in the Aloha Academy, 59 were of Native Hawaiian ancestry and 78 were not.

Table 13. Data for students in Class of 2002

<table>
<thead>
<tr>
<th>Status</th>
<th>1998-1999 Program</th>
<th>Hawaiian</th>
<th>Non-Hawaiian</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stayed in School</td>
<td>Aloha Academy</td>
<td>41</td>
<td>35</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>All Other Students</td>
<td>126</td>
<td>225</td>
<td>351</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>167</td>
<td>250</td>
<td>427</td>
</tr>
<tr>
<td>Left School</td>
<td>Aloha Academy</td>
<td>8</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>All Other Students</td>
<td>59</td>
<td>78</td>
<td>137</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>67</td>
<td>83</td>
<td>150</td>
</tr>
</tbody>
</table>

**Dropout Results**

A logistic regression procedure with interaction was used to examine the main effects of ethnicity (Native Hawaiian vs. non-Native Hawaiian) and program (Aloha Academy vs. all others) to determine whether the probability of dropping out of school was contingent on ethnicity, the treatment program or an interaction between the two. The interaction between the treatment and ethnicity was not significant (chi-square = 0.0003, p = 0.9864). Therefore, the interaction effect was dropped from the model. A simplified model with two main effects (ethnicity and program) was subsequently tested.

Table 14 shows the probabilities for dropping out of high school. The probability for students of Native Hawaiian ancestry who participated in the Aloha Academy was

70
.16 and for non-Native Hawaiians, .13. Native Hawaiian students who did not participate in the academy had a higher probability of 0.32 for dropping out of school while non-Native Hawaiians who did not participate had a probability of .26.

Table 14. Probabilities for Dropping Out

<table>
<thead>
<tr>
<th>Program</th>
<th>Ethnicity</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aloha Academy</td>
<td>Hawaiian</td>
<td>.16</td>
</tr>
<tr>
<td></td>
<td>Non-Hawaiian</td>
<td>.13</td>
</tr>
<tr>
<td>All Other Students</td>
<td>Hawaiian</td>
<td>.32</td>
</tr>
<tr>
<td></td>
<td>Non-Hawaiian</td>
<td>.26</td>
</tr>
</tbody>
</table>

The findings showed that ethnicity does not make a difference on whether a student stays in school or not (chi-square = 2.4018, p = 0.1212). However, the effect of the Aloha Academy was significant (chi-square = 7.5969, p = 0.0058). Those students who participated in the Aloha Academy had lower odds of dropping out (0.17 vs. 0.39 for students in the other programs). Even though, the Aloha Academy was designed to help students of Native Hawaiian ancestry in particular, the results indicate that it also helped non-Native Hawaiian students to more or less the same extent. The overall odds ratio is 0.44, which is statistically significant (α = 0.05) and indicates the odds of an Aloha Academy student dropping out is only about 44%
of the odds of a student in the other programs dropping out. This finding is particularly encouraging, considering that the Aloha Academy takes in only students who have been identified as at-risk whereas the other programs include both at-risk and not at-risk students.
Chapter 9
DISCUSSION

This chapter is organized into three sections. The first section discusses the summary of the research and its purpose as well as the findings of the study. The second section develops conclusions and implications drawn from this study within the framework of Turning Points and Great Transitions reports' recommendations (Carnegie Council, 1989, 1995). The final section addresses the contributions of this study to research pertaining to school reform and the possible implications for practice and future research.

Summary of Research and Purpose of the Study

This study sought to discover the potential effects of a school reform model, the Aloha Academy, in a large high school, in the Windward District of the Hawaii Department of Education on the island of Oahu. The program was based on the recommendations of the Carnegie Council's Turning Points and Great Transitions reports and designed further to be culturally compatible for students of Native Hawaiian ancestry.

The purpose of this study was to examine whether students who participated in the intervention program, the Aloha Academy, experienced less alienation than the comparable ninth grade group, and therefore, attained higher levels of academic achievement than comparable
students in the regular school program. It was further hypothesized that Native Hawaiian students within the intervention program’s culturally compatible program would experience even more noticeable decreases in alienation than their counterparts within the same intervention group. It was expected that Native Hawaiian students would demonstrate higher levels of academic achievement than their non-Native Hawaiian counterparts within the same intervention program. It was also hypothesized that students who have participated in Aloha Academy would have a lower dropout rate than all other students in their grade cohort.

Findings of the Study

Although no statistical significance, ethnicity/program effects emerged to indicate that the culturally compatible Aloha Academy gives Native Hawaiian students an advantage over non-Native Hawaiians. The scores both for alienation and academic achievement for students in the Aloha Academy were lower than the comparable group who stayed in the Regular program indicating a lower level of alienation. That the treatment was not found significant for students of Native Hawaiian ancestry in particular was disappointing considering the expectations arising from the culturally compatible design of the Aloha Academy. A possible consideration for the disappointing results may lie in the high percentage of Native Hawaiian students in
the school's population and their personal level of self-pride as Native Hawaiians living on their own land. The alienation that is felt may be more related to the low value for education in the family culture, thus feelings of normlessness, powerlessness, isolation and cultural estrangement may not be of major importance.

In regards to research question one that sought to validate the alienation construct, although some preliminary evidence was found to support the 4-factor model of alienation, unfortunately, a large number of the items on the modified Dean’s Scale and the MOS scale failed to load on their intended factors.

Research question two addressed the feelings of alienation as measured by the four-factor construct. No significant effect due to the Aloha Academy was found. Greene's (1998) research that noted Native Hawaiian students were not seen as self-disparaging or alienated but rather felt pride and self-assurance may provide reasons for the non-significant difference.

For research question three, the Aloha Academy showed significant increases for GPA when compared to the Regular program from 1997-1998 to 1998-1999 and for 1997-1998 to 1999-2000.

Regarding research question four, no significant effect due to the Aloha Academy was found in SAT Reading and Math scores which was disappointing.
Regarding the fifth question on the dropout phenomenon, those students who participated in the Aloha Academy had significantly lower odds of dropping out. It is notable that even though the Aloha Academy was designed to help students of Native Hawaiian ancestry, the results indicate that it also helped non-Native Hawaiian students to more or less the same extent. This suggests that the recommendations of the Carnegie Council reports may work equally well for Native Hawaiian and non-Native Hawaiian students. This model may appear to be a culturally neutral model although more research is necessary in the future.

Conclusions and Implications

Several conclusions were drawn from the data. First, the 4-factor alienation construct was partially validated in Hawaii. Second, the students in the Aloha Academy were studied relative to their counterparts in the regular classrooms as to their feelings of alienation. Third, the study sample was examined regarding their achievement academically and in terms of the SAT scores. Finally, the sample was examined as to their dropout status. While results from the academic data did not present a significant statement for the Aloha Academy, in every analysis the Aloha Academy provided more positive results than those students in the regular program did. The significance of the dropout results for the Aloha Academy may actually be considered to add to the validity of the
original hypotheses while the actual scores were not significant. Because of this, it may be argued that the recommendations of the Carnegie Council in their two reports (1989 & 1995) work equally well for Native Hawaiian students and non-Native Hawaiian students. In retrospect, it may be considered that the Native Hawaiian cultural values of lokahi, malama 'aina, ohana, kokua, and aloha 'aina conceptually fit the recommendations made by the Carnegie Council and may be valuable recommendations for all U. S. public schools.

Caveats

Factors that may have negatively impacted the outcomes for this study include the following:

1) This is not a true experimental design as the students in the Aloha Academy were self-selected.

2) In the Principal Components Analysis (PCA), the reduction in the number of usable items, Dean items reduced from 24 to 10 and MOS items from 14 to 4, may be specific to the population due to the large percentage (41%) of Native Hawaiian students in this study group.

3) The different instructors make individual assessments of students that are not standardized in any measurable forms that control GPAs.

4) The disappointing results to this researcher from this alienation study may be due in part to the lack of students' understanding of the Dean and MOS surveys.
Shoho's 1997 version of the Dean Alienation Scale that was modified specifically for high school students may have provided better results.

Contributions and Recommendations

This study has contributed to the field of educational research by further clarifying the study of at-risk Native Hawaiian students in the public education setting. At-risk students of Native Hawaiian ancestry may benefit from programs that are based on the Carnegie Council's Turning Points and Great Horizons recommendations. Further, all ninth grade students may benefit from such programs.

Implications for Future Research

This study provides implications for future research with students of Native Hawaiian ancestry. First, the issues surrounding the alienation of Native Hawaiian students in their native land continues to be a major concern that must be further examined. Second, this study provides additional information regarding the academic success of Native Hawaiian students in a more culturally compatible environment that may initiate further research in this area.

Additional instruments need to be created that relate directly to the issues of children of Native Hawaiian ancestry. The MOS scale seemed to bring out the issues of isolation and loneliness rather than cultural estrangement. The Dean Scale may be further modified and tested as a part
of this. Perhaps a new instrument with more appropriate items based on the research on Native Hawaiian students will provide a clearer picture of the alienation these children experience as well as the kinds of school environment that bring academic success.

That the Turning Points' recommendations for small student groups shared by teams of teachers who meet regularly, plan interdisciplinary learning experiences, provide advising, and communicate regularly with parents can impact such a large number of potential dropouts, as this study suggests, is indicative of the need to provide more caring and relevant education for all adolescents. The Turning Points' recommendations are the basis of the concept of "middle school" education. Further research on the effects of these recommendations will certainly be relevant especially in examining long-term exposure by following students from the beginning of middle school through the completion of the high school diploma. In addition, exploration of the cultural compatibility of programs and how they combine with the Turning Points' model may provide profound implications for how we structure schools today.
References


Hawaii Department of Education Office of the Superintendent.


Kane, M. (1997). Proposal for research and development funds for a school-within-a-school project at Castle High School to service the needs of native Hawaiian students. Presented at the May meeting of the Office of Hawaiian Affairs, Honolulu, HI.


APPENDIX A: Surveys

<table>
<thead>
<tr>
<th>Name __________________</th>
<th>Survey 1</th>
<th>Date ________</th>
</tr>
</thead>
</table>

Modified Dean's Alienation Scale – (Shoho, 1996)

Below are some statements regarding your feelings about your school with which some people agree and others disagree. Please give us your own opinion about these items.

*Please circle the number that best expresses how you feel about the statement:*

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sometimes I feel all alone in school.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>2. I worry about the future.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>3. I don't get invited out by my friends as often as I'd like.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>4. It doesn't matter how you get good grades as long as you get them.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>5. Most of my friends feel lonely in school.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>6. Sometimes I have the feeling that teachers use me.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>7. Teacher's ideas change so much that I wonder if I know what to believe.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>8. Good teachers are easy to find.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>9. I am frightened to be responsible for myself.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>10. There aren't any real rules in schools that I need to follow.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>11. I can always find good friends.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>----------------</td>
</tr>
<tr>
<td>12. I don't understand what school is all about.</td>
<td></td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>13. There is little or nothing I can do towards improving my education.</td>
<td></td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>14. School is basically a friendly place.</td>
<td></td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>15. There are so many decisions that I have to make that sometimes I could &quot;blow up.&quot;</td>
<td></td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>16. The only thing I can be sure of in school is to be sure of nothing.</td>
<td></td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>17. There are few dependable ties between teachers and students.</td>
<td></td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>18. There is little chance for getting a good grade unless you get a break.</td>
<td></td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>19. With so many different teachers, I really don't know which rules to follow.</td>
<td></td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>20. My school is so strict that there is no room for choice.</td>
<td></td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>21. I feel like a number in my school.</td>
<td></td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>22. The teachers at my school are friendly and helpful.</td>
<td></td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>23. I don't like to think about my future.</td>
<td></td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>24. I don't get to visit my friends as often as I'd really like.</td>
<td></td>
<td>5 4 3 2 1</td>
</tr>
</tbody>
</table>
Please circle the number that best expresses how you feel about the statement:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel all alone these days.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>2. I’m sure I’ll find the right person to care enough about me.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>3. I often feel discriminated against.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>4. I like to live by society’s rules.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>5. My whole world feels like it’s falling apart.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>6. It’s fairly easy for me to tell just what is right and what is wrong these days.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>7. I wish I were somebody important.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>8. I never feel all alone these days.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>9. I don’t like to live by society’s rules.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>10. My whole world feels like it’s running smoothly.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>11. It’s hard for me to tell just what is right and wrong these days.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>12. I rarely feel discriminated against.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>13. I’ll never find the right person to care enough about me.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>14. I don’t wish I were somebody else.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
</tbody>
</table>