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UMI
AN EVALUATION OF THE CINCINNATI YOUTH COLLABORATIVE
MENTORING PROGRAM

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

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* * * * *

The Ohio State University
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ABSTRACT

Using official data from Cincinnati Public Schools, this study examined a sample of 447 students enrolled in the Cincinnati Youth Collaborative mentoring program. Repeated measures analyses of variance were used to examine grade point average (GPA), grade retention, reading and math proficiency, and expulsions before and after program entry. Analyses revealed significant reductions in GPA, grade retention, expulsions, and proficiency scores. These changes were in the opposite direction as anticipated.

Hierarchical regression analyses examined the predictive values of the variables of interest. Models examined values of GPA, grade retention, proficiency tests, and expulsions prior to mentoring along with duration in program, age started program, and gender. These variables were regressed against GPA, grade retention, proficiency tests, and expulsion scores collected after mentoring. GPA, grade retention, proficiency scores and expulsions were stable indicators as scores before mentoring accounted for the majority of explained variance in scores after program entry. GPA, and math and reading proficiency scores before mentoring accounted for 42%, 65%, and 77% of the variance respectively after mentoring. Although significant, grade retention before mentoring accounted for just 2% of the variance for grade retention after mentoring. Total expulsions before mentoring accounted for only 8% of the variance for total expulsions after mentoring.
Multiple regression models suggested that gender significantly predicted expulsions, grade retention, and GPA after program entry. Males exhibited greater expulsions and grade retention, and lower grade point averages compared to females. Although duration of time and age started program were considered outcome predictors, age started program was significant only for the GPA model and duration in program failed to reach significance in all models.

Analyses failed to support evidence of program effectiveness. GPA, grade retention, proficiency scores, and expulsions before participants entered the program was most predictive of values of GPA, grade retention, proficiency scores, and expulsions after participants entered the program. This stability suggests that high-profile, at-risk youth may not benefit from a unidimensional approach of mentoring as these youth encounter an ecology of intrapersonal, school, family, peer, and community problems that mentoring alone may not be able to change. Implications are drawn for program designers.
Dedicated to LPH - my first mentor
I wish to thank my adviser, David Andrews, for intellectual and emotional support, encouragement, and enthusiasm which made this dissertation possible, and for his patience in working with me. I truly appreciate your mentoring style, thank you.

I wish to thank my wife, Tammy Hickman, for being patient with me while I grew physically, spiritually, socially, and mentally. Without you, I would not be here today.

I wish to thank Felicisima Serafica and Jerelyn Schutz for their input and patience in correcting both my stylistic and scientific errors. What great mentors!

I wish to thank David Andrews, Gerald Winer, Felicisima Serafica, Michael Vasey, Pat McKenry, and Jerelyn Schultz for making a difference in my educational development, thank you for all your help.

I wish to thank my father, Paul Hickman, for saving me from a path of certain destruction. Without your willingness to track me down, I would not be where I am at today.

Finally, I wish to thank my first mentor, my grandfather, LeRoy P. Hickman. Grandpa, you provided the first vision and the positive encouragement I needed to pursue this educational endeavor. Grandpa, your influence has meant more to me than anything in life; I will never forget our conversations when this process first began, this is “our whirl” and we succeeded, thank you for being my “buddy” and mentor!
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CHAPTER 1

INTRODUCTION

Across the United States, adolescents experience a myriad of academic and school behavioral problems on a regular basis. Although adolescents subscribe to a wide array of troubling academic outcomes, the educational problems adolescents encounter most tend to include (a) low academic achievement; (b) school dropout; (c) low proficiency scores; (d) school absences; (e) disciplinary infractions; and (f) grade retention (DuBois & Neville, 1997; Einolf, 1995; Grant-Thompson & Atkinson, 1997; Reglin, 1998; Royse, 1998).

The problem with at-risk adolescents is that they often continue down a developmental path markedly different from those adolescents who experience successful academic adjustment (Dryfoos, 1990; Grant-Thompson & Atkinson, 1997). Research delineates where academic and behavioral trials and tribulations are normal for the majority of adolescents, stability appears prevalent in the extreme academic and behavior maladjustment of at-risk inner-city adolescent youth (Kazdin, 1995; Moffitt, 1993b; Sampson & Laub, 1993). Where normal adolescents make successful adaptations to their academic and behavioral endeavors, at-risk inner-city adolescents gravitate toward and recapitulate problematic academic outcomes. Not only do at-risk inner-city adolescents
experience heightened risk for school dropout, they also experience increased risk for: (a) juvenile delinquency; (b) unsafe sex; (c) drug/alcohol abuse; (d) teenage pregnancy; and (e) further at-risk behaviors as adults (Dryfoos, 1990; Moffitt, 1993b; Reglin, 1998; Sampson & Laub, 1993).

An important question is who are these adolescents with a propensity for experiencing heightened academic and school behavioral problems. Slavin, Karweit, and Madden (1989) defined at-risk students as those who based on identified characteristics or needs are unlikely to graduate secondary school. The Commonwealth Fund 1998 Survey of Adults Mentoring Young People found that adolescents who receive poor grades and experience trouble at school tend to have (a) poor family relationships (49%); (b) live in low-income families that are financially desperate or struggling (45%); and (c) live in family structures other than two-parent families (44%) (McLearn, Colasanto, & Schoen, 1998). Such findings support ethnographic and sociological research that place inner-city adolescents at risk for academic maladjustment regardless of ethnicity (Anderson, 1990). Perhaps, the continual experiences of economic stress, poor family relationships, negative environmental forces, and other critical events related to the stressful and uncertain environment of inner-city life may be too overwhelming for such adolescents to endure without the succor of a “mentoring” adult guidance (Anderson, 1990; Sameroff, Seifer, Baldwin, & Baldwin, 1993; Sampson & Laub, 1993; Skogan, 1990).

In the United States, parents act as the central source of financial, emotional, and social support for their children (Brooks, 1996). Numerous children are fortunate to experience large ecological networks including grandparents, extended family, neighbors,
and community and church organizations. Adults in these networks often provide adolescents extra attention, affection, support, encouragement, guidance, and a sense of direction (Anderson, 1990). Unfortunately, many inner-city adolescents lack such rich resources. They live in families that are under tremendous pressure because of poverty, divorce, teen pregnancy, drug and/or alcohol abuse, family violence and stress, and even parental abandonment (McLearn et al., 1998). Many of these troubled families are isolated from society at large. Consequently, adolescents who are in the greatest need of help are often those who are least likely to receive such help (CYC, 1999).

Currently, neighborhood schools are attempting to help such adolescents, however, many are overburdened with a variety of issues and problems. In many urban schools, guidance counselors' caseloads often exceed 600 students (CYC, 1999). Given the heavy caseloads required of school counselors, mentoring programs have been designed to pick up the slack as a possible means for adolescents to experience much needed support, guidance, encouragement, and direction (DuBois & Neville, 1997; Einolf, 1995; Grant-Thompson & Atkinson, 1997; Reglin, 1998; Royse, 1998).

Although there are numerous ways of defining mentoring, for purposes of this study, mentoring refers to a one-on-one matched relationship between a caring adult and a willing child (Reglin, 1998, CYC, 1999). Indeed, the one-on-one relationship with a caring mentoring adult may help children face many problems they endure such as alienation in the home, community, and school, loneliness, low self-esteem, poor work and study habits, lack of information, and basic skills necessary to communicate and participate in the community at large (DuBois & Neville, 1997; Einolf, 1995; Grant-Thompson & Atkinson, 1997; Reglin, 1998; Royse, 1998).
Over the last decade, community organizations such as Big Brothers/Big Sisters, Aspire, The Commonwealth Fund, and Cincinnati Youth Collaborative have supported such efforts to organize, design, test, and evaluate the positive impact that mentoring has had on the lives of today's youth (Blinn-Pike, Kuschel, McDaniel, Mingus, and Mutti; 1998; McLearn et al., 1998; Blocher, 1993; OJJDP, 1997; Slicker & Palmer, 1993). The basic premise of mentoring is that by providing at-risk adolescents a mature adult role model who can purvey support, nurturance, and guidance outside the immediate or extended family will lower the probability of such youth from experiencing and engaging in academic and problematic behaviors (Anderson, 1994; Blinn-Pike et al., 1998; McLearn et al., 1998; Reglin, 1998). Hence, mentors provide at-risk youth the opportunity to reach their full potential by establishing a bond with a caring adult at their school and in their community (Anderson, 1990; Reglin, 1998).

**Purpose of Study**

Although it would appear on the surface that mentoring at-risk inner-city youth should yield positive results, in reality, very few mentoring programs have empirically and longitudinally evaluated the impact mentoring has had on the academic and school behavior of at-risk inner-city youth (Slicker & Palmer, 1993). Indeed, the few studies that have been conducted tend to be descriptive, exploratory, and/or self-reportive in nature (Blinn-Pike et al., 1998; DuBois & Neville, 1997). Although research continues to demonstrate that mentoring plays an integral role in the development of adolescent youth, few studies, if any, have examined official school records of academic achievement and school behavioral outcome variables both before and after program enrollment. The purpose of this study is to examine the academic achievement and school behavior
problems of inner-city adolescent youth both before and after they enter the Cincinnati Youth Collaborative mentoring program. Such an approach will enable the researcher to determine with greater certainty if the mentoring program had a significant impact on the outcome variables of this study.

Research Questions

Six research questions were suggested for examining program effectiveness. First, does academic achievement (i.e., GPA, grade retention, and proficiency tests) of at-risk adolescents improve after enrollment in the mentoring program? Second, does academic achievement of at-risk adolescents relate to the grade level of entry into the mentoring program? Third, does academic achievement of at-risk adolescents relate to the duration of time spent in the mentoring program? Fourth, do school behavior problems (i.e., times and days of expulsions) of at-risk adolescents improve after enrollment into the mentoring program? Fifth, do school behavior problems of at-risk adolescents relate to grade level of entry into the mentoring program? Finally, do school behavior problems of at-risk adolescents relate to the duration of time spent in the mentoring program?

Limitations

There are several limitations inherent in the design of this study. First, there was no control group from which to make comparisons of the outcome variables of interest. Second, given the nature of the data collection, not all the variables were collected in the same manner. For example, some variables were collected quarterly while the majority of variables were collected yearly. Third, given the nature of the data collection process, data was lost on several subjects, as they were unable to yield results either before or
after entry into the mentoring program. Fourth, no demographic information was available on the status of mentor and mentee. More specifically, educational background, occupational status, yearly income, SES, community participation, residential location, and intrapersonal factors could have provided valuable information from which to draw conclusions of program effectiveness. Finally, and perhaps most importantly, this study was unable to determine the quality of the relationships between mentor and mentee.

**Definitions of Terms**

*Academic achievement* refers to academic affairs such as grade point average, proficiency tests, graduation, and retention.

*Cincinnati Youth Collaborative (CYC)* is an active sponsor of mentoring programs in 64 schools located in the Cincinnati Public School system. CYC is a formal mentoring program where volunteer mentors are screened, trained, and matched to work one-on-one with students as academic coaches, emotional and social support systems, and positive role models in order to reach the primary program objective – increase graduation rates.

*Duration* refers to the amount of time the participant was involved in the mentoring program. For purposes of this study, three categories were created, namely, 4-6 months, 7-12 months, and 1 year plus.

*Expulsions* refer to the denial of one’s right to attend school and all school functions for a designated time not to exceed eighty consecutive school days.

*Formal mentoring programs* are planned or programmatic mentoring programs that entail the screening, training, and matching of participant pairs (mentor and mentee) within a structured institutional setting.
Grade level refers to the academic grade the participant entered the mentoring program. Possible grade levels for this study were elementary, middle school, and high school.

Grade point average refers to the student’s given academic grades, ranging from 0.0 (failing) to a 4.0 (excellent).

Grade retention refers to repeating and/or failing a grade level so that the mentee remains in the same grade level as the previous academic year.

Informal mentoring programs are naturally occurring mentoring relationships where an older or more experienced individual fosters the development of a younger or less experienced individual (mentee).

Mentee’s are students from one of 64 Cincinnati Public Schools who work with a mentor in a one-on-one relationship in order to reach academic excellence, attend school everyday, and graduate from high school.

Mentor’s are warm and caring adults willing to serve as special friends and positive role models to students. Mentors work with the schools, the students, and the families to ensure that mentees are successful, academically and socially. The roles of mentors are to act as friends, advisors, motivators, and support systems for the mentees.

School Behavior Problems refers to problematic behavior affairs not associated with academic achievement such as the times and days of expulsions.

Basic Assumptions

The major assumptions behind this study include the following. First, although random assignment was not a procedure of this study, the researcher assumes that CYC participants were representative of the Cincinnati Public School system student body.
Second, the researcher assumes that official school records of the Cincinnati Public School system accurately reflect student performance. Third, since this study uses a within-subjects design, all participants should experience the same treatment. Fourth, most students benefit from positive interactions with adults. Fifth, chosen mentors act as positive role models and encourage mentees to reach their potential. Sixth, mentors strongly influence, support, encourage, and provide individual attention that benefits students in multiple facets of life.
CHAPTER 2

REVIEW OF THE LITERATURE

Today, mentoring programs are being commissioned across various domains within our communities. For example, it is common practice for churches, elementary and secondary schools, colleges and universities, and various community organizations to utilize judicious peer and adult mentors to share their experiences, guidance, support, and talents with injudicious at-risk youth (McLearn et al., 1998; Reglin, 1998). Despite bold claims of success, very few mentoring programs have taken an empirical approach of examining program effectiveness. Even more troubling is the paucity of literature connecting mentoring programs to the ecology of problem behavior. Mentoring programs that fail to consider the ecology of problem behavior in their program design may find their evaluative results pointing in an unanticipated direction as they may be overlooking multiple influences that account for behavior (Wenar, 1994).

Ecology of Problem Behavior

Although mentoring has been proven effective in reducing problem behavior (i.e., Anderson, 1990; McLearn et al, 1998; Reglin, 1998), in order to thoroughly design and evaluate program effectiveness, it is imperative to have a solid background on the ecology of such problematic behaviors indigenous to inner-city youth. Researchers who
study life-span development are becoming aware of the importance of human interaction within and among various systems such as the individual, family, community, and global environment. Such a rapid emerging ecological (e.g., Bronfenbrenner, 1989) or contextual (e.g., Kleinginna & Kleinginna, 1988) framework emphasizes the importance of environmental contexts as the primary forces responsible for the development of problematic behaviors among adolescent youth. In other words, family, cultures, society, individual age, temperament, and personality actively and collectively shape ones development (Haensly & Parsons, 1993).

From an ecological perspective, adolescence is a time of increased risk and opportunity (McLearn et al., 1998). Indeed, many adolescents first engage in at-risk behaviors such as alcohol and/or drug use, juvenile delinquency, unsafe sexual practices, truancy, and school dropout (Kazdin, 1995; Sampson & Laub, 1993) during this developmental stage of life. In addition, adolescence is a developmental period of life when interactions with parents become less satisfying and rewarding (e.g., Larson, 1989) and peers gain precedence as teenagers search for autonomy, independence, and an identity of their own (Brooks, 1996; Erikson, 1959; Gavazzi & Sabatelli, 1993). For many inner-city adolescents, the family, school, and community environment place them at even greater risk, as such environments fail to provide these youth with the guidance necessary for appropriate development (McLearn et al., 1998; Dishion, Patterson, & French, 1995; Sampson & Laub, 1993; Wilson & Herrnstein, 1985). Consequently, these at-risk youth fail to see the importance of family, school, and their community, as such
environments often reinforce negative role models for impressionable youth. As noted by Sampson and Laub (1993), when children lack a connection to the family, school, and community, problematic behaviors are inevitable.

Research continues to support that adolescent youth reared in an inner city milieu experience poorer school systems, lack community programs, and lack parental control compared to adolescent youth reared in suburban America (Dryfoos, 1990; Kazdin, 1995; Sampson & Laub, 1993). Dryfoos (1990) has found that children who experience such environments tend to have school related difficulties such as poor attendance, achievement, reading ability, proficiency scores, and grade advancement. Furthermore, such children tend to experience unstable family environmental characteristics often provided by parents who tend to be out of work, uneducated, alcoholics, and/or have no interest in their children’s academic endeavors (Dryfoos, 1990). Consequently, such children develop poor academic, behavioral, and social skills and tend to have psychological and/or physical health problems (Dryfoos, 1990).

For nearly one hundred years, social scientists have attempted to explain the aforementioned problematic behaviors and outcomes. Indeed, researchers in the early 21st century made bold claims that the social milieu was responsible for such problematic behaviors (Shaw, 1930; Shaw & McKay, 1942). Social disorganization theory postulates that inner-city neighborhoods indicative of business and middle-class flight, immigration, high pockets of poverty and minorities, and lack of education and communication leads to chaos, heightened rates of crime, and overall social disorganization. Consequently,
children being reared in these impecunious areas are inclined to engage in problematic behavior, as cultural transmissions of norms and stability are lacking (Bursik & Grasmick, 1993; Shaw, 1930; Shaw & McKay, 1942; Skogan, 1990).

Research demonstrates that environments characteristic of social disorganization include increased poverty, racism, tuberculosis, homelessness, truancy, insanity, infant death mortality rates, and delinquency rates 10-20 times higher than nonsocially disorganized neighborhoods (Shaw, Zorbaugh, McKay, & Cottrell, 1929; Shaw & McKay, 1942; Wolfgang, Figlio, & Sellin, 1972). Furthermore, parental attitudes and interactions with children are influenced by economic stress, environmental forces, and other critical events related to living in such a stressful and uncertain environment (Sameroff, Seifer, Baldwin, & Baldwin, 1993; Wahler, 1990). Over time, as these children maturate and become adolescents, they are prone to engage in problematic behaviors given their life circumstances. Convincingly, modern writers and researchers have demonstrated the pervasiveness of social disorganization as these problems have persisted for nearly one hundred years (Anderson, 1990; Lundman, 1993; Shakur, 1994; Slayton, 1986).

Intrapersonal factors are those characteristics of individuals that alone, or by interacting with environmental circumstance, increase the propensity for problematic behavior. Without doubt, gender continues to be a powerful predictor, as being male is perhaps the greatest predisposing risk factor for problem behavior outcomes across the life span (Kazdin, Esveldt-Dawson, French, & Unis, 1987). However, studying gender related problem behavior is not overly simplistic. For example, boys' problem behaviors
tend to be overt, whereas girls’ problem behaviors tend to be covert (Kazdin et al., 1987). Although girls generally do not engage in problem behavior with equal rigor to that of boys, girls who reach menarche at an early age are at greater risk for further problematic behaviors (Dishion, French, & Patterson, 1995). Given such information, it is not surprising that boys tend to experience heightened academic and school related problems compared to girls (Kazdin, 1995; Sampson & Laub, 1993).

In addition to gender, temperament appears to be a germane intrapersonal factor associated with problematic behaviors (Sampson & Laub, 1993). Research consistently finds that temperament characteristics associated with problem or antisocial behavior vary as a function of the age of the individual. In early childhood, it is known as the difficult child syndrome (Chess & Thomas, 1984), in adolescence it is the sensation-seeking teenager (Zuckerman, 1979), and in adulthood it is the amotivated and narcissistic psychopath (Newman, Widom, & Nathan, 1984). Although some children may have difficult temperaments, parents often exasperate and increase negative responses and behaviors via their interactional styles with their children (Dishion, French, & Patterson, 1995). Research has found that when parents learn how to effectively interact with difficult tempered children, a child’s temperament is no longer a factor (Dishion, French, & Patterson, 1995).

Another ecological factor associated with problem behavior is interpersonal processes, namely, interacting forces or factors outside of the individual that shape and mold behavior over the life course (Wenar, 1994). Without doubt, parents as an interpersonal factor contributing to childhood problem behavior has been a widely studied field and cuts across many disciplines (Dishion et al., 1995). Perhaps, the wealth
of research appears to be related to numerous claims that target parents as the primary influence in a child’s life (Brim, 1959, Bronfenbrenner, 1979; Loeber & Dishion, 1983; Brooks, 1996).

Patterson’s (1982) coercion model focuses on parents as primary contributors to child antisocial behaviors. According to Patterson (1982), parents train children to react in a coercive (i.e., forceful) manner and train children to establish coercive learned behaviors over the life course. From a social interaction perspective, to change problem behavior it is necessary to change the social exchanges within which behavior is embedded (Patterson & Reid, 1984). When parents continue to reject, dominate, ignore, or withdraw love from children, they are training children to ignore them through reinforcement and conditioning. Over repeated trials and interactional exchanges between parents and children, such children develop negative learned patterns of behavior (Dishion et al., 1995).

From a social interaction framework, the key to reducing problem behavior is to train parents to be less harsh, erratic, and/or inconsistent (Dishion et al., 1995). However, perhaps a better explanation may include examining the interaction of intrapersonal and interpersonal factors. As noted by Moffitt (1993b), an extreme parental deficit skill in ineffectively interacting with their child’s difficult temperament most likely explains the persistence of problematic behavior over the life course of the child. Although these studies are mainly correlational, researchers have demonstrated experimentally the effects that parents have on children’s behavior. In a controlled setting, problematic kids were randomly assigned with their parents to parenting training classes. Those children whose parents underwent parenting training greatly reduced their problematic behaviors
compared to children whose parents did not receive such training (Forgatch, 1991, Patterson, 1982; Webster-Stratton & Herbert, 1994). Perhaps Patterson (1982) sums it best, parents who can not manage their children may be the prime determining variables of their children’s behavior.

Although parent-child interactions receive the majority of research on interpersonal factors, peer interactions appear to play an integral role in the ecology of problem behavior (Patterson, 1976; Sampson & Laub, 1993). Patterson (1976) has demonstrated that exposure to other aggressive children markedly increases aggression. This occurs because peers provide consistent schedules of positive reinforcement for coercive and deviant behavior. These patterns of behavior are not coincidence and continue into late adolescence. Patterson, DeBaryshe, and Ramsey (1989) demonstrated that when children are rejected by their peers and perform poorly in school they often turn to a deviant peer group in late childhood. As they enter adolescence, such rejected children bond together and perform problematic and delinquent behaviors. Dodge (1983) explains that boys rejected by their peers develop deficits in their information processing, thus viewing the world through a negative lens. Consequently, such negative information-processing further propels such children down a developmental path of deviant, antisocial, coercive, and delinquent behavior. Finally, Dishion Patterson, Stoolmiller, and Skinner (1991) found that low parental monitoring, poor academic skills, and peer rejection in middle childhood accounted for associations with deviant peers in early adolescence.
In addition to interpersonal and intrapersonal factors of problem behavior, the behavior setting also plays a major role in the ecology of problem behavior (Dishion et al., 1995). Since parents are often considered the primary source of child socialization (i.e., Brooks, 1996; Dishion et al., 1995), perhaps the family environment should be the focal point of understanding child and adolescent problem behavior. Simmons, Burgeson, Carlton-Ford, and Blyth (1987) noted that the more family transactions (i.e., moving or divorce) children endure, the lower their grades and higher their problem behaviors and family disruptions. Anderson (1990) has saliently demonstrated that family transactions among impoverished inner-city families are the norm rather than the rule and place such families at-risk for stressful relationships. Patterson (1983) found that parenting practices covaried on a day-by-day basis according to stress levels parents experienced. Consequently, children's level of antisocial behavior mirrored the stress levels encountered by their parents. More specifically, when parents experienced minimal stress, the home environment was more conducive for childhood prosocial behavior. Snyder (1991) replicated Patterson's work with Head Start children by exploring the relationship between family environment and child antisocial behavior. Snyder (1991) found that child antisocial behavior was mediated via parental practices.

As previously mentioned, the neighborhood milieu has long been thought of as a breeding ground for problem behaviors of children and adolescents (Anderson, 1990; Lundman, 1993; Sampson & Laub, 1993; Shaw et al., 1929). There is a long history of research that has demonstrated the pervasiveness of heightened problematic behaviors in urban environments compared to suburban milieus (Anderson, 1990; Kazdin, 1987; Sampson & Laub, 1993, Shaw & McKay, 1942; Shakur, 1994). Data reveal that
antisocial behavior, academic and school related behavior problems, substance abuse problems, and psychopathological behavior are more than twice as prevalent in urban and inner-city settings than in suburban and rural settings (Robins et al., 1984).

Anderson (1990) suggests that gentrification may play a large role in such behaviors. More specifically, middle and upper class individuals move into distraught areas, buy up the land and real estate, and turn a minority neighborhood into a Caucasian middle-class neighborhood. Consequently, the value of such once run down “eye-sores” heightens and draws more middle to upper-class Caucasians into the neighborhood. Those original citizens, usually African-Americans and other minorities are forced to move and retreat to poorer neighborhoods, as they can no longer afford to live in these gentrified areas. Eventually, poor minorities’ retreat to neighborhood milieus characterized by crowded, dirty, rundown, and poor conditions nonconducive for child development. Such conditions and social isolation results in negative responses sent back to the mainstream environment. The end product is the antisocial behaviors commonly associated with inner-city at-risk adolescents during this developmental time frame (Anderson, 1990; Kazdin, 1995; Sampson & Laub, 1993; Skogan, 1993).

In addition to poor quality neighborhoods, inner-city at-risk youth tend to encounter subpar school systems and are usually poor academic achievers (Hawkins & Lishner, 1987). Such variance may be explained by low IQ, as it has been consistently found that problematic children exhibit lower levels of IQ compared to other children (Schonfeld, Shaffer, O’Connor, & Portnoy, 1988). Hence, such children find school nonrewarding. Dishion (1990) demonstrated that poor parenting practices were associated with boys’ antisocial behavior as well as deficits in academic skills. Even
after controlling for poor parenting practices, antisocial behavior and poor academic skills were negatively related ($r = -0.34$) (Patterson, Reid, & Dishion, 1992).

It appears that the home environment may be a training ground for problematic behavior in school as 50% of boys who demonstrated problems at home also demonstrated academic and social problems at school (Patterson, 1976). The causal link between the home environment and school was assessed by Ramsey, Bank, Patterson, and Walker (1990) via structural equation modeling. With a sample from the Oregon Youth Study, they found that inept parental discipline at fourth grade predicted problem behavior in 5th grade. Moreover, Dishion, Andrews, Kavanagh, and Soberman (1996) found that improving parent-child interactions improved school behavior.

No search for problem behavior would be complete without examining poverty and ethnicity. As Lundman (1993) argues, two main engines drive problem behavior, poverty and ethnicity. Poverty is a serious disrupter of families as it creates stress, strain, uncertainty, and negative communications between family members (Dishion et al., 1995). Loeber and Dishion, (1983) found that poverty in middle childhood was predictive of antisocial behavior in adolescence. As noted by many researchers, inner-city children share one commonality, they are poor (Anderson, 1990; Sampson & Laub, 1993; Shakur, 1994, Shaw & McKay, 1942). Studies have shown that poor parents have a tendency to communicate less with their children, demonstrate heightened levels of spousal abuse, arguments, irritability, alcohol and substance abuse, as well as many other negative interactions with their children (Anderson, 1990; Elder, Caspi, & Van Nguyen, 1986; Lundman, 1993; Shaw & McKay, 1942). Patterson and Dishion (1988) found that family management skills in low socioeconomical status
(SES) families were highly predictive of child and adolescent behaviors. In perhaps the most extensive longitudinal study (i.e., 50 years) of problematic children, Sampson and Laub (1993) found that low SES family environment predicted poor parental monitoring and discipline strategies. More importantly, coercive discipline strategies predicted problematic behaviors among adolescents (Sampson & Laub, 1993).

Finally, ethnic minority status must be considered in the ecology of problematic behavior. Research has consistently demonstrated elevated rates of problem behavior among Hispanic-American, African-American, and Native American youth in the United States (Elliott, Huizinga, & Ageton, 1985). However, the process explaining such a phenomenon has been drastically understudied (Dishion et al., 1995). One reason may be that studies of ethnic minorities are generally confounded by studies conducted in poor urban settings where the general population is lacking in education (McLoyd, 1990). While the percentage of families living at the poverty level has increased since the 1970’s, ethnic minorities continue to be overrepresented among the general public (William Grant Foundation, 1988). As noted by Dishion, French, and Patterson (1995), 92% of single parents who have not completed a high school education live in poverty. Minority inner-city families living in highly dense impoverished areas ridden with crime, filth, and substance abuse activity are breeding grounds for adolescent behavior problems. The more important question is to what extent are these findings unique to being a minority? Being a recipient of racist actions or policies is most likely perceived as unfair and contributes to antisocial behavior (Dishion et al., 1995). Perceived racism
may have an impact on the sense of community and academic affairs. Again, when ties are severed from the family, school, and community, a lifetime of problem behavior is inevitable (Sampson & Laub, 1993).

Anderson (1990) has found that when adolescent youth, in particular poor inner-city minority youth, experience the nurturance and support of a caring adult mentoring relationship, they are better able to cope with the stress of their environment, prepare for the realities of adulthood, graduate from high school, and gravitate toward post-secondary educational institutions. Anderson (1990) notes that such children drastically need an adult guiding force to help propel and point them in the right direction. Moreover, problem behavior such as poor academics, school behavior problems, gang related activities, and drug and alcohol abuse is directly related to a lack of nurturing and caring adults in children’s lives (Anderson, 1990). As noted by Anderson (1990) “old heads” (inner-city word for mentor) that used to watch over growing children are being replaced by gang leaders and drug dealers as they provide youth with cash and opportunities that their academic, familial, and social milieus cannot match.

As noted by Cronbach (1982) in order to understand the academic experiences of adolescents, it is important to look beyond their academic endeavors and examine their community-wide ecological experiences in order to gain a more salient perspective of behavior. Given the ecological and developmental issues that at-risk youth face on a daily basis, diversion and prevention specialists have turned toward community based
programs in an attempt to alleviate and control at-risk adolescent behaviors (Andrews & Hickman, 1998; Lundman, 1993). Most notable among today’s community based prevention plans are mentoring programs.

History of Mentoring

Although mentoring dates back as far as 800 B.C., ironically, mentoring is just now becoming a trendy phenomena that is sweeping across the United States, as the past two decades have witnessed the profusion of mentoring programs (Enshner & Murphy, 1997; Freedman, 1999; Wickman & Sjodin, 1997). The term mentor was derived historically when Odysseus, the King of Ithica of ancient Greece, ventured off to fight the Trojan War. Legend has it that King Odysseus left behind his entrusted friend, Mentor, to take care of his son, Telemachus. For over 10 years, Telemachus was without the guidance of his father, while Mentor nurtured, reared, and educated young Telemachus to the ways of the world (Carruthers, 1992; McLearn et al., 1998; Wickman & Sjodin, 1997).

In the United States, mentoring dates back over one hundred years. During the railroad strike of 1878, the country experienced violent and wide-ranging labor problems as many men wondered the country aimlessly in search of work. As American cities became crowded with desperate men looking for work, charitable societies sprung up to aid in their need for basic essentials such as food, shelter, clothing, and water. The volunteers that worked with these desperate individuals became known as “friendly visitors” (Freedman, 1999).

In 1885, Charles Kellogg unveiled “The Friendly Visiting” campaign by sending over one hundred thousand “friendly visitors” across the country to provide the poor and
destitute with warmth, nurturance, and guidance (Freedman, 1999). The objective was to raise the morale of the poor and to provide immediate relief and assistance to those in need (Freedman, 1999). Similar to the caring adults of today’s mentoring programs, the “friendly visitors” were mentors who provided the paupers (analogous to today’s “at-risk” youth) a better outlook on life (Freedman, 1999).

With the emergence of social workers in the beginning of the 21st century, friendly visitors faded from the scene as a more “professional” service was thought to be productive for those considered “at-risk” (Freedman, 1999). Ernest K. Coulter, a newspaperman from New York was shocked at the misery and neglect that was rampant among young children brought before the justice system. Coulter believed that the justice system was not concerned nor considered the needs and problems faced by such children. It was Coulter’s belief that the justice system’s lack of concern and consideration of children’s needs prompted high rates of recidivism (Freedman, 1999).

Addressing the Men’s Club of the Central Presbyterian Church of New York on December 3, 1904, Coulter announced his vision of having middle-class businessmen, professionals, and various community leaders take on responsibility to reform such at-risk children. Coulter stated,

There is only one possible way to save that youngster, and that is to have some earnest, true man volunteer to be his big brother, to look after him, help him do right, make the little chap feel that there is at least one human being in this great city who takes a personal interest in him, who cares whether he lives or dies (Freedman, 1999, p. 28).
During the 1970's, Corporate America turned to mentoring as a means of increasing employee adaptation and productivity (Freedman, 1999; Kram & Hall, 1996; Maniero, 1994). The assumption behind corporate mentoring was similar to the historical roots of mentoring; an experienced employee familiar with company policy, rules, and regulations should be able to ease the transition and productivity of new inexperienced employees (Frey & Noller, 1986; Orpen, 1995). Similar to many community based mentoring programs, business mentoring programs are enjoying much talked about success (Ensher, 1997; Frey & Noller, 1986; Orpen, 1995).

Today, mentoring programs are abounding in various aspects of our society (Ensher & Murphy, 1997). Given the profusion of formal and informal mentoring programs in secondary schools, colleges, local community centers, churches, extended families, neighborhoods, and various peer networks, it would be difficult for an individual to wander throughout life without being positively steered by a mentor (Cuomo, 1999). Indeed, many notable celebrities such as Alec Baldwin, Tony Bennett, Bill Bradley, Cindy Crawford, Walter Cronkite, James Earl Jones, Larry King, Tony Randall, and Christopher Reeves contribute much of their success to mentors who positively touched their lives (Cuomo, 1999).

Defining Mentoring

Since the conception of mentoring in ancient Greece, the goal of mentoring has changed very little, provide support. When one thinks of the word “mentor”, one conjures up images of a judicious counselor – someone who is caring, nurturing, guiding, and experienced (Hamilton & Darling, 1996). The mentoring relationship implies a special bond or attachment between an inexperienced or novice student and a more experienced
and/or skilled adult who takes on responsibility for guiding and directing the inexperienced student down an appropriate developmental path (Hamilton & Darling, 1996). Although the aforementioned saliently describes the mentoring relationship, there is much debate and controversy over the defining nature of mentoring (Bronfenbrenner & Crouter, 1981; Hamilton & Darling, 1996; Wickman & Sjodin, 1997). For purposes of this study, the definition of mentoring, adopted from the Cincinnati Youth Collaborative, is a formal matched one-on-one relationship between a caring adult (mentor) who provides a positive role model for students (mentee) who need extra support and encouragement.

Mentoring Programs

Because adolescence is a developmental period of life when parents have less influence on adolescents (Brooks, 1996; Galbo, 1986; McLearn et al., 1998), numerous mentoring programs have taken heed to this surmise by matching an older and sagacious adult with a younger and inexperienced adolescent to facilitate this developmental transition. The following are just a few notable programs that are receiving increased recognition.

ASPIRE is a mentoring program established in Woodward High School in Cincinnati, Ohio. Funded by Procter & Gamble, ASPIRE aims to help students increase their self-esteem and positive attitudes towards school and learning. The primary mission of ASPIRE is to assist at-risk students in developing the attitude to succeed in their academic pursuit and to provide opportunities for development and success (Laabs, 1993). At-risk students are identified as those students with the propensity to dropout of high school. Preliminary analyses indicated that students who participated in
the mentoring program had higher grade point averages, attendance rates, and college enrollment than the general enrollment of the student body at Woodard High School (Laabs, 1993).

Big Brothers/Big Sisters is one of the oldest organizations offering mentoring relationships between adults and children. Over the past 88 years this program has recruited adults and provided them with extensive training to serve as role models for children and youth. This program continues to be recognized as the paragon of mentoring programs in the country, as many programs adopt the design and goals of Big Brothers/Big Sisters as blueprints for success (Reglin, 1998).

Black Achiever’s Program, supported by the YMCA, was commissioned in 1990 by the Commonwealth Fund. Initial surveys of 400 African-American and Hispanic students were conducted in order to establish academic success. Of those surveyed, 55% went to college upon graduation of high school. Furthermore, 64% of those who went on to college credited their mentors with encouraging them to pursue a college education (McCortie, 1991).

Cincinnati Youth Collaborative (CYC) located in Cincinnati, Ohio is an active sponsor of mentoring programs in the Cincinnati Public Schools. Community volunteers are recruited, screened, and trained in an effort to serve the needs of inner-city youth. Such mentors work one-on-one with students in the form of academic tutors, emotional and social support systems, and serve as positive role models. CYC began January 29, 1990 during the “Futurethon” television broadcast in which caring adults were solicited to volunteer as academic mentors and tutors. The vision of the program is to provide role
models for students who need extra support and encouragement. In addition, the mentoring program attempts to improve academic grades, school attendance, and self-esteem. Moreover, the primary mission of the program is to increase the percentage of students who graduate from high school. Currently, CYC has over 1,200 mentor/mentee matches and is located in 64 schools throughout Cincinnati Public Schools.

*I Have a Dream Program* created by Eugene Lang in 1986 is the mentoring program credited with igniting the current mentoring movement in America (Johnson & Sullivan, 1995). This program grew out of Lang’s 1981 offer to pay college tuition for 61 East Harlem at-risk sixth-grade students. Today, the school system from which the program originated has increased graduation rates from 24% to 53% (Koff & Ward, 1990).

*Mentors, Inc.*, located in Washington, D.C., recruits professional mentors from various law firms, corporations, and post secondary institutions. The goal is to help students who are in danger of not living to their potential, reach that potential. In doing so, Mentors, Inc. improves students’ school performance and career plans.

*Project Continued Success* is a mentoring program established in Aiken High School located in Cincinnati, Ohio. Funded by General Electric, this program matches at-risk students with General Electric employee volunteers. The year preceding the commissioning of this program, only three graduating seniors enrolled in college; four years after the program was established, 63 graduating seniors enrolled in various post-secondary institutions (McKenna, 1990).
Today, there is a plethora of mentoring programs throughout the country. Despite differences in program goals and objectives, terminology of mentoring, target audiences, and even locations, one thing seems evident—mentoring works (Anderson, 1990; Becker, 1994; Blinn-Pike et al., 1998; de Acosta, 1993; Freedman, 1992; Lee & Cramond, 1999; McLearn et al., 1998; OJJDP, 1997; Reglin, 1998; Rhoads, Haight, & Briggs, 1999; Royse, 1998). As previously noted, mentoring has become increasingly trendy and productive as a means for reducing the aforementioned problematic behaviors of at-risk adolescents.

**Impact of Mentoring**

The Commonwealth Fund 1998 Survey of “Adults Mentoring Young People” found that mentors report high rates of success in helping at-risk youth overcome problems such as negative feelings, substance abuse, poor grades, physical and sexual abuse, and trouble in school (McLearn et al., 1998).

Other research supports such findings. For example, a national study of Career Beginnings found that students who were mentored in high school attended college at higher rates compared to control groups (Cave & Quint, 1990). Such findings parallel the study conducted by Atlanta Adopt-a-Student in which they found that students who were involved in a mentoring relationship had higher rates of enrollment in post-secondary educational institutions (Stanwyck & Anson, 1989). An evaluation of Project RAISE conducted by researchers at John Hopkins University found that RAISE students demonstrated increased grades in English compared to control groups (McPartland & Nettles, 1991). Such an evaluation provides support for program effectiveness, however, taking such a stance does not explain the dynamics of program
effectiveness. Although these studies are helpful as they establish positive directionality for program effectiveness, the aforementioned studies were exploratory in nature and heavily relied on frequency statistics.

Big Brothers/Big Sisters have noted that mentoring can serve as a preventive strategy for reducing problematic behavior associated with juvenile delinquency. In an 18-month study conducted by Grossman and Tierney (1998), it was found that 571 mentored youth were 46% less likely to initiate drug use than the 567 controls. For minority mentored youth, 70% were less likely to initiate drug use compared to controls. In addition, mentored youth were 27% less likely to engage in alcohol use compared to controls. Furthermore, mentored youth were one-third less likely to hit other children than controls. Mentored youth skipped school almost half as many days compared to control youth and engaged in more homework compared to control groups. Just as important, relationships between mentored youth and their parents improved compared to controls. Finally, the relationship between mentored youth and their peers improved compared to controls (Grossman & Tierney, 1998). Here again, although such information is helpful and merits support of mentoring programs, such studies were exploratory in nature, reliant on self-reported behaviors, frequency statistics, and failed to randomly assign participants to experimental and control groups.

The Office of Juvenile Justice and Delinquency Prevention (OJJDP) designed the Juvenile Mentoring Program (JUMP) to reduce delinquency and improve school attendance for at-risk children and adolescents (OJJDP, 1997). In a study funded by JUMP, The Cincinnati Youth Collaborative (CYC) in Cincinnati, Ohio matched 136
at-risk youth and mentors from various professional organizations, such as law firms, police departments, hospitals, and universities to reduce problem behavior and increase academic achievement. Initial findings after one year found that 99 of the 136 mentees improved academically and 102 improved socially (OJJDP, 1997). Other research has supported that mentor-mentee relationships that exceed one year tend to experience positive results. For example, Lee and Cramond (1999) found that only mentored relationships of one year or more improved self-efficacy and academic and career aspirations among at-risk students when compared to mentor-mentee relationships of less than one year. Again, such information supports the basic assumption that mentoring makes a difference in the lives of children. Furthermore, the JUMP study advanced the literature by examining the relationship between duration in program and program effectiveness. However, these studies, like the aforementioned studies, are exploratory, reliant upon frequency statistics, and cross-sectional in nature, as opposed to examining before and after mentoring data values.

Queen (1994) examined the impact that mentoring had on at-risk students. At-risk students were defined as students who demonstrated academic failure, grade retention, suspensions and expulsions from school, drug and alcohol use, and truancy. Of the 27 students recruited for the sample, 20 students admitted to using drugs and alcohol, 22 students evidenced low self-esteem, 22 students experienced depression, and 19 students felt socially left out. After meeting with mentors in a group setting for 30 minutes at the beginning of each school day over a one semester period, only three individuals still used drugs, 10 individuals still used alcohol, five individuals still evidenced low self-esteem, and four individuals still experienced depression.
However, no individuals felt socially left out. Finally, the academic performance of all individuals improved (Queen, 1994). Although this study is exploratory in nature, it provides directional evidence that mentoring programs can meet the needs of at-risk students in need of a relationship with a caring and nurturing adult. However, this study is reliant upon self-reported behaviors rather than official program data. Moreover, the small sample and the limited timeframe (i.e., one semester) hinder evaluation of longitudinal program effectiveness.

O'Connor (1995) evaluated a mentoring program for at-risk high school youth. For purposes of their study, at-risk youth were defined as students who were likely to drop out of high school. This study examined 11 mentor-mentee relationships over a one-year period. Variables of interest were student dropout rates, school attendance, self-efficacy, and respect for others. Results indicated that those at-risk students who participated in the mentoring program experienced lower dropout rates than those at-risk adolescents who had not participated in the mentoring program. Results also suggested that mentoring might have effectively increased school attendance, self-efficacy, and respect for others (O’Connor, 1995). Although the results appear promising, a small sample size and the previous mentioned problems of past mentoring efforts limit the certainty of program effectiveness.

Although this country is teeming with mentoring programs, very few provide thorough evaluations that could provide empirical evidence of program effectiveness. Even more scarce are evaluative studies that report mixed and/or negative findings of mentoring programs. Royse (1998) recently evaluated The Brothers Project, a mentoring project of high-risk minority youth in Lexington, Kentucky. Funded by the U.S.
Department of Health and Human Services, The Brothers Project was designed to demonstrate that mentoring high-risk African-American youth could yield positive results. The program's objectives were to increase school performance and reduce drug and alcohol use, and trouble with the law (Royse, 1998). Results found that there were no significant increases in grade point averages between mentor and control groups.

Although there was a slightly decreased trend in minor discipline infractions for the mentor groups, the findings were not statistically significant. Such findings were offset by a slightly increased trend toward major disciplinary infractions, however, not statistically significant. In addition, no differences were statistically significant between mentor and control groups in number of school absences (Royse, 1998). This study did not find quantitative evidence to support mentoring programs. However, as Royse (1998) notes, perhaps this was because many of the mentees were in the program for less than one year.

Slicker and Palmer (1993) evaluated a school-based mentoring program for at-risk high school students. Participants included 86 at-risk 10th grade students from a large suburban Texas school district. At-risk students were identified as students demonstrating the propensity to leave school before graduation, failure of two or more courses in their most recent semester, minimal scores in Texas Educational Assessment of minimum Skills, and minimal Metropolitan Achievement scores in reading and/or mathematics, as demonstrated by scoring in the 10th percentile, and grade retention. Results of the study found no statistically significant differences between dropouts in the mentored at-risk group and the nonmentored control group. In addition, no statistical differences were found in academic achievement between the mentored at-risk group and the nonmentored
control group. Furthermore, there were no statistically significant differences between Metropolitan Achievement scores of the mentored at-risk group and the nonmentored control group. Finally, statistical analyses suggested that mentoring at-risk students did not prevent high school dropout, nor did it raise self-concept or academic achievement (Slicker & Palmer, 1993).

Such studies demonstrate several germane limitations within the mentoring arena. First, such findings should alert current program designers to evaluate their current existing programs, as well as convincing new program designers to follow a thorough empirical research evaluation plan (e.g., Dumka, Roosa, Michaels, & Suh, 1994; Hughes, 1994). Second, mentoring programs should not overlook the quality of the relationships between mentor and mentee. Currently, very little is known about the quality of the mentor-mentee relationship and the ensuing benefits (Morrow & Styles, 1995). Third, time spent in mentoring programs seems to have an integral impact (Royse, 1998). Frecknall and Luks (1992) report that the longer matches with Big Brothers were more successful in comparison to shorter matches. Mentor-mentee relationships of approximately one year or greater appear to have increased positive results in a myriad of outcomes (Royse, 1998). Indeed, the Royse (1998) study demonstrates that mentoring is not a "quick fix." Rather, mentoring, like any relationship, needs time to prosper and develop into a positive relationship beneficial for both parties involved.
Finally, what inspired this current study is the failure of mentoring program evaluations to examine empirically program outcome variables both before and after adolescent youth are exposed to mentoring relationships. Indeed, the majority of evaluative studies of mentoring programs have been overly simplistic and hindered by (a) data analyses; (b) self-reported studies; (c) small samples; (d) ex-post facto designs; (e) cross-sectional data; and (f) lack of official records such as grades and behaviors. By failing to do so, mentoring programs may have made substantial claims of program effectiveness despite the uncertainty that their programs are actually making a statistically significant impact on the lives of adolescent youth. Mentoring programs that can examine official data from a large sample over multiple points in time, both before and after entry into the program of question, would greatly reduce the uncertainty of program effectiveness. In addition, a mentoring program that could examine empirically the grade level of entry a mentee started the program and the duration a mentee was enrolled in a mentoring program could provide a targeted age and timeframe from which to enroll participants. Such an evaluative effort could maximize program objectives and effectiveness by providing program designers much needed empirical evidence from which to focus their efforts.
CHAPTER 3

METHOD

Participants

Official school data obtained from the Cincinnati Public School system was provided for a sample of 447 adolescent youth enrolled in the Cincinnati Youth Collaborative mentoring program. Female participants constituted 61.1% of the sample and male participants constituted 38.9% of the sample. Participants ranged in age from 10 to 18 years, with a mean age of 15.20 years. The ethnic distribution of the participants included mostly African-American (79.4%), Caucasian (19.9%), and Asian (.7%) adolescent youth. Of those who participated in this study, 66.9% graduated from high school, while 33.1% either dropped out of high school or the mentoring program. The grade levels the participants started the program ranged from 72.9% in high school, 23.5% in middle school, to 3.6% in elementary school. Finally, the average length of duration the participants subscribed to the mentoring program was 26.09 months. A complete demographic profile of the participants is presented in Table 3.1.
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Table 3.1: Descriptive statistics for background characteristics
Procedures

Participants in this study were students enrolled in both the Cincinnati Public School (CPS) system and in the Cincinnati Youth Collaborative mentoring program during any given time period between 1989 to 1998. Data (i.e., official school records) for all participants (mentees) in this study were provided by CYC. In a collaborative effort, CYC and CPS tracked official school records such as grade point average, grade retention, proficiency test scores, and expulsions over this 10-year period. Only those students who were matched with a volunteer mentor from the local community were tracked, recorded, and evaluated. All mentors were recruited, screened, and trained before the matching process was conducted. To ensure a positive match, both mentor and mentee interests were evaluated by CYC representatives. Once a prospective match was identified, an introductory interview was arranged for the mentor and mentee to decide if either party was interested to proceed further. If both parties agreed, the mentor-mentee relationship began. From the onset of the relationship, both the mentor and mentee agreed to a code of responsibilities set forth by the program.

All participants in this study were officially categorized as “inactive” according to CYC. To be classified as “inactive”, the participant could have graduated from high school, dropped out of school, or voluntarily dropped out of the program. Although the participants may have voluntarily dropped out of the program for various reasons, they may still have been active in CPS. Of the 694 participants for whom official school data were collected, 247 of the participants were excluded from the study, as they were unable to provide complete data for the outcome variables. For example, some students did not have official data before or after entry into the program. Eliminating such participants
was deemed an appropriate procedure, as such participants were unable to yield sufficient data for the outcome variables. Each variable was collected at different points and times over the 10-year period. For example, grade point average was collected on a quarterly basis, while remaining variables of interest (i.e., grade retention, proficiency scores, and expulsions) were collected on an annual basis. Given the variety of entry dates to the program, official data was not available for all participants. To increase reliability, a representative of CYC was assigned responsibility to update and maintain official school records for the mentoring program.

Measures

All variables were measured and obtained via official school records from the Cincinnati Public School system. Variables include the following: (a) grade point average; (b) proficiency test scores; (c) grade retention; and (d) expulsions. Pre and post values were gathered by summing all data points (e.g., academic quarters or academic years) before and after enrollment into the mentoring program and creating a standardized mean value based upon the method of data collection (i.e., academic quarters or years).

*Grade Point Average (GPA).* GPA was measured as the student’s academic performance of class grades. Official raw data were reported in alphabetic form (e.g., A, B+, C-) and converted into Arabic form (e.g., 2.00). To convert raw grades into a quarterly GPA, the researcher summed the point value of the students earned grades (i.e., A=4.0, A-=3.7, B+=3.3, B=3.0, B-=2.7, C+=2.3, C=2.0, C-=1.7, D+=1.3, D=1.0, and F=0.0) and divided by the number of classes taken each quarter. In order to determine overall GPA both before and after program entry, grade point averages were
summed and divided by the total number of perspective quarters. Finally, GPA was reported according to the official Cincinnati Public School grading system (0.0 – 4.0 scale).

*Proficiency Test Scores (PTS).* Proficiency tests were given to all students enrolled in the Cincinnati Public School System on a yearly basis. School administrators used proficiency scores in their scholarly evaluative process, as they accurately reflected the grade level of students (NCES, 1994, 1996). Such decisions are based on Normal Curve Equivalents of high school students. A Normal Curve Equivalent score of 50 reflected a current match of a student’s present grade level. Scores ranged from 1 – 99 with a mean of 50 and a standard deviation of 21. The Normal Curve Equivalents of Cincinnati Public Schools proficiency tests have demonstrated reliability and validity as it is the required score for all federal and state projects evaluating data for educational projects and programs such as the CYC mentoring program (NCES, 1994, 1996; Ohio Department of Education, 1990, 1991). To determine proficiency scores the researcher simply summed the values and divided by the number of years corresponding to the number of years both before and after program entry.

*Grade Retention.* Grade retention was measured by examining official school records of student’s advancement or lack of advancement to the next appropriate grade level. School records were recorded yearly as to what grade level the student was enrolled at every given academic year over the student’s academic tenure. For example, a student’s records may appear as such: ’93 – 7th grade, ’94 – 8th grade, ’95 – 8th grade, ’96 – 9th grade, ’97 – 9th grade. Examining such records, the researcher was able to deduce that the student had a total of 2 years of grade retention as they repeated 8th grade.
and 9th grade. To determine grade retention both before and after program entry, the researcher summed total grade retentions and divided by the total number of perspective years both before and after program entry. For example, if a participant had been retained one time with three years before program entry data, their before program entry yearly mean would be .33. If that same participant had been retained one time with two years after program entry data, their after program entry yearly mean would be .50. Such a procedure accurately reflected yearly means of grade retention both before and after program entry.

Expulsions. Expulsions were measured by examining official school records of both the total number of times and days a student was expelled. In order to determine the total times and days a student was expelled before and after program entry, the researcher summed the values and divided by the number of years a student was enrolled before and after program entry. For example, if a student yielded two years of before program data and experienced 30 expulsion days, then the participant was said to have a prior to program yearly mean of 15 expulsion days. If, for example, the student yielded one year of before program data and experienced 20 expulsion days, then the participants was said to have a before program yearly mean of 20 expulsion days. The same technique was applied to the total number of expulsions. As with grade retention, such a procedure accurately reflected actual expulsion means both before and after program entry.

Data Analysis

Numerous studies have documented the educational and behavioral problems associated with minority inner-city adolescents (Arellano & Padilla, 1996; Connell, Spencer & Aber, 1994; Jessor, 1993; Werner, 1993). However, the majority of such
research has focused on examining the differences between white middle-class adolescents and minority lower-class adolescents. Consequently, less attention has been paid to the variation within inner-city lower-class Caucasian and minority adolescents (Connell, Spencer, & Aber, 1994). Analyses of within-subject differences are imperative to understand why youth academically succeed and fail and why youth behave appropriately or inappropriately in an academic setting.

There are three major premises to understanding the impact of mentoring programs. First, participants who spend a longer duration in a mentoring relationship with a caring adult should experience increased outcomes. Second, the earlier the age and grade level of entry to mentoring programs the better. Such assumptions are based on the notion that the earlier a mentee is exposed to a nurturing relationship with a mentor the more opportunities the mentor has to foster appropriate academic and behavioral development. Finally, as indicated earlier, gender has been considered one of the strongest predictors of academic and problematic behavior of inner-city minorities (Jessor, 1993; Kazdin, 1995; Luthar, 1991).

The first phase of this study uses a 3 (grade level) X 3 (duration) X 2 (pre and post values) within-subjects repeated measures analyses of variance (ANOVA) design. In addition, gender was examined as a between-subjects variable. For purposes of this study, grade levels were categorized as elementary, middle school, and high school. Duration in program was categorized as 4-6 months, 7-12 months, and 12 months plus. Examining the same participants across all conditions prevented the risk that subjects in one treatment were substantially different from subjects in another treatment (Gravetter & Wallnau, 1985). In addition, such a design allows the researcher to examine a
homogeneous group such as inner-city adolescents. Hence, the researcher was able to determine program effectiveness with greater certainty by examining the same subjects before and after program entry.

For purposes of this study, the dependent variables (i.e., GPA, grade retention, proficiency scores, and expulsions) were examined before and after entry into the mentoring program. The pre-mean values of the aforementioned variables served as the independent variables and the post-mean values served as the dependent variables. Hence, the statistical technique of repeated measures analysis of variance (ANOVA) examined the pre to post mean differences of Time (i.e., program participation) as a main effect and duration in program, grade level started the program, and gender as interaction effects. Separate ANOVA's were performed for each dependent variable of GPA, grade retention, math and reading proficiency, and days and times of expulsions.

The second phase of the data analysis utilized a hierarchical multiple regression analysis design in which the independent variables age started the program, duration in program, and gender were regressed on each dependent variable (i.e., GPA, grade retention, proficiency scores, and expulsions) in order to determine the variance accounted by the independent variables of interest. For purposes of this study, six models were suggested. For each model, the pre-mentoring values of the independent variables GPA, grade retention, proficiency tests, and expulsions, duration in program, age started program, and gender were regressed against the post-mentoring values of the dependent variables GPA, grade retention, proficiency scores, and expulsions. This order was maintained for each of the six models. Reasoning for this hierarchical order was based on the assumption that prior to mentoring values of GPA, grade retention, proficiency
scores, and expulsions should account for the majority of variance when regressed against the after entry to mentoring values of GPA, grade retention, proficiency scores, and expulsions.

Given that the major underpinning of mentoring programs is time spent with a caring mentoring adult makes a difference, duration in program was selected as the second variable inserted into the hierarchical model. Although duration was used as a categorical variable in the ANOVA models, duration was used as a continuous variable for the regression models. A further assumption of mentoring programs is that the earlier the program can reach a child, the better. Hence, the age the participant started the program was selected into the hierarchical model next. Again, for the regression models, age started program was a continuous variable as opposed to the categorical variable used in the ANOVA models. Finally, given the wealth of research demonstrating the pervasiveness of male problematic behavior in comparison to female problematic behavior, gender was inserted into the hierarchical model last.

Multiple Regression Models

For model 1, the independent variables GPA prior to mentoring, duration in program, age started program, and gender were regressed on the dependent variable GPA after mentoring.

For model 2, the independent variables grade retention prior to mentoring, duration in program, age started program, and gender were regressed on the dependent variable grade retention after mentoring.
For model 3, the independent variables reading proficiency score prior to mentoring, duration in program, age started program, and gender were regressed on the dependent variable reading proficiency score after mentoring.

For model 4, the independent variables math proficiency score prior to mentoring, duration in program, age started program, and gender were regressed on the dependent variable math proficiency score after mentoring.

For model 5, the independent variables number of expulsions prior to mentoring, duration in program, age started program, and gender were regressed on the dependent variable number of expulsions after mentoring.

Finally, for model 6, the independent variables days of expulsions prior to mentoring, duration in program, age started program entry, and gender were regressed on the dependent variable days of expulsions after mentoring.
CHAPTER 4

RESULTS

Participants in the mentoring program ranged from 10 to 18 years of age, with the mean age of participants was 15.20 years. Participants spent on average 26.09 months in the mentoring program. The duration of time individual participants spent in the program ranged between 4 months and 65 months. See Table 4.1 below for summary.

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Started Program</td>
<td>447</td>
<td>15.20</td>
<td>1.45</td>
<td>8</td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td>Duration in Program</td>
<td>447</td>
<td>26.09</td>
<td>14.60</td>
<td>61</td>
<td>4</td>
<td>65</td>
</tr>
</tbody>
</table>

Table 4.1: Frequency statistics for age started program and duration in program

The means, standard deviations, and range of the independent variables (i.e., pre values of GPA, grade retention, math and reading proficiency scores, and total days and times of expulsion) and dependent variables (i.e. post values of GPA, grade retention, math and reading proficiency scores, total days and times of expulsion) derived from repeated measures analyses of variance are presented in Table 4.2. For gender differences of the mean pre and post outcome variables, see Table 4.3 for summary of male means and Table 4.4 for summary of female means.
<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grade Point Average</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Mentoring</td>
<td>2.24217</td>
<td>447</td>
<td>.68157</td>
</tr>
<tr>
<td>After Mentoring</td>
<td>1.99733</td>
<td>447</td>
<td>.84915</td>
</tr>
<tr>
<td><strong>Grade Retention</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Mentoring</td>
<td>.03846</td>
<td>447</td>
<td>.09968</td>
</tr>
<tr>
<td>After Mentoring</td>
<td>.1439</td>
<td>447</td>
<td>.2396</td>
</tr>
<tr>
<td><strong>Math Proficiency Scores</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Mentoring</td>
<td>49.1566</td>
<td>447</td>
<td>16.8588</td>
</tr>
<tr>
<td>After Mentoring</td>
<td>44.5749</td>
<td>447</td>
<td>18.3091</td>
</tr>
<tr>
<td><strong>Reading Proficiency Scores</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Mentoring</td>
<td>46.4096</td>
<td>447</td>
<td>15.6734</td>
</tr>
<tr>
<td>After Mentoring</td>
<td>45.7370</td>
<td>447</td>
<td>17.1396</td>
</tr>
<tr>
<td><strong>Total Expulsions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Mentoring</td>
<td>.06318</td>
<td>447</td>
<td>.1591</td>
</tr>
<tr>
<td>After Mentoring</td>
<td>.1069</td>
<td>447</td>
<td>.1970</td>
</tr>
<tr>
<td><strong>Days of Expulsions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Mentoring</td>
<td>.4391</td>
<td>447</td>
<td>1.5252</td>
</tr>
<tr>
<td>After Mentoring</td>
<td>1.3500</td>
<td>447</td>
<td>3.8934</td>
</tr>
</tbody>
</table>

Table 4.2: Sample frequency statistics of outcome variables
<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Point Average</td>
<td>Before</td>
<td>2.10725</td>
<td>174</td>
</tr>
<tr>
<td></td>
<td>After</td>
<td>1.80019</td>
<td>174</td>
</tr>
<tr>
<td>Grade Retention</td>
<td>Before</td>
<td>0.04299</td>
<td>174</td>
</tr>
<tr>
<td></td>
<td>After</td>
<td>0.1960</td>
<td>174</td>
</tr>
<tr>
<td>Math Proficiency Scores</td>
<td>Before</td>
<td>47.5286</td>
<td>174</td>
</tr>
<tr>
<td></td>
<td>After</td>
<td>42.7145</td>
<td>174</td>
</tr>
<tr>
<td>Reading Proficiency Scores</td>
<td>Before</td>
<td>44.7040</td>
<td>174</td>
</tr>
<tr>
<td></td>
<td>After</td>
<td>43.4344</td>
<td>174</td>
</tr>
<tr>
<td>Total Expulsions</td>
<td>Before</td>
<td>0.06989</td>
<td>174</td>
</tr>
<tr>
<td></td>
<td>After</td>
<td>0.1464</td>
<td>174</td>
</tr>
<tr>
<td>Days of Expulsions</td>
<td>Before</td>
<td>0.5351</td>
<td>174</td>
</tr>
<tr>
<td></td>
<td>After</td>
<td>2.0252</td>
<td>174</td>
</tr>
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</table>

Table 4.3: Frequency statistics of outcome variables for males
<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Point Average</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Mentoring</td>
<td>2.32816</td>
<td>273</td>
<td>.66796</td>
</tr>
<tr>
<td>After Mentoring</td>
<td>2.12298</td>
<td>273</td>
<td>.83213</td>
</tr>
<tr>
<td>Grade Retention</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Mentoring</td>
<td>.03557</td>
<td>273</td>
<td>.09537</td>
</tr>
<tr>
<td>After Mentoring</td>
<td>.1107</td>
<td>273</td>
<td>.2162</td>
</tr>
<tr>
<td>Math Proficiency Scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Mentoring</td>
<td>50.1942</td>
<td>273</td>
<td>16.3514</td>
</tr>
<tr>
<td>After Mentoring</td>
<td>45.7606</td>
<td>273</td>
<td>16.4804</td>
</tr>
<tr>
<td>Reading Proficiency Scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Mentoring</td>
<td>47.4966</td>
<td>273</td>
<td>14.5734</td>
</tr>
<tr>
<td>After Mentoring</td>
<td>47.2045</td>
<td>273</td>
<td>15.7781</td>
</tr>
<tr>
<td>Total Expulsions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Mentoring</td>
<td>.05890</td>
<td>273</td>
<td>.1605</td>
</tr>
<tr>
<td>After Mentoring</td>
<td>.1464</td>
<td>273</td>
<td>.2282</td>
</tr>
<tr>
<td>Days of Expulsions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Mentoring</td>
<td>.3780</td>
<td>273</td>
<td>1.3688</td>
</tr>
<tr>
<td>After Mentoring</td>
<td>.9196</td>
<td>273</td>
<td>3.1709</td>
</tr>
</tbody>
</table>

Table 4.4: Frequency statistics of outcome variables for females

Repeated Measures Analyses

It was hypothesized at an alpha level of .05 that the participants enrolled in the mentoring program would benefit academically and behaviorally from their experiences in the mentoring program. More specifically, academic achievement would increase and behavioral problems would decrease. Separate repeated measures analyses of variance (ANOVA's) were performed for each dependent variable.
Grade Point Average

It was hypothesized that grade point averages of the participants would be higher after as compared to before mentoring. The Gender X Grade Level X Duration X Time (pre and post values of program participation) ANOVA showed that program participation had a significant main effect, $F (1,432) = 14.96, p < .000$. Participants’ GPA scores were significantly lower at the end of the program compared to their prior scores, $M = 2.242, SD = .682$ at Time 1, $M = 1.997, SD = .849$ at Time 2. Duration in program, grade level of entry, and gender had no significant main or interaction effects on GPA.

<table>
<thead>
<tr>
<th>Source</th>
<th>GPA</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Post value vs. Pre value</td>
<td>6.299</td>
<td>1</td>
<td>6.299</td>
<td>14.96</td>
<td>.000</td>
</tr>
<tr>
<td>Time * Grade Level</td>
<td>Post value vs. Pre value</td>
<td>.249</td>
<td>2</td>
<td>.124</td>
<td>.295</td>
<td>.745</td>
</tr>
<tr>
<td>Time * Duration</td>
<td>Post value vs. Pre value</td>
<td>.274</td>
<td>2</td>
<td>.137</td>
<td>.325</td>
<td>.723</td>
</tr>
<tr>
<td>Time * Gender</td>
<td>Post value vs. Pre value</td>
<td>.187</td>
<td>1</td>
<td>.187</td>
<td>.445</td>
<td>.505</td>
</tr>
<tr>
<td>Error(Time)</td>
<td>Post value vs. Pre value</td>
<td>181.892</td>
<td>432</td>
<td>.421</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.5: Repeated measures analysis of variance grade point average.
Grade Retention

It was hypothesized that participant grade retention would be lower after as compared to before mentoring. The Gender X Grade Level X Duration X Time (pre and post values of program participation) ANOVA showed that program participation had a significant main effect, $F(1, 432) = 20.91$, $p < .000$. Participants' grade retention scores were significantly higher at the end of the program compared to their prior scores, $M = .03, SD = .09$ at Time 1, $M = .14, SD = .23$ at Time 2. Duration in program, grade level started program, and gender had no significant main or interaction effects on grade retention.

<table>
<thead>
<tr>
<th>Source</th>
<th>Retention</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Post value vs. Pre value</td>
<td>.611</td>
<td>1</td>
<td>.611</td>
<td>20.91</td>
<td>.000</td>
</tr>
<tr>
<td>Time * Grade Level</td>
<td>Post value vs. Pre value</td>
<td>.04670</td>
<td>2</td>
<td>.02335</td>
<td>.799</td>
<td>.450</td>
</tr>
<tr>
<td>Time * Duration</td>
<td>Post value vs. Pre value</td>
<td>.121</td>
<td>2</td>
<td>.06066</td>
<td>2.076</td>
<td>.127</td>
</tr>
<tr>
<td>Time * Gender</td>
<td>Post value vs. Pre value</td>
<td>.09205</td>
<td>1</td>
<td>.09205</td>
<td>3.150</td>
<td>.077</td>
</tr>
<tr>
<td>Error(Time)</td>
<td>Post value vs. Pre value</td>
<td>12.625</td>
<td>432</td>
<td>.02922</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.6: Repeated measures analysis of variance grade retention.
Math Proficiency

It was hypothesized that math proficiency scores of the participants would be higher after as compared to before mentoring. The Gender X Grade Level X Duration X Time (pre and post values of program participation) ANOVA showed that program participation had a significant main effect, $F (1,432) = 13.80$, $p < .000$. The main effect was qualified by an interaction effect of Time X Duration, $F (1, 432) = 3.17$, $p < .043$. Participants’ math proficiency scores were significantly lower at the end of the program compared to their prior scores. Planned comparison of pre to post mean differences were evaluated at each level (4-6 months, 7-12 months, 12 months plus) of duration in program by paired t-tests. Inspection of the means showed that this significant difference remained only for adolescents who were in the program for less than 7 months, $M = 45.46$, $SD = 19.64$ at Time1, $M = 36.36$, $SD = 19.47$ at Time 2. Grade level started program and gender had no significant main or interaction effects on math proficiency scores.

<table>
<thead>
<tr>
<th>Source</th>
<th>Math</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Post value vs. Pre value</td>
<td>811.187</td>
<td>1</td>
<td>811.187</td>
<td>13.798</td>
<td>.000</td>
</tr>
<tr>
<td>Time * Grade Level</td>
<td>Post value vs. Pre value</td>
<td>76.350</td>
<td>2</td>
<td>38.175</td>
<td>.649</td>
<td>.523</td>
</tr>
<tr>
<td>Time * Duration</td>
<td>Post value vs. Pre value</td>
<td>372.432</td>
<td>2</td>
<td>186.216</td>
<td>3.167</td>
<td>.043</td>
</tr>
<tr>
<td>Time * Gender</td>
<td>Post value vs. Pre value</td>
<td>85.467</td>
<td>1</td>
<td>85.467</td>
<td>1.454</td>
<td>.229</td>
</tr>
<tr>
<td>Error(Time)</td>
<td>Post value vs. Pre value</td>
<td>25398.132</td>
<td>432</td>
<td>58.792</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.7: Repeated measures analysis of variance math proficiency.
Reading Proficiency

It was hypothesized that reading proficiency scores of the participants would be higher after as compared to before mentoring. The Gender X Grade Level X Duration X Time (pre and post values of program participation) ANOVA showed that program participation did not have a significant main effect, $F(1,443) = 3.79, p < .052$. Although nonsignificant, participants' reading proficiency scores were lower at the end of the program compared to their prior scores, $M = 46.41, SD = 15.67$ at Time 1, $M = 45.73, SD = 17.14$ at Time 2. Duration in program, grade level started program, and gender had no significant main or interaction effects on reading proficiency scores.

<table>
<thead>
<tr>
<th>Source</th>
<th>Reading</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Post value vs. Pre value</td>
<td>129.395</td>
<td>1</td>
<td>129.395</td>
<td>3.789</td>
<td>.052</td>
</tr>
<tr>
<td>Time * Grade Level</td>
<td>Post value vs. Pre value</td>
<td>123.913</td>
<td>2</td>
<td>61.956</td>
<td>1.814</td>
<td>.164</td>
</tr>
<tr>
<td>Time * Duration</td>
<td>Post value vs. Pre value</td>
<td>134.093</td>
<td>2</td>
<td>67.046</td>
<td>1.963</td>
<td>.142</td>
</tr>
<tr>
<td>Time * Gender</td>
<td>Post value vs. Pre value</td>
<td>.469</td>
<td>1</td>
<td>.469</td>
<td>.014</td>
<td>.907</td>
</tr>
<tr>
<td>Error(Time)</td>
<td>Post value vs. Pre value</td>
<td>14752.086</td>
<td>432</td>
<td>34.148</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.8: Repeated measures analysis of variance math proficiency.
Total Expulsions

It was hypothesized that total expulsions of the participants would be lower after as compared to before mentoring. The Gender X Grade Level X Duration X Time (pre and post values of program participation) ANOVA showed that program participation had a significant main effect, $F(1,432) = 5.10, p < .024$. The main effect was qualified by an interaction effect of Time X Gender, $F(1,432) = 6.33, p < .012$. Participants' total expulsions were significantly higher at the end of the program compared to their prior scores. Planned comparison of pre to post mean differences were evaluated at each level (male and female) of gender by paired t-tests. Inspection of the means showed that this significant difference remained only for male adolescents, $M = .06, SD = .157$ at Time1, $M = .15, SD = .228$ at Time 2. Duration in program and grade level started program had no significant main or interaction effects on total expulsions.

<table>
<thead>
<tr>
<th>Source</th>
<th>Total Expulsions</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Post value vs. Pre value</td>
<td>.117</td>
<td>1</td>
<td>.117</td>
<td>5.099</td>
<td>.024</td>
</tr>
<tr>
<td>Time * Grade Level</td>
<td>Post value vs. Pre value</td>
<td>.06549</td>
<td>2</td>
<td>.03275</td>
<td>1.427</td>
<td>.241</td>
</tr>
<tr>
<td>Time * Duration</td>
<td>Post value vs. Pre value</td>
<td>.03009</td>
<td>2</td>
<td>.01505</td>
<td>.656</td>
<td>.520</td>
</tr>
<tr>
<td>Time * Gender</td>
<td>Post value vs. Pre value</td>
<td>.145</td>
<td>1</td>
<td>.145</td>
<td>6.327</td>
<td>.012</td>
</tr>
<tr>
<td>Error(Time)</td>
<td>Post value vs. Pre value</td>
<td>9.915</td>
<td>432</td>
<td>.02295</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.9: Repeated measures analysis of variance total expulsions.
Days of Expulsions

It was hypothesized that days of expulsions of the participants would be lower after as compared to before mentoring. The Gender X Grade Level X Duration X Time (pre and post) ANOVA showed that program participation had a significant main effect, F(1, 432) = 26.16, p < .000. This main effect was qualified by a significant interaction effect between Time X Grade level, F(1, 432) = 11.36, p < .000. Participants' days of expulsions scores were significantly higher at the end of the program compared to their prior scores, M = .44, SD = 1.52 at Time 1, M = 1.35, SD = 3.89 at Time 2. Planned comparison of pre to post mean differences were evaluated at each level (elementary, middle school, and high school) of grade level of entry into the mentoring program. Inspection of the means showed that this significant difference remained only for those adolescents enrolled in the mentoring program during elementary school, M = .23, SD = .628 at Time 1, M = 3.45, SD = 7.01 at Time 2.

This main effect was also qualified by a significant interaction effect between Time X Duration, F(1, 432) = 5.41, p < .005. Participants’ days of expulsions scores were significantly higher at the end of the program compared to their prior scores, M = .44, SD = 1.52 at Time 1, M = 1.35, SD = 3.89 at Time 2. Planned comparison of pre to post mean differences were evaluated at each level (4-6 months, 7-12 months, 12 months plus) of duration in program by paired t-tests. Inspection of the means showed that this significant difference remained only for those adolescents in the program for longer than 12 months, M = .31, SD = 1.24 at Time 1, M = 1.23, SD = 3.65 at Time 2.
Finally, this main effect was qualified by a significant interaction effect between Time X Gender, $F(1, 432) = 7.97, P < .005$. Participants’ days of expulsions scores were significantly higher at the end of the program compared to their prior scores, $M = .44$, SD = 1.52 at Time 1, $M = 1.35$, SD = 3.89 at Time 2. Planned comparison of pre to post mean differences were evaluated at each level (male and female) of gender by paired t-tests. Inspection of the means showed that this significant difference remained only for male adolescents, $M = .54$, SD = 1.742 at Time 1, $M = 2.03$, SD = 4.745 at Time 2.

<table>
<thead>
<tr>
<th>Source</th>
<th>Days of Expulsions</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Post value vs. Pre value</td>
<td>204.844</td>
<td>1</td>
<td>204.844</td>
<td>26.161</td>
<td>.000</td>
</tr>
<tr>
<td>Time * Grade Level</td>
<td>Post value vs. Pre value</td>
<td>177.920</td>
<td>2</td>
<td>88.960</td>
<td>11.361</td>
<td>.000</td>
</tr>
<tr>
<td>Time * Duration</td>
<td>Post value vs. Pre value</td>
<td>84.743</td>
<td>2</td>
<td>42.372</td>
<td>5.411</td>
<td>.005</td>
</tr>
<tr>
<td>Time * Gender</td>
<td>Post value vs. Pre value</td>
<td>62.390</td>
<td>1</td>
<td>62.390</td>
<td>7.968</td>
<td>.001</td>
</tr>
<tr>
<td>Error(Time)</td>
<td>Post value vs. Pre value</td>
<td>3382.638</td>
<td>432</td>
<td>7.830</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.10: Repeated measures analysis of variance days of expulsions.

Although duration in program was hypothesized to influence the outcome variables of this study, repeated measures analyses of variance demonstrated that duration was only significant for days of expulsions and math proficiency scores. Although repeated measures analyses effectively examined the outcome variables of interest, the
answer of how much variance explained by the age started the program, duration in
program, gender, and the dependent variables of this study remains unanswered. This
research now turns to regression analyses to answer such questions.

Hierarchical Regression Analyses

Grade Point Average

It was hypothesized that before mentoring GPA, time in program, age started
program, and gender would be significantly associated with after program entry GPA.
Results demonstrated that before mentoring GPA, age started program, and gender were
statistically significant predictors of after program entry GPA for this hierarchical model.
Before mentoring GPA accounted for approximately 42% of the variance, age started
program added approximately 2% of the variance, and gender added approximately 1%
of the total variance for after program entry GPA. The overall model accounted for
approximately 46% of the variance for grade point average. See Table 4.17 below for
model summary.
<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>R Square Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(a)</td>
<td>.651a</td>
<td>.424</td>
<td>.423</td>
<td>.64524</td>
<td>.424</td>
<td>327.436</td>
<td>1</td>
<td>445</td>
<td>.000</td>
</tr>
<tr>
<td>2(b)</td>
<td>.669b</td>
<td>.447</td>
<td>.445</td>
<td>.63278</td>
<td>.023</td>
<td>18.689</td>
<td>1</td>
<td>444</td>
<td>.000</td>
</tr>
<tr>
<td>3(c)</td>
<td>.674c</td>
<td>.455</td>
<td>.451</td>
<td>.62908</td>
<td>.008</td>
<td>6.247</td>
<td>1</td>
<td>443</td>
<td>.013</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), GPA before mentoring program
b. Predictors: (Constant), GPA before mentoring program, age started program
c. Predictors: (Constant), GPA before mentoring program, age started program, gender
d. Dependent Variable: GPA after mentoring program

Table 4.11: Model summary for grade point average.

Grade Retention

It was hypothesized that before mentoring grade retention, duration in program, age started program, and gender would be significantly associated with after program entry grade retention. Results demonstrated gender and before mentoring grade retention were statistically significant predictors of after program entry to mentoring grade retention for this hierarchical model. Gender accounted for approximately 3% of the variance and before mentoring grade retention accounted for approximately 1.5% of the variance for after program entry grade retention. The overall model accounted for 4.5% of the variance for grade retention. See Table 4.12 below for model summary.
Model Summary(c)

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R Square Change</td>
</tr>
<tr>
<td>1(a)</td>
<td>.174a</td>
<td>.030</td>
<td>.028</td>
<td>.2362</td>
<td>.030 13.879</td>
</tr>
<tr>
<td>2(b)</td>
<td>.669b</td>
<td>.045</td>
<td>.040</td>
<td>.2347</td>
<td>.014 6.680</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Gender

b. Predictors: (Constant), Gender, grade retention before CYC

c. Dependent Variable: Grade retention after CYC

Table 4.12: Model summary for grade retention.

Math Proficiency

It was hypothesized that before mentoring math proficiency score, duration in program, age started program, and gender would be significantly associated with after program entry to mentoring math proficiency score. Results demonstrated before mentoring math proficiency score was the only statistically significant predictor of after program entry math proficiency score for this hierarchical model. Before mentoring math proficiency score accounted for approximately 65% of the variance for after program entry math proficiency score. The overall model accounted for 65% of the variance for math proficiency scores. See Table 4.13 below for model summary.
Table 4.13: Model summary for math proficiency.

Reading Proficiency

It was hypothesized that before mentoring reading proficiency score, duration in program, age started program, and gender would be significantly associated with after program entry reading proficiency score. Results demonstrated before mentoring reading proficiency score was the only statistically significant predictor of after program entry reading proficiency score for this hierarchical model. Before mentoring reading proficiency score accounted for approximately 77% of the variance for after program entry reading proficiency score. The overall model accounted for 77% of the variance for reading proficiency scores. See Table 4.14 below for model summary.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
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<td>1(a)</td>
<td>.807a</td>
<td>.651</td>
<td>.650</td>
<td>10.8347</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R Square Change</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F Change</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>df1</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>df2</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>Sig F Change</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Math proficiency scores before mentoring

b. Dependent Variable: Math proficiency scores after mentoring
### Model Summary(b)

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
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<td>1(a)</td>
<td>.876a</td>
<td>.768</td>
<td>.767</td>
<td>8.2648</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>R Square Change</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F Change</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>df1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>df2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sig F Change</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.768</td>
<td></td>
<td>.768</td>
<td>1473.116</td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Reading proficiency scores before mentoring

b. Dependent Variable: Reading proficiency scores after mentoring

Table 4.14: Model summary for reading proficiency.

#### Total Expulsions

It was hypothesized that before mentoring total expulsions, duration in program, age started program, and gender would be significantly associated with after program entry total expulsions. Results demonstrated before mentoring total expulsions and gender were statistically significant predictors of after program entry to mentoring total expulsions for this hierarchical model. Before mentoring total expulsions accounted for approximately 7.6% of the variance and gender accounted for approximately 2.3% of the variance for after program entry total expulsions. The overall model accounted for approximately 10% of the variance for total expulsions. See Table 4.15 below for model summary.
Table 4.15: Model summary for total expulsions.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R Square Change</td>
</tr>
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<td>1(a)</td>
<td>.276a</td>
<td>.076</td>
<td>.074</td>
<td>.1896</td>
<td>.076</td>
</tr>
<tr>
<td>2(b)</td>
<td>.314b</td>
<td>.099</td>
<td>.095</td>
<td>.1875</td>
<td>.023</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Total expulsions before mentoring

b. Predictors: (Constant), Total expulsions before mentoring, gender

c. Dependent Variable: Total expulsions after mentoring

Days of Expulsions

It was hypothesized that before mentoring days of expulsions, duration in program, age started program, and gender would be significantly associated with after program entry days of expulsions. Results demonstrated gender was the only statistically significant predictor of after program entry days of expulsions for this hierarchical model. Gender accounted for approximately 2% of the variance for days of expulsions. See Table 4.16 below for model summary.
Model Summary(b)

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R Square Change</td>
</tr>
<tr>
<td>1(a)</td>
<td>.139a</td>
<td>.019</td>
<td>.017</td>
<td>3.8602</td>
<td>.019 F 8.717</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>df1 df2 Sig F Change</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 445 .003</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Gender

b. Dependent Variable: Total days of expulsions after mentoring

Table 4.16: Model summary for days of expulsions

Additional Descriptive Statistics

The primary objective of the Cincinnati Youth Collaborative has remained the same since program conception, namely, increase high school graduation rates. Given such information, it was deemed appropriate to examine the differences that existed between those who graduated from high school and those who had not graduated from high school. Of the 447 participants in the mentoring program, 299 graduated high school, 46 dropped out of high school, and 102 dropped out of the program for reasons other than graduation or dropping out of high school. Upon inspecting the mean differences, it is clear that those who quit the program or dropped out of high school were younger than those who graduated when they entered the mentoring program. For

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example, dropouts entered the program with a mean age of 14.80 years, those who quit the program had a mean age of 14.68 years, and those who graduated had a mean age of 15.44 years. See Table 4.17 below for summary.

<table>
<thead>
<tr>
<th>Category</th>
<th>Variable</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduated</td>
<td>Age of Entry</td>
<td>15.44</td>
<td>11</td>
<td>18</td>
<td>1.41</td>
</tr>
<tr>
<td>Quit Program</td>
<td>Age of Entry</td>
<td>14.68</td>
<td>10</td>
<td>18</td>
<td>1.52</td>
</tr>
<tr>
<td>Dropped Out</td>
<td>Age of Entry</td>
<td>14.80</td>
<td>11</td>
<td>17</td>
<td>1.15</td>
</tr>
</tbody>
</table>

Table 4.17: Mean, minimum, maximum, and standard deviation of age of program entry.

Grade Point Average

Those who graduated high school entered the mentoring program with a 2.434 mean GPA and their mean GPA after they entered the mentoring program was 2.352. Those who quit the program entered the mentoring program with a 2.242 mean GPA and their mean GPA after they entered the mentoring program was 1.414. Those who dropped out of high school entered the mentoring program with a 1.749 mean GPA and their mean GPA after they entered the mentoring program was .979. See Table 4.18 below for summary.
<table>
<thead>
<tr>
<th>Category</th>
<th>Variable</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduated</td>
<td>Pre GPA</td>
<td>2.434</td>
<td>.724</td>
<td>4.000</td>
<td>.642</td>
</tr>
<tr>
<td></td>
<td>Post GPA</td>
<td>2.352</td>
<td>.293</td>
<td>3.971</td>
<td>.717</td>
</tr>
<tr>
<td>Quit Program</td>
<td>Pre GPA</td>
<td>1.899</td>
<td>.734</td>
<td>3.921</td>
<td>.594</td>
</tr>
<tr>
<td></td>
<td>Post GPA</td>
<td>1.414</td>
<td>.278</td>
<td>3.101</td>
<td>.572</td>
</tr>
<tr>
<td>Dropped Out</td>
<td>Pre GPA</td>
<td>1.749</td>
<td>.640</td>
<td>3.224</td>
<td>.567</td>
</tr>
<tr>
<td></td>
<td>Post GPA</td>
<td>.979</td>
<td>.000</td>
<td>2.361</td>
<td>.576</td>
</tr>
</tbody>
</table>

Table 4.18: Mean, minimum, maximum, and standard deviation for GPA.

Grade Retention

The graduates of this study entered the program with a mean grade retention per year of .01 and had a mean grade retention per year of .05 after program entry. However, those who quit the program entered the program with a mean grade retention per year of .07 and had a mean grade retention per year of .29 after program entry. Moreover, those who dropped out entered the program with a mean grade retention per year of .08 and had a mean grade retention per year of .41 after program entry. See Table 4.18 below for summary.
Table 4.19: Mean, minimum, maximum, and standard deviation for grade retention.

<table>
<thead>
<tr>
<th>Category</th>
<th>Variable</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduated</td>
<td>Pre Retention</td>
<td>.01</td>
<td>.00</td>
<td>.33</td>
<td>.07</td>
</tr>
<tr>
<td></td>
<td>Post Retention</td>
<td>.05</td>
<td>.00</td>
<td>1.00</td>
<td>.15</td>
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<tr>
<td>Quit Program</td>
<td>Pre Retention</td>
<td>.07</td>
<td>.00</td>
<td>.50</td>
<td>.13</td>
</tr>
<tr>
<td></td>
<td>Post Retention</td>
<td>.29</td>
<td>.00</td>
<td>1.00</td>
<td>.27</td>
</tr>
<tr>
<td>Dropped Out</td>
<td>Pre Retention</td>
<td>.08</td>
<td>.00</td>
<td>.33</td>
<td>.13</td>
</tr>
<tr>
<td></td>
<td>Post Retention</td>
<td>.41</td>
<td>.00</td>
<td>1.00</td>
<td>.30</td>
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</tbody>
</table>

Proficiency Scores

High school graduates had mean math scores of 52.55 and reading scores of 49.50 before they entered the program and mean math scores of 48.58 and reading scores of 49.24 after they entered the program. Those who quit the program had mean math scores of 42.63 and reading scores of 41.04 before they entered the program and mean math scores of 37.04 and reading scores of 39.31 after they entered the program. Finally, those who dropped out of high school had mean math scores of 41.59 and reading scores of 38.24 before they entered the program and mean math scores of 35.26 and reading scores of 37.24 after they entered the program. See Table 4.20 below for summary.
<table>
<thead>
<tr>
<th>Category</th>
<th>Variable</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
<th>SD</th>
</tr>
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<tr>
<td>Graduated</td>
<td>Pre Math</td>
<td>52.55</td>
<td>15.33</td>
<td>95.20</td>
<td>16.53</td>
</tr>
<tr>
<td></td>
<td>Pre Reading</td>
<td>49.50</td>
<td>2.00</td>
<td>90.66</td>
<td>14.88</td>
</tr>
<tr>
<td></td>
<td>Post Math</td>
<td>48.58</td>
<td>1.00</td>
<td>99.00</td>
<td>18.32</td>
</tr>
<tr>
<td></td>
<td>Post Reading</td>
<td>49.24</td>
<td>4.00</td>
<td>98.00</td>
<td>16.67</td>
</tr>
<tr>
<td>Quit Program</td>
<td>Pre Math</td>
<td>42.63</td>
<td>16.66</td>
<td>99.00</td>
<td>15.57</td>
</tr>
<tr>
<td></td>
<td>Pre Reading</td>
<td>41.04</td>
<td>11.66</td>
<td>94.33</td>
<td>15.67</td>
</tr>
<tr>
<td></td>
<td>Post Math</td>
<td>37.04</td>
<td>3.00</td>
<td>86.50</td>
<td>15.08</td>
</tr>
<tr>
<td></td>
<td>Post Reading</td>
<td>39.31</td>
<td>2.00</td>
<td>93.00</td>
<td>16.57</td>
</tr>
<tr>
<td>Dropped Out</td>
<td>Pre Math</td>
<td>41.59</td>
<td>12.00</td>
<td>75.00</td>
<td>15.25</td>
</tr>
<tr>
<td></td>
<td>Pre Reading</td>
<td>38.24</td>
<td>7.00</td>
<td>65.50</td>
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</tr>
<tr>
<td></td>
<td>Post Math</td>
<td>35.26</td>
<td>1.00</td>
<td>71.00</td>
<td>16.33</td>
</tr>
<tr>
<td></td>
<td>Post Reading</td>
<td>37.24</td>
<td>8.00</td>
<td>72.00</td>
<td>14.40</td>
</tr>
</tbody>
</table>

Table 4.20: Mean, minimum, maximum, and standard deviation for proficiency scores.

Expulsions

High school graduates entered the mentoring program with an annual mean of .05 total expulsions and .31 expulsion days and had an annual mean of .07 total expulsions and .81 expulsion days after they entered the mentoring program. Those who quit the mentoring program entered with an annual mean of .07 total expulsions and .60 expulsion days and had an annual mean of .16 total expulsions and 1.65 expulsion days. Finally,
dropouts entered the mentoring program with an annual mean of .14 total expulsions and .89 expulsion days and had an annual mean of .20 total expulsions and 4.18 expulsion days per year. See Table 4.21 below for summary.

<table>
<thead>
<tr>
<th>Category</th>
<th>Variable</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
<th>SD</th>
</tr>
</thead>
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<tr>
<td>Graduated</td>
<td>Pre Total Exp.</td>
<td>.05</td>
<td>.00</td>
<td>.66</td>
<td>.13</td>
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<tr>
<td></td>
<td>Pre Days Exp.</td>
<td>.31</td>
<td>.00</td>
<td>12.00</td>
<td>1.21</td>
</tr>
<tr>
<td></td>
<td>Post Total Exp.</td>
<td>.07</td>
<td>.00</td>
<td>1.33</td>
<td>.17</td>
</tr>
<tr>
<td></td>
<td>Post Days Exp.</td>
<td>.81</td>
<td>.00</td>
<td>26.66</td>
<td>2.85</td>
</tr>
<tr>
<td>Quit Program</td>
<td>Pre Total Exp.</td>
<td>.07</td>
<td>.00</td>
<td>.66</td>
<td>.17</td>
</tr>
<tr>
<td></td>
<td>Pre Days Exp.</td>
<td>.60</td>
<td>.00</td>
<td>15.33</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>Post Total Exp.</td>
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<td>.00</td>
<td>1.00</td>
<td>.24</td>
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<tr>
<td></td>
<td>Post Days Exp.</td>
<td>1.65</td>
<td>.00</td>
<td>19.00</td>
<td>3.36</td>
</tr>
<tr>
<td>Dropped Out</td>
<td>Pre Total Exp.</td>
<td>.14</td>
<td>.00</td>
<td>1.00</td>
<td>.25</td>
</tr>
<tr>
<td></td>
<td>Pre Days Exp.</td>
<td>.89</td>
<td>.00</td>
<td>10.00</td>
<td>1.99</td>
</tr>
<tr>
<td></td>
<td>Post Total Exp.</td>
<td>.20</td>
<td>.00</td>
<td>.85</td>
<td>.22</td>
</tr>
<tr>
<td></td>
<td>Post Days Exp.</td>
<td>4.18</td>
<td>.00</td>
<td>30.66</td>
<td>7.79</td>
</tr>
</tbody>
</table>

Table 4.21: Mean, minimum, maximum, and standard deviation for expulsions.

Summary of Statistical Analyses

This study incorporated several statistical analyses to examine the CYC mentoring program. First, repeated measures analyses of variance examined Time (program participation) as a main effect and grade level started the program, duration in the program, and gender as interaction effects. This was deemed appropriate as one of the...
goals was to examine program effectiveness while controlling major independent variables considered important to program success. Second, this study utilized hierarchical regression analyses to further explore the variance accounted for by the independent variables of interest (i.e., pre values of GPA, grade retention, proficiency scores, expulsions, duration in program, age started program, and gender). Furthermore, hierarchical regression was used as there was a cogent rationale as to which variables would account for larger variations. Finally, this study examined frequency statistics of mean differences between those that graduated, quit the program, or dropped out of high school. Reasoning for such a procedure was to gain a clearer understanding of the variables of interest in this study with the aforementioned groups.
The repeated measures design demonstrated that the variables of this study was significantly ineffective at reducing academic related problem behaviors (i.e., expulsions) and increasing academic achievement (i.e., GPA, grade retention, and proficiency scores). Although it was hypothesized that the duration in program would be related to reduced problematic behaviors and increased academic achievement, results demonstrated that duration in the program was only significant for two of the six ANOVA models. However, inspection of the means demonstrated an unanticipated direction. Moreover, the longer the participants were engaged in the program, the more days of expulsions and lower math proficiency scores they experienced.

It was suggested that grade level of program entry would be related to improved academic and behavioral outcomes. Although, grade level of program entry was significantly related to changes in total expulsion days, these changes were in an unanticipated direction. For example, the earlier the grade levels at program entry the greater the days of expulsions participants experienced after they entered the program.

The most significant indicators of program effectiveness were the pre-outcome characteristics adolescents brought to the program. For example, main effects were found
between pre and post values of the variables in question except for reading proficiency scores. However, inspection of the mean differences between pre to post value differences suggested an unanticipated direction. Given that duration in program and grade level started program provided minimal significance supports a litany of research that has demonstrated a child’s predisposition of academic and behavioral characteristics as the main determinates of academic and behavioral outcomes (Jessor, 1993; Masten & Coatsworth, 1998; Rak & Patterson, 1996; Wang, 1997).

Hierarchical regression analyses supported results indicated by repeated measures analyses of variance. Similar to ANOVA models, duration in program and age started program was found to be virtually nonpredictive of the outcome variables in question. With one exception, none of the models indicated that the age of program entry significantly accounted for variance in this study. Indeed, age of program entry significantly accounted for 2.3% of the variance of participants’ grade point average after they entered the mentoring program. Moreover, duration in the mentoring program failed to account for significant variance in this study across all models. These findings support repeated measures analyses of variance and question research that has demonstrated the earlier at-risk children enroll in community-based interventions the better the outcome variables of interest.

Further examination of hierarchical regression models demonstrated that the majority of the model variance was accounted for by the independent pre values of GPA, grade retention, proficiency scores, and expulsions. For example, total expulsions before mentoring accounted for 7.6% of the models 9.9% total variance. More importantly, duration and age started program significantly failed to account for variance in this
model. Math proficiency scores before mentoring accounted for 65% of the models 65% total variance. Hence, no other program variables significantly accounted for variance in this model. Reading proficiency scores before mentoring accounted for 76.7% of the models 76.7% total variance. Again, no other program variables significantly accounted for variance in this model. Finally, grade point averages before mentoring accounted for 42.4% of the models 45.5% total variance. Although age of program entry was significant in this model, the variance accounted for a mere 2.3% of the models 45.5% total variance. Hence, hierarchical regression analyses would suggest that the majority of variance accounted for in the models were the characteristics the participants brought to the program. Regardless of the statistical procedure used in this study, the germane indicators of the outcome variables were the pre values the participants exhibited before they entered the mentoring program.

Ironically, this evaluative study disconfirmed research that had previously indicated a positive relationship between length of duration in mentoring programs and program outcome variables of interest (OJJDP, 1997). In fact, duration in program was insignificant in all regression analyses despite the fact that the average length of duration the participants were engaged in the mentoring program was approximately 26 months. This study does not confirm previous research that has demonstrated that adolescents who spend over 12 months in a mentoring program experience heightened outcomes in their academic, behavioral, and social endeavors (OJJDP, 1997). Unique to this study is that the length of duration in program of these participants dramatically eclipsed the length of duration in program of other mentoring studies. Perhaps the lengthy period of duration (i.e., average of 26 months) in which the participants of this study were enrolled
in the program suggests that these adolescents may be in need of more assistance than participants from past studies whom typically spend one year or less in mentoring programs (Queen, 1994).

Gender was also examined as a germane predictor across the variables in question. This study managed to support a vast arena of research that has consistently demonstrated gender differences of academic and behavior problems among adolescents (Connell, Spencer, & Aber, 1994; Kazdin, 1995). In ANOVA’s, gender, namely being male, was predictive of heightened expulsions. In the regression models, gender was predictive of outcome variables in four of the six models. More specifically, being male was the only predictor of days of expulsions among participants after program entry. In addition, being male was the primary predictor of grade retention among participants after program entry. Being male was also a predictor of total expulsions after controlling for program entry scores. Finally, gender was a significant predictor of grade point average after controlling for program entry scores. Such findings support educational statistics from the U.S. Department of Education that identifies being born male as one of the strongest indicators of academic related problems (Coley, 1995; NCES, 1994, 1996, 1998). Furthermore, such findings support research that indicates being born male as the strongest predictor of child, adolescent, and adult academic and problem behaviors across the life span (Kazdin, 1995; Sampson & Laub, 1993).

Consequently, it appears that the mentoring program was ineffective as all outcome variables pointed in the opposite direction expected. Indeed, participants’ grade point average as well as math and reading proficiency test scores significantly dropped after spending time in the mentoring program. Moreover, grade retention and expulsions
significantly increased after the participants entered the mentoring program. Such findings are puzzling, as national trends recorded by the U.S. Department of Education indicate an overall upward trend geographically and nationally among high school adolescents (Ingels, 1994; NAEP, 1996; NCES, 1998). For example, the National Assessment of Educational Progress (1996) indicated that national achievement scores and test values have increased since 1969. Furthermore, no state experienced a decline in overall achievement fields such as science, writing, history, geography, math, and reading. Regardless of the age group, it appears that even math and reading proficiency scores have increased from 1969 to 1998 (NCES, 1998).

One could argue that Caucasian suburban adolescents who typically encounter better public and/or private school districts inflate such national trends. However, when ethnicity, poverty, and inner-city schools are compared against each other as opposed to Caucasian dominated suburban school districts, the results still point toward a positive trend. For example, African-Americans and Hispanics achievement and math and proficiency tests have increased from 1971 to 1996 regardless of age group (NCES, 1998). In addition, regardless of gender, scores for both males and females have increased since 1971. Although Caucasian students have on average higher achievement and higher math and proficiency scores than African-Americans and Hispanics, both minority groups have experienced positive trends (NAEP, 1996). Perhaps low parental education and family poverty associated with living in the inner-city may account for declines in achievement and proficiency scores. However, achievement and proficiency
scores have increased from 1973 to 1996 even when parents of adolescents have little or no high school education, live below the poverty line, and live in urban environments (NAEP, 1994).

This does not mean that high-risk youth do not decline academically and behaviorally over time. Research has consistently found that those children and adolescents who experience heightened levels of poverty, parental abuse and/or neglect, deviant peer groups, temperamental difficulties, and lower levels of parental warmth and support, intelligence, and academic and behavioral skills tend to experience a downward spiral of negative life events (Garmezy, 1991; Luthar & Zigler, 1991; Moffitt, 1993; Sampson & Laub, 1993). These “high-profile” children tend to be identified early by teachers, parents, peers, and therapists as children who are clearly on a developmental path of life-persistence problematic behavior (Dishion et al., 1995). Perhaps such high-profile students are naturally inclined to experience negative academic and behavioral problems compared to those “borderline” students who are late-starters and do not experience the magnitude of ecological problems indicative of high-profile youth.

The results of this study would suggest that the mentoring program did not increase academic achievement or decrease school behavioral problems. Although these findings raise doubts to program effectiveness, the primary motive and goal of the Cincinnati Youth Collaborative is to increase high school graduation rates. The results of this study saliently demonstrate that the characteristics an adolescent brings to the program are most predictive of how they will succeed once enrolled in the program.
Given such information, it may be necessary to examine the differences that may exist between those who graduate from high school and those who do not graduate from high school.

When examining the outcome variables of this study, it is clear that these variables are highly associated with high school dropout rates. For example, research has demonstrated that the number one predictor of dropping out of high school is grade retention (Rose, Medway, Cantrell, & Marus, 1983). In addition, over 33% of high school dropouts have experienced suspensions and expulsions (Coley, 1995). Furthermore, high school dropouts are more likely to experience poverty, attend public schools, experience lower academic marks, live in urban inner-cities, come from single mother homes, and experience multiple transitions during their academic endeavors (Ingels, 1994; Schwartz, 1994; Snyder, 1993).

Although the dropout rates from 1960 to present have consistently declined regardless of gender, ethnicity, and school location (NCES, 1998), the current dropout rate of grades 9-12 in Ohio is approximately 5.2% (NCES, 1998). When examining the dropout rates of grades 9-12 for minorities, those numbers increase to 32.2%. Since the best indicator of program effectiveness was pre-program values of the outcome variables, inspecting the differences between high school graduates and dropouts appears necessary.

Of the 447 participants in the mentoring program, 299 graduated high school, 46 dropped out of high school, and 102 dropped out of the program for reasons other than graduation or dropping out of high school. During the time of this study, the dropout rate for minorities in Ohio was approximately 32% (NCES, 1996, 1998). However, the dropout rate of those minorities in this mentoring program during the same period was
approximately 11.2%. Hence, the program was successful in reducing drop out rates among minority students. Upon inspecting mean differences it is clear that those who quit the program or dropped out of high school were younger than those who graduated when they entered the program. For example, dropouts entered the program with a mean age of 14.80 years, those who quit the program entered at a mean age of 14.68 years, and those who graduated entered at a mean age of 15.44 years. Once again, such findings support research that delineates children who are identified earlier in life as at-risk are more prone for academic and behavioral difficulties (Kazdin, 1995; Sampson & Laub, 1993).

As previously mentioned, grade retention has been found to be the number one predictor of high school dropouts as well as other academic and behavioral problems (Keirns, 1991). The graduates of this study had a mean grade retention per year of .01 before program entry and a mean grade retention per year of .05 after program entry. However, those who quit the program had a mean grade retention per year of .07 before program entry and a mean grade retention per year of .29 after program entry. Moreover, those who dropped out had a mean grade retention per year of .08 before program entry and a mean grade retention per year of .41 after program entry. Such findings indicated that those who quit the program or dropped out of high school not only entered the program with heightened grade retention, but also experienced increased grade retention once they entered the program compared to their peers. These findings lend support to research that has demonstrated that students experienced heightened grade retention prior to their high school years (NCES, 1994). Indeed, those in this study who quit the mentoring program or dropped out of high school started the mentoring program earlier in their school career than those who graduated.
Academic achievement has also been considered an antecedent of dropout rates (NCES, 1996). A closer look at these three groups reveals such differences. For example, for those who graduated their mean GPA before program entry was 2.434 and their mean GPA after program entry was 2.352. Those who quit the program entered the program with a 2.242 mean GPA and dropped to a 1.414 mean GPA after they entered the mentoring program. Those who dropped out of high school entered the program with a 1.749 mean GPA and dropped to a .979 mean GPA after they entered the mentoring program. In fact, the highest GPA for a high school dropout after program entry was 2.361 compared with 3.971 for those who graduated after program entry. Mentoring appears to have actually stabilized GPA for those late starters who stayed in the program and graduated. Moreover, those who dropped out of the program or high school not only came to the program with heightened academic and behavioral problems, but ended their tenure in the program with increased academic and behavioral problems compared to those who graduated.

Math and Reading proficiency scores have been yet another indicator of dropout rates (Ingles, 1994; NCES, 1996, Snyder, 1993). Those who graduated had mean math scores of 52.55 and reading scores of 49.50 before they entered the program and mean math scores of 48.58 and reading scores of 49.24 after they entered the program. Those who quit the program had mean math scores of 42.63 and reading scores of 41.04 before they entered the program and mean math scores of 37.04 and reading scores of 39.31 after they entered the program. Finally, those who dropped out of high school had mean math scores of 41.59 and reading scores of 38.24 before they entered the program and mean math scores of 35.26 and reading scores of 37.24 after they entered the program.
Similar to previous findings of this study, those individuals who graduated high school came to the program with heightened academic and behavioral profiles and experienced lower drop-offs in academic and behavioral endeavors than those individuals who quit the program or dropped out of high school.

Academic behavioral problems such as suspensions, expulsions, and academic parole have also been linked to increased dropout rates among at-risk adolescents (Coley, 1995; Ingels, 1994; Snyder, 1993). Inspection of the means from this study yielded similar results. For example, those who graduated high school had a before mentoring average of .05 total expulsions and .31 expulsion days per year. After program entry, the averages of those who graduated high school increased to .07 total expulsions and .81 expulsion days per year. Those who quit the program had a before mentoring average of .07 total expulsions and .60 expulsion days per year. After program entry, the averages of those who quit the program increased to .16 total expulsions and 1.65 expulsion days per year. Finally, dropouts had a before mentoring average of .14 total expulsions and .89 expulsion days per year. After program entry, the averages of those who dropped out of high school increased to .20 total expulsions and 4.18 expulsion days per year. Similar to academic findings, those who quit the program or dropped out of high school not only came to the program with heightened behavioral problems, but experienced increased levels of behavioral problems after they entered the mentoring program compared to those who graduated.

It appears that adolescents identified as early starters may have influenced the results of this study as they experienced heightened academic and behavioral decline. Perhaps, those who quit the program or dropped out of high school are severe cases
greatly in need of guidance and support that mentoring alone cannot provide. Research has delineated that without the succor of a supportive ecological network, extreme at-risk students, possibly similar to those who dropped out of the program or high school are prone for heightened and continued negative academic and behavioral outcomes (Masten & Coatsworth, 1998; Rak & Patterson, 1996; Wang, 1997). Such research would posit that mentoring, as a singular intervention, may not be enough or effective at reducing heightened negative academic and behavioral outcomes. Research has demonstrated that an academic, community, and familial effort is necessary to effectively shape such at-risk students prone for increased academic and behavioral problems down an appropriate developmental path of life (Bronfenbrenner, 1979; Masten & Coatsworth, 1998; Rak & Patterson; Sampson & Laub, 1993; Wang, 1997). Perhaps, mentoring programs are best suited to increase graduation rates for those “borderline” individuals who have not experienced heightened negative academic, familial, and community affairs associated with the ecology of problem behavior. By comparing those who graduated, quit the program, or dropped out of school, mentoring programs can design their programs tailored around the needs of the individual differences present among these groups of high school students.

Conclusions and Implications

Although this study yielded several insights into the effectiveness of a specific effort of mentoring, some weaknesses limit generalization. This study used a within-subjects design. Although the participants provided their own control group, an external control group from which to make comparisons would have greatly enhanced certainty of program effectiveness. For example, the mentoring program currently has a
waiting list of several hundred adolescents seeking the support of an adult mentor. Previous studies have used control groups with normal or non at-risk students not enrolled in mentoring programs (Grossman & Tierney, 1998; Royse, 1998) and demonstrated positive results. Taking such a comparative approach may not have provided accurate results, as these groups of students are not comparable. Examining a control group from those individuals identified as at-risk on the waiting list may yield more accurate results, as such students should be similar to those identified at-risk currently enrolled in the mentoring program.

To increase mentoring program effectiveness, research designers should look to include demographic information on both mentor and mentee. This study was unable to examine how mentor income, SES, occupational, educational, and prior experiences of mentoring at-risk adolescents impacted program effectiveness. Perhaps, those adolescents whose mentor had prior mentoring experience benefited from such prior experiences. It may be possible that a mentor who had greater income, occupational flexibility, diverse interests, and more experience provided greater opportunities and positive interactions with an at-risk mentee. Furthermore, no background information was available on similar statuses of the mentee. Although the mentoring program acknowledged that the adolescents in the mentoring program were typical inner-city at-risk youth, such information may have provided exploration into the quality of the mentor-mentee matches and program effectiveness. Future studies should examine the relationship between background and/or demographic information and program outcome variables of interest.
At the time of this study, no research has been published that explores the nature of the quality of the relationship or the types of activities between mentor and mentee. It is imperative that scientists explore such a phenomena as behavior is often embedded within social interactions derived from relationships (Patterson, 1982). If this holds true, then program effectiveness may be related to the maturational nature of the mentor-mentee relationship. Although one could argue that the maturational process of the mentoring relationship might yield an internal validity threat, the major underpinning of mentoring is this maturational process between an experienced mentor and an inexperienced mentee in need. Research is needed that can observe and examine the interactional exchanges between mentor and mentee. In doing so, mentoring programs might incorporate positive and negative findings in their recruiting, matching, and training curriculum.

Another limitation of this study is the manner in which the data were collected. For example, some variables (i.e., GPA) were collected quarterly and other variables (i.e., grade retention, expulsions, and proficiency scores) were collected yearly. However, not all participants entered or ended the program at the same time. Some individuals yielded less than three months of data both before and/or after program entry. Given that GPA was collected quarterly, there was no variable information for some individuals. This study started with 694 participants and lost 247 participants. With such an attrition rate, it is difficult to generalize. Indeed, those 247 participants for whom data were not available may be completely different from the 447 who were included in this study. However, since no data was available, it is difficult to determine such differences.
Finally, it was difficult to generalize results to those who dropped out of high school and those who quit the program as accuracy of categorization may be questionable. For example, only those designated as dropouts were indicated as dropouts in this study. However, some individuals ran-a-way, became pregnant, moved to different schools or cities, married, enrolled but did not return, had medical leaves, were home schooled, moved out of state, had family hardships, and more. Consequently, it was difficult to categorize exclusively those who dropped out of the program and those who quit the program. This research project was not the first to experience such difficulties, as other researchers have indicated that public and private school systems often have difficulties in coding the actual dropout status among high school students (Coley, 1995; McMillen, Kaufman, & Whitener, 1994; NCES, 1996). Mentoring programs that use official data as part of their program analyses are reliant upon school administrators to track down such adolescents after they quit the program or leave the school for reasons other than dropping out of high school. Consequently, research examining improvements in coding strategies among high school administrators may be necessary.

In spite of these limitations, the findings of this study suggest strengths and directions for future researchers and developers of mentoring programs. First, this study used official school records obtained from Cincinnati Public Schools. Previous mentoring studies have relied on teacher-report, self-report, and parental-report data (McLearn et al., 1998; OJJDP, 1997; Queen, 1994). By using official data, the possibility of error is thought to be reduced and validity of outcome variables increased.

Second, the evaluation of the mentoring program was based on empirical evidence. Such an evaluative process advanced the literature in the arena of mentoring
programs, as the majority of program evaluations have relied on frequency statistics for determining program effectiveness (Koff & Ward, 1990; McCortie, 1991; McKenna, 1990). Although useful, simply using frequency statistics does not provide a level of confidence of program effectiveness.

Furthermore, frequency statistics can be misleading. Some mentoring programs report that they lower problematic academic and behavioral variables. However, such program analyses overlooks standardized means. For example, for a program to claim they reduce suspensions or expulsions they would have to standardize the length of duration both before and after participants enter the program. A student who has 20 expulsion days over a two-year period (i.e., 10 expulsions per year) before they enter the program is much different from the same student with 15 expulsion days after spending one year in the mentoring program. From a frequency statistics perspective, it appears that the mentoring program is effective, as the individual appears to reduce their days of expulsions from 20 to 15 after entering the program. However, such evaluations are misleading. When duration both before and after participants enter the program is taken into account the individual actually increases expulsion days per year from 10 days per year to 15 days per year after they enter the program. Using frequency statistics to determine program effectiveness could lead to erroneous results and conclusions. Future program designers should consider standardized means and incorporate empirical analyses in order to increase confidence of program effectiveness.

Along similar lines, this program advanced the literature by examining data both before and after entry into the mentoring program. The literature is replete with program evaluations and outcomes after program entry. However, such program evaluations fail to
either secure or do not have access to baseline information. Without baseline data, certainty of program effectiveness remains inconclusive. Indeed, this study saliently demonstrates the importance of obtaining baseline data, as the pre variable values of interest were most predictive of post variable values in this study. Future program designs should incorporate baseline data for analyses of program effectiveness.

Yet, another advancement of this study was the design and length of this study. The majority of mentoring evaluations tend to be short term as indicated by the myriad of studies examining program effectiveness from one academic quarter to eighteen months (Grossman & Tierney, 1998; O'Connor, 1995; OJJDP, 1997; Queen, 1994). This longitudinal mentoring evaluation took place from 1989 to 1998. Using a within-subjects design, this study examined different lengths of time in the program, ages, schools, and ethnic and gender backgrounds over a nine-year period. Consequently, this was not a typical “snapshot” cross-sectional evaluative design utilized by numerous mentoring programs. Given the length of time this study was conducted and the within-subjects design, the internal validity threats of history, maturation, and location commonly associated with within-subjects designs (e.g., Heiman, 1999) were not a factor.

Finally, this study advanced the literature by examining standardized mean differences between identified at-risk students who graduated, quit the program, or dropped of high school. Previous studies have overlooked the importance of such categorization. Clearly, those who graduated high school were on a different developmental path than those that quit the program or dropped out of high school. Not only had the graduates entered the program with heightened academic and behavioral
characteristics, but also they also relatively maintained their standards once they entered
the program. The same could not be said of those who quit the program or dropped out of
high school.

It appears that those high-profile students who quit the program or dropped out of
high school were different from those students who finished the program through high
school graduation. For example, those identified as high-profile students at-risk for
dropping out of high school started the program at a younger grade level and age, came to
the program with heightened academic and behavioral problems, and experienced sharper
academic and behavioral declines compared to those students who graduated high school.
Given such background characteristics, graduation rates of high-profile adolescents
should not be expected to run parallel to those who came to the program at a later age
with fewer academic and behavioral problems, experienced minimal drop-offs, and
graduated high school. Those involved with the design and implementation of mentoring
programs need to refocus efforts and examine the demographic and background
characteristics of those that graduate and finish the program and those who do not. As
suggested earlier, mentoring programs may not effectively reach at-risk or high-profile
adolescents this late in their life.

Mentoring programs are not a panacea. In order to be effective, program
objectives should be aimed toward an appropriate audience. Community based
intervention programs such as mentoring programs appear to be more effective for at-risk
adolescents who exhibit less severe problematic characteristics compared to those
high-profile adolescents at-risk for problematic behaviors. Although program designers
create mentoring programs with at-risk adolescents in mind, perhaps such programs
cannot help all at-risk adolescent youth. Adolescents identified as at-risk earlier in life and who exhibit heightened academic and behavioral problems early in life may need assistance and comprehensive strategies much earlier in their life than 14 or 15 years of age. Perhaps, younger individuals who dropped out of high school or quit the program have multiple risk factors associated with the ecology of problematic behavior (Dishion et al., 1995). They may be on a path that mentoring cannot change, as such individuals tend to experience heightened rates of poverty, family transitions, parental abuse, lack of parental attention, social disorganization, negative peer influences, and more.

Mentoring program administrators responsible for the design and implementation of program objectives may look to the literature in the arena of resiliency to strengthen program effectiveness. Researchers have noted that adolescents living in an impoverished urban setting denoted by poverty, lack of parental education, support, and care, impoverished and/or ineffective school districts, and general negative life events tend to experience a downward spiral of negative academic and behavioral outcomes (Garmezy, 1991; Luthar & Zigler, 1991; Waxman, Huang, & Padrón, 1997). However, not all adolescents exposed to inner-city urban milieus exhibit the results inherent in this study. Indeed, the majority of adolescents who experience such negative life events do not go on to exhibit negative academic and/or behaviors as adults (Lundman, 1993).

The more important question is who are the adolescents that exhibit heightened academic and/or behavioral problems at an early age. Research has demonstrated that resilient children, defined as those who overcome or defy the odds of certain failure
(e.g., Werner, 1994), experienced an ecology of intervening efforts (Rak & Patterson, 1996; Wang, 1997) as opposed to unidimensional intervention efforts (Luthar, Doernberger, & Zigler, 1993). Furthermore, research has demonstrated similar patterns among such at-risk adolescents. First, resilient adolescents have heightened baseline predispositions of outcome variables compared to nonresilient adolescents (Masten & Coatsworth, 1998; Rak & Patterson, 1996; Rutter, 1993; Wang, 1997). For example, resilient children tend to have less difficult temperaments, warm, supportive, and nonabusive parents, two-parent family structures, positive peer networks, and heightened academic and behavioral characteristics compared to nonresilient adolescents (Masten & Coatsworth, 1998; Rak & Patterson, 1996; Rutter, 1993; Wang, 1997). Simply using a unidimensional intervention effort such as mentoring may not be enough for adolescents to overcome such odds as they continue to experience heightened negative life events.

Several recommendations taken from the resiliency literature are suggested to increase mentoring program effectiveness. First, incorporate parental participation in mentoring programs. As noted by Blocher (1993), the role of parents has been neglected in the design of mentoring programs. Overlooking parents is critical as the work of Gerald Patterson and colleagues has demonstrated that parental warmth, care, and supervision is highly associated with child academic and behavioral outcomes (Patterson, 1982, Patterson & Chamberlain, 1988; Patterson, DeBaryshe, & Ramsey, 1989). When parents actively participate in their children’s academic affairs and monitor their child’s behavior, such participation models and reinforces parental interest (Patterson, 1975, 1976). Indeed, research has found that parental involvement is related to
their children's academic affairs (Booth & Dunn, 1996; Ryan, Adams, Gullotta, Weissberg, & Hampton, 1995). More specifically, parents of academically competent adolescents reinforce such endeavors by actively taking an interest and participating with their children in various academic and school functions (Masten & Coatsworth, 1998).

Given the lack of parental involvement, mentors often serve as pseudo-parents. Previous research has demonstrated that a mentor is highly concerned about involving parents (Blocher, 1993). Moreover, a previous study conducted by the Cincinnati Youth Collaborative found that 40% of mentors terminated their relationship with a mentee because of a lack of parental effort and support (Blocher, 1993). As noted by Blocher (1993), parental support needs to be more than authorizing the mentee-mentor relationship form. Big Brothers/Big Sisters has been a paragon for including parents in many decisions from involving their child, to aiding in the matching process, and actively being involved with the mentor-mentee relationship (Blocher, 1993). Unless mentoring programs can actively involve parents in their adolescents' academic, behavior, and community affairs, the findings associated with this study may be inevitable (Sampson & Laub, 1993).

Second, mentoring programs may want to incorporate mechanisms in which to raise the self-esteem and self-efficacy of the participants (Rutter, 1993). Self-esteem and self-efficacy blend together as not only is it important for an adolescent to feel good about themselves (i.e., self-esteem), it is also important for adolescents to feel that they can cope and succeed in such adversity (i.e., self-efficacy) (Rutter, 1993). Perhaps, mentoring programs could incorporate social learning principles commonly associated with raising self-esteem and self-efficacy (Patterson, 1982, Patterson, DeBaryshe, &
Ramsey, 1989). For example, mentoring programs that can focus on positive and warm reciprocal relationships may increase self-esteem and self-efficacy in adolescents (Rutter, 1993). Second, mentoring programs should incorporate the role of responsibility and accountability in at-risk adolescents. When adolescents are responsible and succeed in such affairs, it can only raise their self-efficacy (Rutter, 1993). Finally, mentoring programs should not shield or protect at-risk adolescents from all trials and tribulations. When adolescents succeed thorough trial and error, their self-efficacy is often increased (Rutter, 1993).

Third, mentoring programs may want to examine cognitive processing or information processing (Rutter, 1993). Research by Dodge and colleagues has demonstrated that children and adolescents who experience negative life events tend to incorporate negative thoughts in many of their endeavors (Dodge & Frame, 1982; Dodge, Murphy, & Buchsbaum, 1984; Dodge & Newman, 1981; Lochman, & Dodge, 1994). As noted by Moffitt (1993b), perhaps what keeps such at-risk adolescents on their current developmental path is their thought process. The work of Patterson (1982) demonstrates that negative interactions reinforce and condition such thought processes. When at-risk adolescents continue to experience negative life events associated with living in an inner-city urban dwelling, they may develop negative cognitive styles reinforced by a lack of norms and alienation from the society at large (Anderson, 1990). Mentoring programs should incorporate such theoretical underpinnings in their educational curriculum so that mentors can foster positive cognitive styles or information thought processes.
Fourth, mentoring programs need to forge a connection between school, family, and community (Sampson & Laub, 1993). Program designers need to take efforts to involve all three of these dimensions for heightened developmental outcomes (Wang, 1997). Mentoring programs that can connect the school and family, the family and community, the school and community, and the school, family, and community would greatly increase program effectiveness (Wange, 1997). Currently, many at-risk adolescents view such entities in a negative manner. Perhaps, past mentoring efforts have failed, as they have not actively engaged all three ecological dimensions in an adolescent’s life. For example, mentoring programs based in educational institutions have a primary goal of increasing the graduation rate. However, by overlooking the ecological connection mentioned throughout this study, such mentoring programs may not be taking steps to increase their actual program objective of improving the graduation rate. Again, when adolescents are not connected to school, family, and the community, problematic behavior is inevitable (Sampson & Laub, 1993).

Finally, mentoring programs may need to revisit the length of duration a mentee serves in the program. Research by Kram (1985) indicates that mentor-mentee matches go through various stages of their relationship. Kram (1985) identifies the second stage of mentoring as the cultivation of mentoring. More specifically, this is the stage where most lessons are taught and learned by mentor and mentee (Kram, 1996). This stage occurs usually right after the initiation stage or the “getting to know the person” stage. Previous research had found that mentoring relationships of one year tend to reap positive benefits (Lee & Cramond, 1999; OJJDP,1997). It may be possible that the period of one year
better serves mentee outcomes. Perhaps spending too much time with a mentor can have a negative effect as a mentee may become too dependent on the mentor. From a self-regulation perspective (e.g., Rutter, 1983; Masten & Coatsworth, 1998), mentoring relationships over two years may reach the point of diminishing returns for appropriate developmental growth. As noted by Choa (1998), it is not surprising that duration spent with a mentor is not a good predictor of mentoring relationships. Mentoring programs that examine the length of duration of the mentor-mentee relationship may actually improve program objectives by zeroing in on an optimal duration beneficial for both parties involved.

It is crucial for the future of our society that today’s children become tomorrow’s competent adults. Mentoring programs are not a panacea for the overwhelming issues high-profile at-risk youth experience on a daily basis. However, by offering at-risk youth friendship, guidance, and a positive outlook on life, mentoring programs demonstrate that someone cares when most others in their lives do not. Although educational mentoring programs are designed to improve graduation rates, they also provide an opportunity for such youth to reach their full potential by establishing a bond with a caring adult (Anderson, 1990; Reglin, 1998).

The intentions of mentoring programs are honest, sincere, and altruistic. However, as this research has demonstrated severe at-risk adolescents who experience continued ecological trials and tribulations might not benefit from mentoring programs, as such programs fail to relieve or change the ecological risk factors experienced by such youth. Mentoring programs that are carefully designed and implemented can be effective and reap positive benefits. However, unless mentoring programs take an ecological
approach by recognizing intrapersonal characteristics, interpersonal relationships, academics, community, and familial matters, then such negative results may be irreversible and inevitable. As noted by Royse (1998), mentoring is not a “quick fix.” Mentoring, like any relationship, needs time to grow and prosper in order for the relationship to be beneficial. When adolescents have positive relationships with their ecological surroundings, their chances of successful academic and behavioral development increases.
LIST OF REFERENCES


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APPENDIX A
Dear Mentor,

Congratulations! You are about to embark on one of the most rewarding experiences of your life!

The effort required to nurture a young person to balance the demands of family, school, friends and community is indeed large. But, with your help, your mentee will mature into a young adult with the training, work habits and motivation to achieve her/his full potential.

The CYC Mentoring Program and Staff has done everything possible to make your mentoring experience as user friendly as possible. This notebook is reflective of that objective. In it you will find helpful worksheets, hints on activities for you and your mentee to do together, as well as important procedural information. Most importantly, we encourage you to use this notebook as a resource throughout your mentoring experience to maintain important training and background information. The notebook has also been designed as a tool to help you and your mentee compile the necessary information to enter the workforce or go on to college after high school graduation.

Thanks for your commitment and we truly hope the experience is a mutually rewarding experience for you and your new young friend.

Warm regards,

John E. Pepper
Chairman of the Board and CEO
The Procter & Gamble Co.
Co-Chair Cincinnati Youth Collaborative

Roxanne Qualls
Mayor
City of Cincinnati
Co-Chair Cincinnati Youth Collaborative

Steven Adamowski
Superintendent
Cincinnati Public Schools
Co-Chair Cincinnati Youth Collaborative

Miriam West
Director of Mentoring Program
APPENDIX B
The Cincinnati Youth Collaborative brings together business people, educators, government officials, and other community-service leaders to work on behalf of Cincinnati's youth.

The Collaborative's Vision
All Cincinnati Youth will graduate from high school with the training, knowledge, work habits, and motivation to realize their full potential - whether they are entering the workplace in a productive and satisfying job or going on to college.

Mission
The Cincinnati Youth Collaborative's mission is to increase the percentage of students completing high school with the knowledge, skills, and behavior necessary to participate successfully in the social, political, and economic life of the society.

History
The Collaborative was formed in 1987. It is a response to studies that demonstrated a need for school, business, government, and community groups concerned with education and employment to work together on the dropout crises.

Funding
Cincinnati businesses, foundations, community groups, and individuals have contributed $9.7 million to support the work of the Collaborative. In addition, the Collaborative receives other private and public funds designated to support specific programs.

Programs
T-CAP is a school to work transition program at Taft High School, an inner-city school comprised of low-income blacks and Appalachian whites. The school has exceedingly high failure and dropout rates. Activities include field trips, job shadowing, and paid work-based learning experiences.

Serving both nontraditional and traditional prospective college students, the College Information Center provides assistance in completing college, financial aid, and scholarship applications.

Educational Talent Search provides general counseling on college, study skills, and social skills to middle school youngsters, and assistance in SAT/ACT preparation, college applications and financial aid applications to high school students.

In conjunction with other groups, the CYC co-sponsors the Golden Galaxy Awards program, the Hamilton County Youth Conference, and the CYC Youth Leadership Conference.

Mentoring/Tutoring program matches elementary, middle, and senior high school students with qualified adults. These adults supplement parents and guardians in helping young people develop socially, intellectually, and morally.
Section I

Mentor’s Responsibilities

- to make contact with mentee once per week (consistency/dependability)
- to keep all appointments and promises
- to make the student feel valued and special - build good self-esteem
- to show unconditional respect and regard for the mentee and his/her family
- to provide activities that will broaden the mentee’s life experiences (through cultural, social, and recreational activities)
- to expect and encourage the mentee to strive for academic excellence and graduate from high school (monitor academic progress and attendance)
- to help the mentee set realistic, attainable goals
- to expose the mentee to the world of work and college

...it’s an honor to be a mentor
APPENDIX D
Section II

Mentee's Responsibilities

• to be courteous, honest, and respectful to mentor at all times

• to keep all appointments with mentor

• to communicate with mentor regularly (once per week)

• to work toward the goals that you and your mentor establish

• to work to achieve academic excellence

• to attend school every day and graduate from high school

• to express appreciation to mentor for sharing time and resources (never asking or expecting money)

• to aspire to become an independent, successful, and productive adult

• to communicate with school mentor coordinator regularly to discuss the progress of the relationship

...it's a privilege to have a mentor
Section III

Parent's/Guardian's Responsibilities

• to be friendly, respectful and supportive of the mentoring relationship

• to work cooperatively with the mentor and establish open communication

• to encourage the student to keep all appointments with mentor

• to understand that the mentor's role is to work with the student, not the family

• to understand that the mentor is asked to spend time, not money in this relationship

• to monitor the student's school progress, attendance, and hold the child accountable to graduate successfully from high school

• to communicate successes and concerns to the school mentor coordinator

• to understand that if the mentee / and or parents / guardians do not adhere to all guidelines and expectations of the mentoring program, the relationship will be terminated

...it’s great to have the extra support that a mentor provides
Cincinnati Youth Collaborative

Mentors

Statement of Commitment:

As a mentor for a Cincinnati Public School student, I agree to:

• Attend the mandatory orientation and training sessions that are necessary to help me in my volunteer position.

• Abide by all school rules and Board of Education policies which apply to me.

• Abide by all guidelines and policies of the CYC Mentoring Program.

• Honor the commitment to spend time with my mentee. If I am unable to honor this commitment, I will notify the appropriate person in advance.

• I have received a CYC Mentoring Program Handbook. I understand that I am responsible for reading and understanding the materials.

________________________________________________________
Signature of Mentor

________________________________________________________
Date
Cincinnati Youth Collaborative

Mentee Commitment Contract
Elementary School (Grades 2-8)

1. ____________________________, agree to be in the mentoring program and agree to:

1) Keep all dates with my mentor.

2) Let my mentor know as far ahead as possible if I cannot meet him/her.

3) Go to all required program activities.

4) Be open and honest with my mentor......and always polite!

5) Show appreciation when my mentor takes me on special outings or does nice things for me.

I know that if I do not follow these rules, I may not be able to stay in the program.

__________________________________________________________________________
Mentee signature

__________________________________________________________________________
Mentor signature (Witness)

APPENDIX H
Mentee Commitment Contract
Secondary School (Grades 9-12)

I,_____________________________________________, agree to participate in the mentoring program and agree to do the following:

1) Keep all appointments with my mentor.

2) Notify my mentor as far in advance as possible if I cannot keep an appointment.

3) Attend all required program activities.

4) Be open and honest with my mentor.....and always polite!

5) Express appreciation when my mentor takes me on special outings or does nice things for me.

I understand that if I do not abide by this contract, I may lose my privilege to participate in the program.

_____________________________________________________
Mentee signature

_____________________________________________________
Mentor signature (Witness)

_____________________________________________________
Date