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DROPPING OUT OF SCHOOL: ASSESSING THE EFFECT OF SUPPORTIVE MESSAGES FROM FAMILY ABOUT STAYING IN SCHOOL

By

Renee Strom

A DISSERTATION

Submitted to
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ABSTRACT

DROPPING OUT OF SCHOOL: ASSESSING THE EFFECT OF SUPPORTIVE MESSAGES FROM FAMILY ABOUT STAYING IN SCHOOL

By

Renee Strom

The social support framework is used to address how the number and valence of messages in the home about educational achievement may differently affect how students progress in school. It is hypothesized that students with higher educational attainment will recall numerous and positive messages emphasizing the importance of education versus infrequently hearing or advocating the opposite position when compared to those with lower educational attainment. Additionally, type of support is purported to affect achievement, so that students who graduated will recall more emotional and instrumental support messages than will students who did not graduate. Eighty subjects completed an in-depth interview about their experiences in high school. Perceived helpfulness emerged as the only statistically significant and substantial predictor of educational attainment. A post-hoc causal model was created with perceived helpfulness mediating the effect of instrumental messages and loss-framed messages on educational attainment. Pregnancy, parental income, gender, sibling dropout, and message repetition appeared to exert direct effects on educational attainment. Directions for subsequent tests of this model are discussed.

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Chapter 1

Review of the Literature

When adolescents reach the age of 16 they are no longer mandated by the United States government to stay in school. Research on school dropout has clearly demonstrated that no single factor, or group of factors, has been identified as the cause of a decision to leave school before obtaining a high school diploma (Franklin, 1992; Persuad & Madak, 1992). School dropout is a serious problem because those who fail to complete school are more likely to be unemployed (Census Bureau, 1999), more likely to use drugs (Beauvais, Chavez, Oetting, Deffenbacher, & Cornell, 1996), more likely to need unemployment insurance or welfare (Morris, Pawlovich, & McCall, 1997; Rumberger, 1987), and more likely to be incarcerated (Bureau of Justice Statistics, 1995). The causal direction of these relationships remains unclear.

Although a variety of studies have examined the antecedents, correlates, and consequences of dropping out of school (for reviews see Rumberger 1987, 1995), this literature is limited as it treats dropouts as a homogenous group. Yet, it is clear that students leave school for a variety of reasons (e.g., alienation from school, pregnancy, financial need) and that there is not a single, or simple, profile of a dropout. One important contribution to school dropout may be differences in supportive messages from family members about why staying in school is important. Exploration of the differences among messages about dropping out is needed to help identify effective methods of dropout prevention and remediation (Lecompte & Goebel, 1987), as current federal dropout prevention programs have been criticized as ineffective (Dynarski & Gleason, 2002). Despite the United States government's increased attention concerning students'

K-12th grade education, the high school completion rate for the country has increased only slightly over the last quarter of a century. Therefore, the purpose of this study is to assess the potential impact of different types of supportive messages from family on the decision to stay in, or drop out of, high school.

School Dropout Defined

Research on dropping out must confront a multitude of theoretical and methodological issues. Central among these problems is disagreement about how to define and measure dropping out (for a review, see Rumberger, 1987). Many school systems define dropouts differently, affecting how rates of completion are calculated (Hammack, 1987). Questions arise when investigators must distinguish between students who do not complete high school ever versus those who drop out but then return to school or pursue their Graduate Equivalent Degree (GED). In this study dropout is said to occur when students leave school without graduating within a four-year period of time, whether or not they return to school or receive a GED (Fitzpatrick & Yoels, 1992).

In a recent synthesis of research on nonschool correlates of dropout, Rosenthal (1998) grouped more than 100 variables into 12 constructs (e.g., student, family, and community contructs that include unalterable demographic characteristics as well as practices and policies amendable to change). Rosenthal (1998) concluded that the problem of school dropout cannot be understood in isolation of contextual factors related to the event. Early school withdrawal is not exclusively an intrapsychic problem for students; rather, the internal environment of the school as well as external conditions must be considered (Christenson, Sinclair, Lehr, & Godber, 2001; Jordan, McPartland, & Lara, 1999). Thus, research on school dropout has clearly demonstrated that no single

factor, or small group of factors, can provide a thorough causal description of the decision to leave school before obtaining a high school diploma (e.g., Franklin, 1992; Persuad & Madak, 1992), but instead numerous and varied factors may operate to affect a student's decision to stay in, or drop out of, school. A review of the various factors associated with dropout follows.

Previous Research on Dropout

Traditional research on school dropout has examined demographic predictors of dropout such as age, socioeconomic status, and ethnicity (e.g., Rumberger, 1983, 1987; Wilson, 1987). The social factors found to be associated with dropout behavior include poverty, coming from a single parent family, having parents with a low level of education, and belonging to a minority language group (Ekstrom, Goertz, Pollack & Rock, 1986; Fine, 1986; Johnston, Markle & Harshbarger, 1986; McDill, Natriello, & Pallas, 1985; Rumberger, 1983; Wehlage & Rutter, 1986).[1] In addition, pregnancy during high school has been a consistent predictor of dropping out (Forste & Tienda, 1992; Geronimus & Korenman, 1992; Rumberger, 1983). Further, past research has indicated that low achievers, males, older students, and working students are more likely than their peers to drop out of high school (Battin-Pearson, Newcomb, Abbott, Hill, Catalano, & Hawkins, 2000; Bickel, 1989; McNeal, 1997; Rumberger, 1987).

Low academic achievement has been the primary aspect of school performance studied in the last 20 years, and it is typically assessed with standardized achievement tests or grade point average (GPA). This variable has consistently been one of the strongest predictors of dropping out of school (Cairns, Cairns, & Neckerman, 1989; Ekstrom, Goertz, Pollack & Rock, 1986; Fagan & Pabon, 1990; Rumberger, 1983). In

addition, poor early school achievement and grade retention have been found to be important predictors of high school dropout (Alexander, Entwistle, & Horsey, 1997; Roderick, 1993). Risk factors include tardiness, chronic absenteeism, truancy, suspensions, expulsions, retention, academic problems, sense of alienation and disengagement from school, and poor peer acceptance (Barton, Watkins, & Jarjoura, 1997; Cairns, Cairns, & Neckerman, 1989; Ekstrom et al., 1986; Kortering, Hess, & Braziel, 1997; Sinclair, Christenson, Evelo, & Hurly, 1998). Moreover, dropouts report being alienated from the social environment in school (Ekstrom et al, 1986), and are dissatisfied with teacher interest and school discipline (Wehlage & Rutter, 1986). Students who have dropped out of high school have reported lower occupational goals and less motivation to learn than those who completed high school (Fine, 1986; Johnston, Markle, & Harshbarger, 1986). Furthermore, dropouts have reported taking part in fewer after-school activities than their graduating counterparts (Ekstrom et al, 1986; Johnston et al., 1986; Mahoney & Cairns, 1997; Wehlage & Rutter, 1986). Finally, dropouts are more likely to have an after school job at which they are employed for more than 15 hours per week (Fine, 1986; McDill et al., 1985; Rumberger, 1987; Wehlage & Rutter, 1986). Conversely, school bonding has been linked to academic achievement; students who feel a sense of attachment to school are more successful academically (Hawkins, Catalano, & Miller, 1992; Maguin & Loeber, 1996).

Several national studies of educational outcomes have included assessments of the reasons students leave school prematurely. In a review of the High School and Beyond dataset, Eckstrom et al. (1986) report school-related factors as the most common reasons cited for leaving school prematurely (e.g., disliking school, getting poor grades, not

getting along with teachers). Analyses of the High School and Beyond dataset have found that parental selection factors are related to dropout rates so that dropout rates are higher in larger schools, in public versus Catholic schools, and in urban schools (Barro & Kolstad, 1987; Bryk & Thum, 1989). Additionally, students are more likely to persist to graduation in schools at which there is an emphasis on academic pursuits and an orderly environment (Bryk & Thum, 1989). Although research to date has been useful in identifying the wide range of factors associated with dropping out, many of these factors are descriptive, and thus reveal little about the underlying processes that actually lead to dropout behavior. Implicit in much of the research on school dropout is the assumption that dropping out is a problem of the individual student and that understanding the characteristics of dropouts will help educators target resources in ways that will reduce the number of those who fail in the future (Bryk & Thum, 1989). One way to understand the attitudes and behaviors associated with school dropout is by assessing the types of interactions students have with their parents about school.

Communication in the Home

Families are often the earliest and most fundamental socialization agents for a developing child, and socialization outcomes are sometimes dependent on the quality of parent-child relations. To the extent that children identify with their parents, they are more likely to internalize their parent's values (Whitbeck & Gecas, 1988). The way in which children identify with their parents, in turn, depends on the qualities of the parents and what type of parental support is exerted. Parental behavior toward the child which is characterized as supportive and nurturing seems to be most conducive to the child's identification with a parent, as well as to a number of other positive outcomes (Maccoby

& Martin, 1983; Rollins & Thomas, 1979). One socialization outcome often addressed in the research is educational achievement. Luszki and Schmuck (1963) have studied student perceptions of parental support and interest in their schoolwork; such support correlates significantly with the student's own attitudes toward school and performance in school. Thus, parents who know their child is struggling in school may try to find a way to communicate with the child about the problem.

Certainly socialization is not the only mechanism that influences a child's attitude toward school and subsequently educational achievement. There may be genetic reasons that explain why a parent and child hold similar views toward school. A study conducted by Plug (2002) considered the effects of nature (defined as unchangeable genetic influence) versus nurture (defined as parental educational attainment and aspirations for schooling) on how parents pass on the importance of education to their children. The Wisconsin Longitudinal Survey was incorporated which included identification from adopted and birth children. Plug (2002) found that when heritable ability is controlled, the nurture component of both mother's and father's schooling, and aspirations for schooling, are the primary factors in explaining schooling differences among both birth and adopted children. This study is focused on the 'nurture' activities of parents by looking at how variables like parental educational attainment affect school achievement, while also assessing the effects of specific interactions that occur in the home about school and school dropout.

Parents influence their children's academic performance by imparting the values, aspirations, and motivation needed to persevere and succeed in school (Wright & Wright, 1976). The process of educational attainment involves coordinating decisions across

many dimensions, (e.g., curriculum placement, curriculum choice, participation in extracurricular activities, and post-secondary school choice). Successfully navigating this complicated system is partly dependent on parental assistance (Baker & Stevenson, 1986). Rumberger, Ghatak, Poulos, Ritter, and Dornbush (1990) found that an important difference between students who did poorly in school and dropped out and those who did poorly in school and remained was the extent to which both students and their parents were involved in the child's education and educational decisions. Research has also shown that dropouts tend to come from homes with a weaker educational support system. Research demonstrates that after controlling for socio-economic status dropouts come more often from families characterized by a lack of supervision, a permissive parenting style, low aspirations regarding the schooling of their children, and negative reactions to school underachievement (e.g., unrealistic expectations that lead to excessively harsh punishments) (Astone & McLanahan, 1991; Ekstrom et al., 1986; Fagan & Pabon, 1990; McCombs & Forehand, 1989; Rumberger, 1983, Rumberger et al., 1990). Additionally, dropouts had fewer study aids present in their homes, had less opportunity for non-school related learning, and had mothers with lower levels of formal education (Ekstrom, et al., 1986). A meta-analysis conducted on communication in the home about dropout (Strom & Boster, 2005) revealed a direct positive relationship between shared parental aspirations and school completion (Alexander, Entwistle, & Horsey, 1997; Alexander, Entwistle, & Kabbani, 2001; Battin-Pearson, Newcomb, et al., 2000; Jimerson, Egeland, Sroufe, & Carlson, 2000; Persuad & Madak, 1992). This effect is consistent with the proposition that shared parental aspirations may affect high school completion.

Parenting styles that foster increased supportive communication between parents and their children also appear to influence students' achievement in school (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987). Interaction between parents and children about school is the most direct way that children will experience their parent's views on schooling, because through interaction they must confront the others beliefs and reconcile them with their own, if necessary. Previous research has found that as parent-child interactions about school increase, school completion increases (Hess & Copeland, 2001; Janosz, LeBlanc, Boulerice, & Tremblay, 1997; Vallerand, Fortier, & Guay, 1997). A longitudinal study by Ensinger and Slusarcick (1992) found that by age 16 if the mother reported that the adolescent confided about school, worked on homework with adult family members, and sought advice from the parent(s) about school, the adolescent was more likely to graduate from high school. In addition, negative family interaction has been a risk factor for drop out that has received more attention in recent research (Barton et al., 1997; Cairns et al., 1989; Kortering, Hess, & Braziel, 1997; Sinclair, Christenson, Evelo, & Hurly, 1998). Thus, it is possible that the types of messages a parent gives to a child about school (e.g., "You must do well in school to be successful in your life") may affect how a child evaluates whether to stay in, or drop out of, school.

The decision to drop out usually develops over a period of time (e.g., disengagement from school over the course of several years due to poor grades, repeating a grade, lack of participation in extracurricular activities) and is infrequently an impulsive decision (Roderick, 1993). The type of communication that is occurring in the home about educational achievement may serve as an important influence on a student who may be thinking about dropping out (e.g., "If my own parent doesn't care if I stay in

school, why should I?"). The number of messages sent and the valence of the messages (e.g., positive or negative) may differentially affect how a student assesses the importance of graduating from high school. Social support is one area of study that has addressed positive forms of communication in personal relationships like the family.

Social Support

Social support provided in interpersonal relationships has been found to be emotionally beneficial (see Cohen & Wills, 1985 for a review) and has been found to influence psychological well-being (e.g., Billings & Moos, 1982; Cobb, 1976) as well as physical health (e.g., Antonucci & Jackson, 1987; Shwarzer & Leppin, 1991). Some socially supportive interactions are related to a variety of positive outcomes including reducing stress, enhancing self-esteem, and providing tangible assistance with stressful experiences (for a review see Krause, 1990). Receiving support from others has been shown to moderate the effects of daily challenges and disappointments that, if unattended, can grow into major stressors (e.g., Eckenrode, 1984; Stone & Neale, 1984). Social support is defined as "information leading the subject to believe he/she is cared for and loved, esteemed, and a member of a network of mutual obligations" (Cobb, 1976, p. 300). Both short-term and long-term supports are likely to consist of help mobilizing psychological resources and mastering emotional burdens, sharing tasks, and providing extra supplies (e.g., tools, skills) to improve the handling of a situation (Caplan, 1976).

An important distinction to note concerning how social support is conceptualized is that of received support versus perceived support. Received support is support participants report having had and is assessed by self-report measures that were designed to obtain participants' perceptions of the amount of support they have received in the

recent past. Perceived support is the perception that support is available if needed in the future (Cohen & Willis, 1985). Instruments designed to measure perceived support have respondents indicate the likely availability to them of various types of support, should the need arise. This study addresses received support, as subjects will be asked to recall support messages from primary caregivers.

It is logical for social support to be studied as communication because it is ultimately conveyed through messages directed by one individual to another in the context of a relationship that is created and sustained through interaction (Burleson & MacGeorge, 2002). The study of social support is the study of supportive communication through verbal and nonverbal behaviors intended to provide help. Research incorporating social support as communication involves studying the messages through which people both seek and express support, studying the interactions in which supportive messages are produced and interpreted, and studying the relationships that are created by the supportive interactions in which people engage (for a review see Burleson & MacGeorge, 2002).

It is important to consider that even the most well-intentioned support attempts may fail because they are excessive or untimely (Wortman & Lehman, 1985). Social relations that we rely on for support may have costs as well as rewards even when support attempts are well intentioned. Social support only takes into account messages that make people feel esteemed and loved, not those that make people feel unworthy and unloved (Dunkel-Schetter, Blasbland, Feinstein, & Herbert, 1992). In contrast, people involved with a person in distress, particularly those closest to that person, may become critical and hostile to the stressed person and become psychologically distressed

themselves (Coyne, Wortman, & Lehman, 1988) which may lead to a lack of positive supportive attempts. Andrews, Tennant, Hewson, and Schonell (1978) found that the combination of stressful life events, low level of social support, and adverse childhood experiences predicted the occurrence of maladjustment in adults. In addition, negativity in social interactions has been shown to be related to poorer mental health among stressed as well as nonstressed populations (e.g., Abbey, Abramis, & Caplan, 1985; Barrera, 1988; Vinokur & van Ryn, 1993). Support providers may become too focused on the outcomes of their helping efforts to be aware of what they are communicating to the recipient (e.g., repeatedly telling a person what they should do to fix a problem instead of just listening may be viewed as negative) or may not be focused enough which can be viewed as a lack of support.

Thus, it seems students who receive information that make them feel cared for and loved at home have an advantage over those who do not receive supportive messages in the home. This advantage may occur because supportive information has a booster effect in which the effect of social support enhances the beneficial impact of a positive life event like doing well in school. Conversely, supportive information received in the home may serve as a buffering effect, namely reducing the adverse impact of negative school experiences. Previous research has documented how social support served as a booster for positive life events (Murrell & Norris, 1983), as well as the stress-buffering effect of social support (Cohen & Wills, 1985; Kessler & McLeod, 1985). Research specific to educational attainment has provided evidence for family support messages serving as a buffer against negative school events (Okun, Sandler, and Baumann, 1988). Sandler (1981) investigated how social support affected students' satisfaction with their

college experience and found evidence for boosting (i.e., enhancing the positive) and buffering (i.e., reducing the negative) effects of social support on satisfaction with college. Such effects may be easily applicable to high school students. Take, for instance, the case of the student who is doing very well in school. Such a student may have a high GPA, may be involved in school, and may never have struggled with grades. If this student receives positive messages in the home about school achievement and is doing well in school a booster effect may occur (e.g., positive social support messages are reinforcing positive school achievement) thus promoting continued achievement in school. Conversely, positive messages received by a student who has been struggling in school (e.g., being bullied, does not like a teacher, is failing a class) may serve as a buffering effect against such negative school experiences (e.g., alleviate feelings of inadequacy or embarrassment), thus allowing the student to move past these problems and continue in school. Sometimes negative school experiences may serve to help students realize their limitations (e.g., continually getting reprimanded by a teacher for bad behavior in class). In this instance a positive message from a parent may take the form of the parent explaining to the child why the teacher is reprimanding the student and explain why it is important to pay attention. Therefore, a message may be positive or negative depending on how it is communicated. In this example the message is the same, but is delivered differently and thus may be received differently by the student. Thus, it is plausible that students who perceive hearing more support messages will be more likely to have higher educational attainment due to either a booster and/or buffer effect of positive social support. An increase in positive messages may produce an enhanced booster effect (if the student is already experiencing positive events at school) or may

produce a strong buffer effect against the perception of negative events that are occurring at school, thus reducing the impact of such events. Therefore the first hypothesis in this study is that students with higher educational attainment will recall numerous and positive messages emphasizing the importance of education versus infrequently hearing or advocating the opposite position when compared to those with lower educational attainment.

Different Types of Social Support

Social support has been categorized in various ways (Beehr, 1985; House, 1981; LaRocco, House, & French, 1980). Two types of social support, emotional and instrumental support, have received the most attention in the support literature.[2] Emotional support consists of expressions of care, concern, sympathy, understanding, encouragement, and indicates acceptance of a person (Dunkel-Schetter, Blasbland, Feinstein,& Herbert, 1992). In contrast, instrumental support is viewed as rendering tangible assistance, such as physical assistance or aid in the form of advice or guidance (Kaufmann & Beehr, 1986). An important criterion for assessing the probable efficacy of supportive communication is if support recipients find supportive attempts helpful. For example, although a message conveying advice may present a perfect solution to another's problem, such advice may not be effective if recipients fail to heed it because they feel threatened or offended. Thus, it is important to understand the perceived helpfulness of different types of support messages.

Messages are experienced as providing functional emotional support when helpers clearly express the desire to be helpful or provide support; express acceptance, love, positive regard, and affection for the target; express concern, care, and interest

about the target's current situation; express their availability to the target; and express alliance with the target (Burleson, 2003). Messages coded as conveying emotional support have regularly been identified by participants as either the most helpful or one of the most helpful forms of assistance they recall receiving from others (Barbee, Derlega, et al., 1998; Caplan & Samter, 1999; Cramer, 1990; Dakof & Taylor, 1990; Dunkel-Schetter, 1984; Goldsmith, 1994; Sullivan, 1996). In addition, messages that legitimize the target's feelings and actions, and that express acknowledgement, comprehension, and understanding of the target's feelings and situation are also experienced as helpful (Burleson, 1994b; Burleson & Samter, 1985a; Samter, Burleson, & Murphy, 1987). Additional benefits of emotional support include alteration of threat appraisal of life events, enhanced self-esteem, reduced anxiety/depression, and motivated coping (Willis & Shriner, 2000).

Instrumental support attempts may include offers of information about resources, suggest alternative courses of action, and provide advice about effectiveness. Benefits may include an increase in the amount of useful information available to the support recipient, help in obtaining needed services, and may lead to more effective coping (Willis & Shriner, 2000). Perceived helpfulness of informational support attempts is contingent on how the question is asked. Sharing information about the problem is experienced as helpful, provided the target sees the information as pertinent to the problem (Cutrona, 1990; Cutrona, Suhr & McFarlane, 1990). The perceived helpfulness of one type of instrumental support message, providing advice, has been called into question. Research has found that providing advice about how to manage a problem has been viewed as unhelpful (Chesler & Barbarin, 1984; Dakof and Taylor, 1990; Dunkel-

Schetter, 1984), helpful (Cutrona, Suhr & McFarland, 1990; Sullivan, 1996), or has failed to have an effect (Cutrona & Suhr, 1994). The relationship between advice and perceived helpfulness may be unclear because there may be important moderators influencing the relationship. According to Cutrona and Russell (1990) different types of stressful events call for different forms of coping and, consequently, different forms of social support will serve as an optimal match for the needs of the distressed person. One dimension that may affect the perceived helpfulness of advice messages is the controllability of the situation, where advice (and other forms of information and guidance) will be most helpful in challenging or threatening situations in which negative consequences can be prevented or altered (Cutrona & Suhr, 1994). Despite the mixed results on advice giving, the role of instrumental support is to provide guidance and alternatives for problematic life events, which clearly provides a different type of support than making a person feel loved and esteemed.

It is important to note that many of the studies that have assessed the effectiveness of emotional support versus instrumental support have examined how supportive messages have affected people with health problems like cancer (e.g., Chesler & Barborin, 1984; Dakof & Taylor, 1990; Dunkel-Schetter, 1984), HIV (e.g., Barbee, Derlega, Sherburne, & Grimshaw, 1998), or multiple sclerosis (Lehman & Hemphill, 1990). Other studies have looked at how support messages have influenced stress in personal relationships like marriage (e.g., Cutrona & Suhr, 1994; Sprecher, Metts, Burleson, Hatfield, & Thompson, 1995) or close friendships (Wilson & Kunkel, 2000). The type of stressful situation involved influences the type of support that is viewed as helpful or unhelpful by support recipients (for a review see Cohen & Wills, 1985). Only a

handful of studies have assessed the link between perceived social support and performance on academic or academic-like tasks. Subjects high in perceived social support have been shown to perform better on a difficult anagram test and report less cognitive interference, concentrate more on performing the task, and report fewer interfering thoughts and worries during the task than subjects low in social support (Sarason, Sarason, Keefe, Hayes & Shearin, 1986). Rosenfeld, Richman, and Bowen (2000) found that students who reported receiving low support from their parents, friends, and teachers had the poorest school outcomes (poor attendance, problem behavior, low school satisfaction, engagement, self-efficacy, and obtained poor grades). In addition, Cutrona, Cole, Colangelo, Assouline, and Russell (1994) found parental social support to be a significant predictor of college grade point average in two independent samples. It is important to note that much of the literature on the effects of social support on school achievement have used global measures of social support and have not distinguished between how different types of support may differentially impact school achievement. In addition, there is a dearth of studies that have assessed how different types of support may differentially impact school achievement at the high school level, thus claims of perceived helpfulness of emotional versus informational support types may be different than in the aforementioned contexts. Yet understanding different support attempts may provide some answers concerning why some students reach higher levels of educational attainment than others. One area of study that closely approximates stress in school is research conducted in organizations in which social support functions to alleviate job stress (e.g., Kaufmann & Beehr, 1986), as attending school can be much like attending a job for many students. Much of the research on job stress has concentrated on the effects

of emotional support, apparently assuming that it is the most important type (Chisholm, Kasl & Mueller, 1986; LaRocco et al., 1980). Yet recent research on support in organizations has stressed the importance of assessing the effects of both emotional and instrumental support on important outcomes as both types may play important, albeit different, roles in affecting job outcomes (Fenlason & Beehr, 1994).

A student who is struggling in school may benefit from emotional support messages (e.g., parents tell struggling students they are accepted and loved no matter what is going on at school) as well as instrumental support messages (e.g. parent offers to help the student with homework, talk to school officials about what the student can do to improve, give advice about the best way to study or handle a bully at school). Both types of support messages may provide different, but equally important, forms of knowledge that students can use to alleviate anxiety as well as solve an immediate problem (e.g., I know am loved no matter what happens at school, and I know I can work to address this problem by studying harder for tests). But receiving emotional support only may not be a sufficient form of support in such a decision-making process. Students may also need supportive information about actions they can take to solve or ease the problem in order to make a more informed decision concerning school. Thus, greater emotional support (i.e., acceptance, encouragement, and praise) *and* instrumental support (i.e., advice, guidance) may buffer or reduce the negative psychological consequences that increased school roles, demands, and conflicts can have on school achievement. Thus, both emotional and instrumental support types may be crucial in a student's decision-making process concerning educational achievement, where students who receive more emotional and instrumental support messages will have higher educational achievement. Thus, the

second hypothesis posited is that students with higher educational attainment will recall more emotional support messages about educational achievement than will students with lower educational attainment. The third hypothesis posited is that students with higher educational attainment will recall more instrumental support messages about educational achievement than will students with lower educational attainment.

This study, therefore, will explore if the number and valence of support messages, as well as the type of support messages, a parent gives about school will affect a person's decision about staying in, or dropping out of, high school.

Chapter 2

Method

Participants

Eighty subjects (48 females and 32 males) participated in the present study. Their ages ranged from 18 to 38, $M = 25.7$ ($SD = 5.56$) (see table 1 for descriptive statistics). Their self-reported ethnicity was Asian (3.7%), Black (12.3%), Hispanic (9.9%), Caucasian/White (66.7%), and Bi/Multi-racial (6.3%). Participants were recruited through a snowball sampling technique. This technique uses a process of chain referral where members of the target population are located and are asked to provide names and addresses of other members of the target population, who are then contacted and asked to name others (Singleton & Straits, 1999). This sampling technique was designed to obtain equal numbers of the following four educational attainment categories: high school dropouts with no further education, high school dropouts who have obtained (or are working toward) their GED, high school graduates with no college, and high school graduates with a college degree (or who are working towards one).

Table1

Descriptive Statistics for Demographic Variables

Variables	M	SD	Range[a]
Age	25.7	5.56	18-38
Years in High School	3.15	1.17	0-5
GPA	2.62	.94	0-4

Note. N = 80

Subjects were also asked to report on the educational achievement for their father, mother and for themselves. Sixty-nine subjects were able to report on their father's educational achievement (3% had no high school, 23% had some high school, 29% received their high school degree, 17% had some college, 4% received a 2 year college degree, 15% received their bachelor's degree, and 9% attained a Masters degree). Seventy-six subjects were able to report on their mother's educational achievement (4% had no high school, 21% had some high school, 28% received their high school degree, 17% had some college, 9% received a 2 year college degree, 15% received their bachelor's degree, and 6% attained a Masters degree). All subjects were able to report on their own educational achievement (1.3% had no high school, 43.8% had some high school, 3.8% reported receiving their GED, 25% received their high school degree, 16.3% had some college, 3.8% received a 2 year college degree, and 6.3% received their bachelor's degree). On average subjects spent a little over 3 years in high school (M = 3.15, SD = 1.17).

Socioeconomic status of participants was assessed through participant reports of their income today as well as the income of their primary giver(s) while they lived with them in high school. Sixty-five percent of participants reported an income of $15,000 or below, 18% between $16,000-25,000, 11% between $26,000-35,000, 4% between $36,000-50,000, and 3% made $50,000 or above. Sixteen percent of participants reported that their primary caregiver(s) made between $15,000 or below while living with them, 20% between $16,000-25,000, 16% between $26,000-35,000, 15% between $36,000-50,000, and 33% reported $50,000 or above.

Procedure

The investigator conducted audio taped, face-to-face interviews. Subjects were asked a series of close-ended and open-ended questions about their high school experiences as well as about messages they recalled receiving high school about school achievement. Prior to each interview, participants completed an informed consent form (see Appendix A), and their confidentiality was guaranteed as their name was not used in conjunction with their responses. All interviews were tape-recorded but no identifying information was associated with any of the tapes. Prior to conducting the interviews, several mock interviews were conducted to refine the interview protocol. Interviews generally lasted 25-30 minutes, and all subjects were able to successfully complete their interview. At the conclusion of each interview subjects were thanked, debriefed, and were given $15 for their participation.

A funneling technique was implemented in the interview to help respondents remember high school experiences. This technique was incorporated by beginning the interview with broad questions about the subject's high school experiences. As the interviews continued the questions became more specific to certain aspects of high school. This strategy allowed the subject to remember back to high school without asking questions that may have been difficult to answer initially. As the interview continued the questions became more specific and were easier for subjects to answer because subjects were already in a general frame of mind about high school.

The tape-recorded interview was divided into five sections. The first section of the interview assessed overall context while in high school and was used to help respondents remember what happened in high school (e.g., I would like you to think about when you were in high school and try to remember as many aspects of high school

that you can. Think specifically about a period of time when you may have been struggling in school and/or a time when you were doing exceptionally well in high school. Can you think of a time like this?). The second section of the interview assessed specific aspects of the school context (e.g., Where did you go to high school? Did you attend high school anywhere else? Did you like school, dislike school, both like or dislike, or neither like nor dislike school while attending it?). The third section of the tape recorded interview assessed family context (e.g., While in high school did you live with both parents? Did you live with one parent? Do you have any brothers and sisters?). The fourth section of the interview asked specific questions about memorable messages respondents recalled receiving while in high school. Once respondents recalled the messages a series of questions were asked about the messages (e.g., Who said this to you? Did you ask for this information? Did your mom/dad/primary caregiver tell you this a lot?). Subjects were then asked about peers they spent time with in high school, the fifth and final section of the recorded interview (e.g., Did you have friends in high school who dropped out of high school? How many dropped out? How did that affect you?) (see Appendix B for entire interview protocol).

At the conclusion of the recorded interview, respondents completed a number of demographic items (e.g., age, income) (See Appendix C for items).

Instrumentation

Number and Valence of Support Messages. In order to determine number of support messages, respondents were asked to recall all messages about educational achievement they received from a primary caregiver while in high school. This procedure is similar to one used successfully by Smith and Ellis (2001) about the recall of

memorable messages. The number of messages recalled was used to investigate the first and second hypotheses. In order to assess the valence of each message respondents were asked to answer questions concerning how positive or negative they viewed the support message (e.g., The first time someone said this to you did you take it as a positive message about education, a negative message about education, or as a neither positive nor negative message about education? Somewhat positive, very positive? Somewhat negative, very negative?). Along with positive versus negative nature of the message, subjects were also asked to report on the helpfulness of the message (yes or no) as well as if the message encouraged or discouraged school pursuits. The three measures were combined to determine if they created a one-dimensional measure of message valence. The items were highly correlated but did not pass the test of parallelism. Thus the items were included in the analysis as separate predictors of educational attainment.

Type of Support. In order to investigate the third and fourth hypotheses all messages were coded as emotional and/or instrumental support type. According to Dunkel-Schetter et al. (1992) three different perspectives are possible for coding support messages: the message source or helper, the message recipient or target, and third-party observers (trained experts). The third option was incorporated in this study. Two coders were trained to code each message according to the naturalistic paradigm (Dunkel-Schetter et al., 1992). Participants in such research provide retrospective self-reports of messages they have received from others. The messages are then coded within several broad support categories (see Clark & Stephens, 1996 for an example). In the present study all messages were coded as one of four possible support codes: 1) instrumental, 2) emotional, 3) both instrumental and emotional, or 4) as neither instrumental nor

emotional support. Coders were given a list of category codes with examples and were asked to categorize several messages supplied by the researcher (see Appendix D for coding scheme). When coders felt comfortable with the system they were asked to code independently the messages.

In addition to support type, coders also coded each message for kernel state and framing of each message. Although there were no formal hypotheses posited in this study concerning the kernel state and framing of the messages, such coding allows for the investigation of how the wording of the messages may affect educational attainment. A kernel state is the basic root state mentioned in a message's description of the consequence under discussion. Coders were instructed to code the kernel state of each message as 1) desirable (e.g., graduating from high school, going to college, finishing school); 2) undesirable (not graduating from HS, dropping out, not finishing school); 3) both desirable and undesirable kernel states (mentions both graduating from high school AND dropping out of high school) or 4) indeterminate due to phrasing (does not mention any of the above) (see O'Keefe & Jensen, 2005 for more information on the coding scheme). Coders were then instructed to code each message for how it was framed. Gain-framed messages incorporate an appeal that emphasizes the desirable consequences associated with compliance with the advocated viewpoint or kernel state. Loss-framed messages incorporate undesirable consequences associated with noncompliance of the advocated viewpoint or kernel state (O'Keefe & Jensen, 2005). Codes for framing included 1) positive framing; 2) negative framing; 3) both positive and negative framing; and 4) indeterminate due to phrasing (see Appendix E for all coding instructions).

Educational Attainment. Subjects were asked to report on their level of educational attainment thus far in their life. Subjects were put into one of four educational attainment categories: high school dropouts with no further education, high school dropouts who have obtained (or are working toward) their GED, high school graduates with no college, and high school graduates with a college degree (or are working towards one). In the subsequent analysis educational attainment is treated as a continuous variable in which subjects who graduated from high school and went to college are treated as having attained the highest level of educational attainment and dropouts without a GED are treated as having attained the lowest level of educational attainment

Chapter 3

Results

Descriptive Statistics

Along with the demographic questions subjects reported on a series of items about their experiences with their family, school, and friends. The sample is described on the following dimensions: school variables, family variables, peer variables, and message variables.

School Context Variables

High School Makeup. Subjects reported attending a variety of high schools. Thirty-six percent of subjects attended one of the major high schools in the Lansing School District (i.e., Sexton, Everett, Eastern) and 64% attended other high schools. The average class size of the schools attended was 345 students. The majority of subjects attended only one high school (57.5%) during their high school years. In addition, more than one-third of subjects (36.3%) reported that they had been retained, or held back a grade, at some point in their schooling (kindergarten through high school).

Feelings about School. Subjects were asked to report on their feelings about school while attending high school. Most reported liking school or both liking and disliking school while attending it (81%). Subjects were also asked if their feelings toward high school were different now than when they attended. A majority of subjects reported feeling more positive about school now (73%), and few reported feeling more negative (7%). The average GPA for subjects was 2.62 (SD = .94). Subjects' ratings of their academic performance in school were varied with 43% reporting they did well and 30% reporting they did poorly in school.

Time Spent Outside of School. Subjects were asked if they held a job during the school year, and slightly more than one-half reported working during the school week (60%). Those who worked during high school reported working less than 15 hours per week on average (M = 13.15, SD = 12.03), which is considered part-time work. Subjects also reported on their involvement in extracurricular activities during their high school, and a majority of subjects participated in one or more activities that took place outside of school hours but during the school year (60%). On average those involved spent an average of 6.2 participation hours per week (SD = 6.07).

Pregnancy. Subjects were asked if there had been a pregnancy that had contributed to how they performed in school. Few participants reported being pregnant, or getting someone pregnant, in high school (12.5%). All reports of pregnancy were linked to reports of a time subjects struggled in school.

Feelings toward Teachers. Subjects were asked if there were specific teachers in high school they liked. Most participants were able to recall at least one teacher they liked (84%). A substantial percentage reported having at least one teacher they disliked in school (69%).

Family Context

Family Life. A number of questions were asked in order to ascertain the living situation for subjects. Almost one-half of all subjects reported living with both parents in high school (45%). For those subjects who lived with one parent most reported living with their mother (41%); only 9% reported living with their father.

Siblings. Almost all subjects reported they had a sibling (95%). On average subjects reported having three siblings (M = 3.18, SD = 2.41), and a majority of subjects

reported that their siblings were biological (61%). Subjects were also asked how many of their siblings dropped out of high school. On average, subjects reported that they had at least one sibling who dropped out of high school ($M = 1.05$, $SD = 1.56$). One-half of all subjects' siblings did not go to college and almost one-third of subjects reported that all of their siblings went on to college (29%). A little over one-half of subjects reported that they were close with at least one of their siblings (54%) (e.g., shared important information) while in high school.

Parents Work Habits. Nearly all subjects reported that one or both of their parents worked while they were in high school (99%). Similarly, of the working parents almost all worked fulltime (considered to be 40 hours or more a week) (96%). Subjects were also asked if their parent(s) liked work. Most subjects felt their parents did like their job or both liked and disliked their job (88%).

Parental Participation. Subjects were asked if their performance in school was important to their parents. Most subjects reported that their performance in school was important to their parents (86%). Almost all subjects reported receiving help with homework at least once in a while (82%) and only a few reported receiving help daily (3%). Subjects were also asked to report if their primary caregiver attended parent-teacher conferences, and most parents did attend (73%). Most subjects reported that their parent had perfect attendance at conferences (76%).

Peer Context

Friend Dropout. Subjects were asked a series of questions about their high school friends. Subjects were asked if they had friends who dropped of out high school, and a majority of subjects reported having at least one friend who dropped out (66%). The

average number of friends reported to have dropped out was 4.12, *SD* = 5.81. Of the subjects with friends who dropped out a little more than one-half reported being affected by their friend(s) dropping out (57%). Nearly all of subjects reported having friends who graduated from high school (96%).

Friend Involvement. Subjects were asked to report if their friends were involved in extracurricular activities and academics in high school. More than one-half of subjects reported that their friends were either somewhat or very involved in activities (68%), and most subjects reported that some or most of their friends did well academically (86%).

Skipping Habits of Friends. Subjects were asked if their friends skipped school while in high school. More than one-half of subjects reported that their friends skipped school very often (55%) and only a few reported that their friends never skipped school (11%).

Educational Attainment of Friends. Finally, subjects were asked if they had friends who went on to college. A majority of subjects had friends who went on to complete some college (63%).

Message Variables

Memorable Messages. Subjects were asked to recall messages they remembered receiving about educational achievement while in high school. On average subjects recalled 1.3 messages, SD = .50. A majority of subjects recalled one message (69%). Only one subject recalled three messages. There were 106 total messages recalled by subjects.

Coding Messages. Two independent raters coded participants' messages. Each complete message recalled by participants served as the unit of analysis. Coders assigned

each message a single number to represent one of the four possible support codes: instrumental, emotional, both instrumental and emotional, or as neither instrumental or emotional support. The four support codes were then converted into two dichotomous variables: Emotional support (present or absent) and instrumental support (present or absent). Cohen's kappa was used to assess the proportion of agreement between raters after accounting for chance (Cohen, 1960), Cohen's kappa = 0.57. Landis and Koch (1977) have suggested that a kappa coefficient that falls between 0.41 and 0.60 is considered moderate overall agreement. Discrepant codes were handled by having both coders discuss for a mutually agreed upon code and this consensus decision constituted the final code. Very few messages were coded as emotional support (8% of the 106 messages), while 79% of the messages were coded as instrumental support messages.

The same two coders were used to code the kernel state (Cohen's kappa = 0.76) and framing (Cohen's kappa = 0.77) of each message. According to Landis and Koch (1977), a kappa coefficient that falls between 0.61 and 0.80 is considered substantial overall agreement. Discrepant codes were handled by having both coders discuss for a mutually agreed upon code, and this consensus decision constituted the final code. A majority of the messages were viewed as having a desirable kernel state (70%), and 28% of the messages were coded as having an undesirable kernel state. Thirty-five percent of the messages were coded has having a positive frame, and 31% percent of messages were coded as having a negative frame.

Message Interaction. Subjects were asked a series of questions that assessed the interaction surrounding their recalled messages. Nearly one-half of subjects named their

mother as the source of their recalled message (49%). One-fourth of the subjects named their father as the source (24%) and only 15% named both parents as the source.

Message Valence. Subjects were asked three questions concerning the valence of the message (i.e., Did you see this message as positive or negative? Did this message discourage you from pursuing school, encourage you to try harder, or neither? Was the message helpful?). A majority of the messages were described as either somewhat or very positive (52%) whereas approximately one-fourth of the messages were viewed as neither positive nor negative (27%). Very few subjects saw their messages as both positive and negative (3%). In addition, more than one-half of all subjects reported that the message encouraged them to try harder in school (53%) whereas only a few subjects reported feeling discouraged by the message (12%). Finally, a majority of subjects also thought the message was helpful (61%).

Message Repetition. Subjects were asked to report how often they remembered hearing the message. A little less than one-half of the subjects reported hearing the message once in awhile (42%) and only a few subjects recalled hearing it on a daily basis (18%). When asked if the message changed over time, a majority of subjects reported the message did not change over time (59%), whereas one-fourth of the sample reported the message became more positive over time (25%).

Message Response. Most subjects reported that they did not ask for the information included in the message (75%) and less than one-half stated that the message came in response to something the subject said (43%). A majority of subjects had no reaction to hearing the message (59%), and almost one-third of the sample reported reacting in a positive manner to the message (30%).

Hypothesis Testing

The first hypothesis predicted that students with higher educational attainment would recall numerous and positive messages emphasizing the importance of education versus infrequently hearing or advocating the opposite position when compared to those with lower educational attainment. To test this hypothesis educational attainment was first regressed on the number of messages people recalled. This effect was modest as there was little variance in the number of messages people recalled. To examine the possibility that the extent to which messages were positive had an impact, educational attainment was regressed on the valence of the message, whether the message encouraged or discouraged pursuits in school, and the helpfulness of the message. Perceived helpfulness emerged as the only statistically significant and substantial predictor of educational attainment. ($r = .45$), $t\ (78) = 4.45$, $p < .01$. Thus, the data are consistent with the proposition that messages perceived as more helpful have a salutary impact on educational attainment (see Table 2 for correlations among this set of variables).

Table 2

Correlations for Hypothesized Variables

Variable	1	2	3	4	5
# of Messages					
+ or - Valence	.06				
Discourage/encourage	-.05	.60**			
Perceived Helpfulness	.02	.55**	.55**		
Educational Attainment	.15	.09	.29*	.45**	

Note. N = 80. * $p < .05$

Hypothesis 2 posited that students with higher educational attainment would recall more emotional support messages about educational achievement than would students with lower educational attainment. No relationship emerged between emotional support messages and educational attainment as emotional support type was not correlated with educational attainment, $r = .04$, *n.s.* Thus, hypothesis 2 was inconsistent with the data.

Hypothesis 3 posited that students with higher educational attainment would recall more instrumental support messages about educational achievement than would students with lower educational attainment. There does not appear to be a systematic relationship between instrumental support type and educational attainment as they are not highly correlated, $r = .14$, *n.s.* Thus, hypothesis 3 was inconsistent with the data.

Additional Analyses

There are a number of variables that have conceptual properties that may be important predictors of educational attainment. Of the variables hypothesized to affect educational attainment in this study perceived helpfulness is the only one that emerges as an important predictor, yet it is important to control for other causes of educational attainment as the effect of perceived helpfulness may be spurious with respect to these other known causes. Thus additional analyses were performed to tease out the relationship between perceived helpfulness and educational attainment while controlling for variables that have previously been found to be important predictors. After analyzing a variety of variables (e.g., parental income, pregnancy, retention), six predictors emerged as important to educational attainment. When these variables were added (with perceived helpfulness) to the regression equation, each was found to be a statistically

significant and important predictor: parental income, $\beta = .37$, $t\,(69) = 4.90$, $p < .05$; pregnancy, $\beta = -.22$, $t\,(69) = -3.11$, $p < .05$; gender, $\beta = .25$, $t\,(69) = 3.48$, $p < .05$; sibling dropout, $\beta = -.19$, $t\,(69) = -2.55$, $p < .05$; message repetition, $\beta = -.23$, $t\,(69) = -3.24$, $p < .05$; perceived helpfulness, $\beta = .36$, $t\,(69) = 4.87$, $p < .05$. Moreover the combined effect of these variables predicted accurately the educational attainment of subjects, $R = .82$; $R' = .80$, $F\,(6, 69) = 23.51$, $p < .05$. (See Table 3 for percentages for gender, parental income, pregnancy, instrumental messages, loss-framed messages, helpfulness, and message repetition by educational attainment) (see Table 4 for means for sibling dropout by educational attainment).

Table 3

Percentages for Gender, Parental Income, Pregnancy, Instrumental Messages, Loss-framed Messages, Helpfulness, and Message Repetition by Educational Attainment

		Educational Attainment			
	N	Dropout, No GED	Dropout, GED	Graduate, No college	Graduate, College
Gender					
Male	32	18%	10%	6%	6%
Female	48	7%	15%	19%	19%
Parental Income					
$15,000 or below	13	6%	6%	3%	16%
$16,000-25,000	16	11%	7%	0%	20%
$26,000-35,000	13	5%	6%	3%	16%
$36,000-50,000	12	1%	2%	11%	15%
$50,000 or above	26	1%	2%	9%	33%
Pregnancy					
No	70	18%	23%	21%	25%
Yes	10	6%	3%	4%	0%
Instrumental Messages					
No	10	5%	3%	4%	1%
Yes	70	20%	22%	21%	24%

Table 3 (cont.)

Loss-framed Messages					
No	55	12%	14%	20%	22%
Yes	25	12%	11%	5%	3%
Helpfulness					
No	31	15%	15%	8%	1%
Yes	49	10%	10%	17%	24%
Message Repetition					
Once in awhile	32	9%	10%	10%	11%
Every month	14	1%	5%	4%	7%
Every week	19	5%	6%	7%	5%
Every day	15	10%	4%	4%	1%

Table 4

Means for Sibling Dropout by Educational Attainment

		Educational Attainment			
	N	Dropout, No GED	Dropout, GED	Graduate, No college	Graduate, College
Sibling Dropout	76	1.6 (1.70)	1.90 (1.97)	.56 (.86)	.11 (.46)

Note. Standard deviations in parentheses

Path Model

An examination of the beta weights provides clear evidence that the effect of perceived helpfulness is large relative to a number of the other predictors. This outcome raises the possibility that the effect of some of these predictors may be mediated by perceived helpfulness. Correlations between perceived helpfulness and a number of message predictors were examined to explore this possibility. Instrumental support

messages and loss-framed messages were both found to be correlated substantially with perceived helpfulness. Thus, a post-hoc causal model was created with perceived helpfulness mediating the effect of instrumental messages and loss-framed messages on educational attainment. The remaining predictors (pregnancy, parental income, gender, sibling dropout, and message repetition) appeared to exert direct effects on educational attainment (see Figure 1).

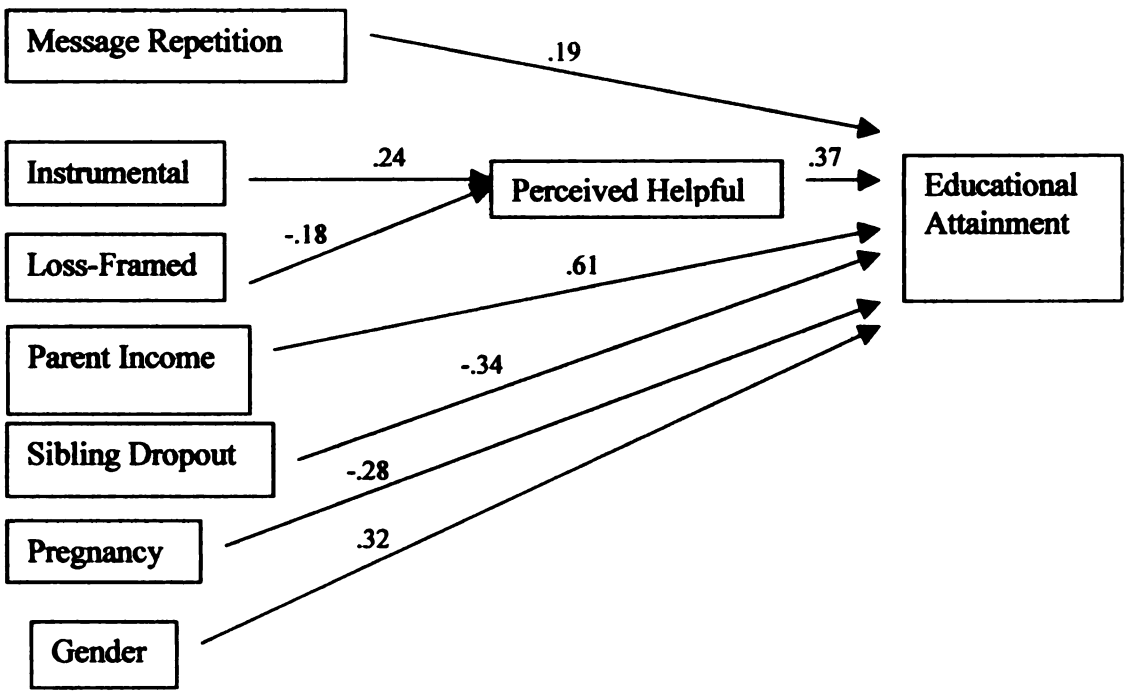

Figure 1. Post-hoc path model depicting the relationship between instrumental support, loss- framing, perceived helpfulness of message, parent income, gender, sibling dropout, message repetition and educational attainment.

Table 5 presents the correlations employed to estimate the fit of these model parameters employing the ordinary least squares criterion (Hunter & Gerbing, 1982). In the model path coefficients were ample and statistically significant. No errors were found

that were greater than what would be expected from sampling error in the population. A global test for goodness of fit indicated that these data were consistent with the model, χ^2 (7, 73) = 4.81, p = .68.

Table 5

Correlations for Variables in Path Model

Variable	1	2	3	4	5	6	7	8	9
Instrumental Support									
Loss Framed	.17								
Parental Income	.20	-.29*							
Sibling Dropout	.11	.27*	-.30*						
Pregnancy	-.20	.07	-.17	.06					
Gender	.00	-.11	.20	-.10	.08				
Message Repetition	.00	.16	-.07	.02	.00	.05			
Perceived Helpfulness	.24*	-.18	.16	-.29	.07	.08	.08		
Educational Attainment	.14	-.35**	.62**	-.42**	-.24*	-.34**	.23*	.45**	

Note. N = 80. * $p < .05$

Chapter 4

Discussion

In this study educational attainment was investigated as an outcome of the number, valence, and type of support message. The results were not consistent with the first hypothesis concerning differences in the number of messages recalled by subjects with varying levels of educational attainment. When considering the relationship between valence of the message and educational attainment only perceived helpfulness was found to be an important predictor of educational attainment.

Hypotheses 2 and 3 predicted relationships between emotional support and educational attainment and instrumental support and attainment. Participants with higher levels of educational attainment did not recall more emotional support type messages than those with lower educational attainment. Additionally, participants with higher levels of attainment did not recall more instrumental support type messages than participants with lower levels of attainment Thus, results were not consistent with these hypotheses. In sum, only participants' reports of the helpfulness of the message impacted their level of educational attainment.

Perceived helpfulness of the message was treated as an alternate method of measuring message valence. In a study assessing the measurement of enacted social support in personal relationships, Goldsmith, McDermott, and Alexander (2000) found that the adjective *helpful* refers to the informational and instrumental benefits of an interaction and is associated with information that is viewed as knowledgeable, useful, and generous. The perceived helpfulness of messages in this study impacted educational achievement such that participants with higher levels of educational achievement

reported receiving more helpful messages than those with lower levels of achievement. Further analyses were employed to understand what makes a message perceived to be more or less helpful.

According to the post-hoc causal model, perceived helpfulness mediated the impact of instrumental messages on educational achievement. Messages are perceived as more helpful if they provide some form of tangible assistance, such as physical assistance or aid, in the form of advice or guidance. When dealing with issues involving educational attainment (e.g., grades) students may perceive messages that help them solve a problem as more helpful than emotional messages that express care, concern, or sympathy. These results are a departure from what has been found in previous research. Messages conveying emotional support have regularly been identified by participants as either the most helpful or one of the most helpful forms of assistance they recall receiving from others (Barbee, Derlega, et al., 1998; Caplan & Samter, 1999; Cramer, 1990; Dakof & Taylor, 1990; Dunkel-Schetter, 1984; Goldsmith, 1994; Sullivan, 1996). Instrumental messages may have been viewed as more helpful in this study because the context surrounding the messages may lend itself to support recipients seeking out advice or guidance rather than concern or sympathy. Many of the studies that have assessed the perceived helpfulness of emotional support versus instrumental support have examined how supportive messages have affected people with serious health problems (e.g., Chesler & Barborin, 1984; Dakof & Taylor, 1990; Dunkel-Schetter, 1984) where negative consequences cannot necessarily be prevented or altered. In this study, subjects may feel that the negative consequences surrounding educational attainment could be altered; thus instrumental messages were seen as particularly helpful.

Additionally, according to the path model there is evidence that the helpfulness of a message also mediates the relationship between loss-framed messages and educational attainment. Loss-framed messages emphasize the undesirable consequences associated with noncompliance (O'Keefe & Jensen, 2005). An example of a message coded as a loss-framed appeal is, "If you don't finish school you will be homeless and poor." Noncompliance in this example is not graduating, or not finishing school, and the undesirable consequence of noncompliance is becoming homeless and poor. The more subjects recalled loss-framed messages the less helpful they viewed the message. Loss-framed messages have traditionally been shown to be significantly more engaging than their gain-framed counterparts (e.g., Tversky & Kahneman, 1981) because appeals emphasizing potential losses will presumably be more engaging (more attention-getting, more thought provoking, etc.). Yet, according to a meta-analysis by O'Keefe and Jensen (2005) loss-framed messages did not generate significantly greater message processing than gain-framed messages. In the present study there were no differences in gain-framed versus loss-framed messages recalled by subjects with different levels of attainment, thus it seems loss-framed messages were not more engaging, or memorable, and were not recalled more readily than gain-framed messages. Conversely, how the messages were viewed (helpful versus unhelpful) did differ concerning different levels of educational attainment. Loss-framed messages may not be more memorable but the specific wording of such messages may impact how helpful a message is in the specific context of educational attainment. Specifically, an increase in loss-framed messages will lead to a decrease in perceived helpfulness of the message.

Along with the mediating effects of helpfulness, the causal path model reported also includes direct effects of educational attainment. A number of demographic factors were found to impact educational attainment. Level of parental income, which served as a measure of socioeconomic status (SES), was a strong predictor of educational attainment. This result corresponds to previous findings concerning the impact of SES on educational attainment (Ekstrom, Goertz, Pollack, & Rock, 1986; Fine, 1986; Johnston, Markle, & Harshbarger, 1986; McDill, Natriello, & Pallas, 1985; Rumberger 1983; Wehlage & Rutter, 1986). Additionally, there were important differences between males and females concerning levels of educational attainment. Females reported higher levels of educational attainment than males, which is consistent with previous research findings on gender differences in attainment (Battin-Pearson, Newcomb, Abbott, Hill, Catalano, & Hawkins, 2000; Bickel, 1989; McNeal, 1997; Rumberger, 1987). Moreover, pregnancy was found to impact educational attainment, which also replicates previous findings (Forste & Tienda, 1992; Geronimus & Korenman, 1992; Rumberger, 1983). The number of siblings who have dropped out is another important demographic predictor of educational attainment, one that has not received as much attention in previous research. According to the causal model, as the number of subjects' siblings who dropped out increased educational attainment decreased. It may be easier, and more acceptable, for students to drop out of school if they have older brothers or sisters or both who have made the same choice. Finally, the number of times subjects recalled hearing a message also impacted their educational attainment. Subjects who recalled hearing the message more often reported higher levels of educational attainment. This finding provides important information to communication researchers concerning the impact of

memorable messages. Hearing a message one time may not be enough to impact a decision-making process like deciding to stay in school versus dropping out. Hearing a message repeatedly may serve to reinforce a decision that is based on the initial information in the message. It may not be enough to hear a message one time; instead a message's impact may increase with subsequent repetitions.

The variables included in the post-hoc path model were not the only variables assessed concerning educational attainment. Previous research on school success has revealed a variety of family and school context variables that have been linked to educational attainment. These context variables were assessed in order to determine if their effects were replicated in the present study.

Previous research has found a strong relationship between parental level of education and the educational attainment of their children (Ekstrom, Goertz, Pollack & Rock, 1986; Fine, 1986; Johnston, Markle & Harshbarger, 1986; McDill, Natriello, & Pallas, 1985; Rumberger, 1983; Wehlage & Rutter, 1986), yet parental level of education did not impact subjects' educational attainment in this study. Parental level of education may not have replicated because subjects may not have been able to recall accurately the level of educational achievement for their parent(s). In addition, subjects who did not graduate from high school had a more difficult time recalling parental level of education achieved, and perhaps overestimated their parent(s) level of achievement. Parental aspirations regarding school success has also been linked with educational attainment (Astone & McLanahan, 1991; Ekstrom et al., 1986; Fagan & Pabon, 1990; McCombs & Forehand, 1989; Rumberger, 1983, Rumberger et al., 1990), but was not predictive of attainment in this study. Parental aspirations were measured by the following item: "Was

your performance in school important to your parent(s)?" Almost 90% of participants reported that their performance was important. This item may have been too vague and may not have effectively measured parental aspirations toward educational achievement. Future research would benefit from incorporating multiple indicators of parental aspirations in order to further understand the relationship between aspirations and educational attainment.

School context variables have also been linked with educational attainment. Low academic achievement, typically assessed with GPA, has been the primary aspect of school performance studied in the last 20 years, and has consistently been one of the strongest predictors of dropping out of school (Cairns, Cairns, & Neckerman, 1989; Ekstrom, Goertz, Pollack & Rock, 1986; Fagan & Pabon, 1990; Rumberger, 1983). Subject reports of their GPA in high school were not predictive of educational attainment, although subject reports may be unreliable due to memory decay or social desirability issues (e.g., subjects who did not do well in school may have over reported their GPA while in high school). Previous research has found that students who worked more than 15 hours per week while in high school have also been found to be more likely than their peers to drop out of high school (Battin-Pearson, Newcomb, Abbott, Hill, Catalano, & Hawkins, 2000; Bickel, 1989; Fine, 1986; McDill et al., 1985, McNeal, 1997; Rumberger, 1987; Wehlage & Rutter, 1986). Yet working students were not more likely to have lower educational attainment than students who did not work while in high school. In the present study subjects reported working an average of 13.15 hours per week (SD = 12.04), which may not have been enough time to cause substantially decreased focus on educational attainment. Furthermore, dropouts have reported taking

part in fewer after-school activities than their graduating counterparts (Ekstrom et al, 1986; Johnston et al., 1986; Mahoney & Cairns, 1997; Wehlage & Rutter, 1986), yet no differences were found on educational attainment between students who did and did not participate in extracurricular activities. It is important to note that subjects who reported involvement spent an average of 6 hours per week participating, which is a very low level of involvement. Perhaps a sample with higher participation would yield different results concerning attainment. Finally, grade retention has been found to be an important and consistent predictor of high school dropout (Alexander, Entwistle, & Horsey, 1997; Roderick, 1994). In this study grade retention was significantly correlated with educational attainment, $r = -.48, p < .05$, yet this effect was reduced substantially when regressed on attainment along with the parental income, gender, pregnancy, sibling dropout, message repetition, and message helpfulness. Clearly, its effects arise largely because it is correlated substantially with important antecedents of educational attainment.

Limitations

One limitation of this study is that subjects predominantly recalled instrumental support messages. Very few emotional support messages were actually recalled. The predominance of instrumental messages might have been due to how message recall was solicited, namely subjects were asked to share verbally their messages with the experimenter. There may have been an increase in the number and type of messages recalled if subjects had been asked to write out their messages. A pilot study was conducted in which subjects were asked to write down all the messages they remembered receiving about educational attainment. On average, subjects recalled three messages

using this method. Another explanation for the predominance of instrumental messages is they simply may be easier to recall. Future research examining instrumental messages may benefit from incorporating both verbal and written message recall to address this issue.

A second limitation of this study is that all variables were measured with one item. The interview protocol asked about a wide variety of topics but as it was important to limit the length of the interview to avoid subject fatigue, thus single items were employed. Although the reliability of one-item measures could not be determined the questions exhibited face validity.

A third limitation is how the sample was collected. Participants were recruited through a snowball sampling technique, which is a convenient, non-random method of obtaining subjects. Generalizations based on results garnered through this sampling method should be limited as the sample in this study may not accurately reflect what is occurring in the general population. Future research may benefit from incorporating a random sample of subjects when assessing issues associated with educational attainment.

A final limitation is the hypotheses posited in this study lacked a unifying theoretical structure for predicting dropout. Future research must strive to incorporate an a priori theoretical explanation for the influence of such variables to allow for the systematic study of family communication variables. Uncertainty reduction theory (Berger & Calabrese, 1975) may be an important framework for explaining what types of supportive interactions occur and how they affect educational attainment. The opportunity to talk over feelings and reactions with others is a way to clarify and reduce one's uncertainty toward stressful communication (Albrecht & Adelman, 1984). Berger

and Calabrese (1975) claim that people are motivated to communicate with one another in order to describe, predict, and explain another's behavior. Perhaps parents attempt to reduce uncertainty by talking to their child about school and school success. Parents may use instrumental support messages to achieve this goal as informational messages may provide more uncertainty reduction than emotional support messages because they provide advice about how to address negative circumstances that can be altered.

Future Directions

This study is an initial attempt at understanding how different aspects of messages in the home may affect educational attainment. The post-hoc causal path model presented provides information about what variables may impact student achievement in school and beyond. In order to determine the validity of the model, it is recommended that a replication with formal hypotheses about the model be conducted. Additionally, a longitudinal study assessing the impact of parental communication and educational attainment is suggested in order to understand more fully the relationship between these constructs.

The long-term utility of this analysis is to use the information garnered to develop effective school dropout prevention messages. Communication in the home is not the only important social process that can be addressed in research on dropouts. Messages shared in the school context as well as messages exchanged between peers may also be important areas of study for future research on educational attainment. Exploration of the differences between varying relationships associated with school success is needed to identify effective methods of dropout prevention and remediation (Lecompte & Goebel,

1987). Understanding how the process of communication affects dropout may provide valuable information for new prevention efforts.

Footnotes

[1] Conventionally race was thought to be the most important predictor of school dropout, but research has demonstrated that when socioeconomic status is held constant, race no longer matters (Rumberger, 1995).

[2] There are differing categorizations of support types. Discrepancies often arise when differentiating informational (providing advice and information) and instrumental support (which includes offering tangible assistance or physical assistance in the form of advice). Some studies make the distinction between emotional and instrumental support as the two major areas of support types (e.g., Kaufmann & Beehr, 1986), while others studies make the distinction between emotional and informational support as the two major areas of support types (Sullivan, 1996). This study uses the former distinction of emotional and instrumental types as the two main categorizations of support.

APPENDICES

APPENDIX A

Consent Form

Dropping Out of School:
Assessing the Effect of Supportive Messages from Family about Staying in School

Family functioning and school achievement are linked in research on dropouts, yet familial communication factors are often overlooked in research concerning a student's decision to stay in, or drop out of school. The purpose of this study is to examine messages people recall having received while in high school in order to understand if there is a relationship between these messages and people's level of educational attainment. It is believed that the project will assist in a better understanding of what types of messages can be used in campaigns targeted at school success.

As a part of this research, you are being asked to participate in an interview where you will be asked a series of questions about messages that you recall from high school. You will also be asked to complete a brief survey. Participation in this study will take approximately 30 minutes. Interviews will be conducted in 455 Com Arts on the campus of Michigan State University. Foreseeable risks involved with participation in this study include loss of privacy, and participation may cause feelings of embarrassment and awkwardness. Foreseeable benefits of participation are none. Participation is voluntary, you may choose not to participate at all, or you may refuse to participate in certain procedures or answer certain questions or discontinue your participation at any time without penalty or loss of benefits. You will be paid $15 for your participation in this study, regardless of whether you actually complete the entirety of the interview. All interviews will be tape recorded, but no identifying information will be associated with any of the tapes. The primary researcher will be the only person with access to the tapes and all tapes will be stored in a locked filing cabinet for 1 year. Your privacy will be protected to the maximum extent allowable by law. The following precautions will be taken to protect your confidentiality. No individual names or other identifying information will be used in any reports or publications that may result from this study.

Your participation in the study would be greatly appreciated. However, please know that you may refuse to participate without any penalty. If you have any questions about the study, please contact the primary investigator (Frank Boster, 567 Com Arts and Sciences, 517-355-1514, boster@msu.edu). If case you have questions or concerns about your rights as a research participant, or are dissatisfied at any time with any aspect of this study, you may contact - anonymously, if you wish - Peter Vasilenko, Ph.D., Chair of the Human Research Protection Program by phone: (517) 355-2180, fax: (517) 432-4503, email address: irb@msu.edu, or regular mail: 202 Olds Hall, East Lansing, MI 48824.

If you agree to participate in this study, please write your name and sign your name on the lines below.

Printed Name: _____

Signature: _____

By initialing below you are indicating your permission to be tape-recorded:

Initials _____

Thank you for your time and cooperation.

Sincerely,

Renee Strom, M.A.

APPENDIX B

Interview Protocol

Overall Context While in School

1. How many years did you attend high school?
2. Did you get your high school diploma?

2a. (*If did get diploma*) At any time did you drop out while working towards your high school diploma?

2b. (*If didn't get diploma*) Have you worked on getting a GED (General Education Diploma)?

2c. (*If working towards GED*) How long have you worked towards getting your GED?

2d. (*If didn't get diploma*) Did you obtain your GED?

3. Have you attended college?

3a. (*If yes)* For how long?

3b. (*If yes*) Did you obtain a college degree?

3c. (*If yes*) What type of degree? (2 year, 4 year, Masters, etc.)

4. Now I would like you to think about when you were in high school and try to remember as many aspects of high school that you can (e.g., school activities, school success, grade point average, etc.). Think specifically about a period of time when you may have been struggling in school and/or a time when you were doing exceptionally well in high school. Can you think of a time like this?

4a. How old were you during this time?

4b. What year was this?

4c. What time in the school year was it?

5. Tell me about any events (at home or at school, with friends, etc.) that occurred during this time frame.

5a. (*Probe*) Did any of these events affect (positively or negatively) how you were doing in school?

5b. (*Probe if events did affect them*) How so?

6. (*For those who dropped out*) Why did you decide to drop out of high school?

7. Were you ever held back a grade in school?

School Context

1. Where did you go to high school?

1a. (*Probe*) Did you attend high school anywhere else?

2. What size of school did you attend (how many people in your graduating class)?

3. Did you like school, dislike school, both like or dislike, or neither like nor dislike school while attending it?

3a. (*If liked school)* What things did you especially like about school?

3b. (*Probe if necessary*) Anything else?

3c. (*If disliked school)* What things did you especially dislike about school?

3d. (*Probe if necessary*) Anything else?

4. Looking back on school do you feel differently about it now than when you were attending?

4a. (*If subject feels differently*) Would you say you feel more positive about school, more negative about school, or both?
5. Approximately what was your grade point average while in high school?
5a. (*Probe*) How well do you think you did academically?
6. Did you have a job while attending high school?
6a. (*If yes*) What did you do?
6b. (*If had a job*) About how many hours a week did you work?
7. Were you involved in extracurricular activities in high school? (band, sports, yearbook, etc.)
7a. (*If yes*) What kind of activities?
7b. (*If yes*) How long did that take each week?
8. Were there particular teachers in high school that you liked a lot?
8a. (*If yes)* Tell me about them.
9. Were there particular teachers in high school you disliked a lot?
9a. (*If yes)* Tell me about them.

Family Context

1. While in high school did you live with both parents?
1a. (*If no*) Did you live with one parent?
1b. (*If lived with one parent*) Which parent did you live with?
1c. (*If didn't live with either parent*) What was your living situation?
2. Do you have any brothers and sisters?
2a. (*If yes*) How many brothers and/or sisters?
2b. (*Probe*) Are they biological, step, half or adopted siblings?
2c. (if they have siblings) What are the age differences between you and your sibling(s)?
2d. (*If they have siblings)* While in high school did you confide in, or tell important information, to any of your siblings?
2e. (*Probe if yes*) Tell me about that.
2f. (*If they have siblings*) How many of your sibling(s) did well in school?
2g. (*If they have siblings*) How many of your sibling(s) dropped out of high school?
2h. Did your sibling(s) go on to college?
3. Did your parent(s)/primary caregiver graduate from high school?
4. Did your parent(s)/primary caregiver go on to college?
4a. (*If yes*) Did they get a college degree?
4b. (*If yes*) What type of degree (2 year, 4 year, Masters, Phd)?
5. Did either or both of your parent(s)/primary caregiver work?
5a. (*If yes*) Where did your parent(s)/primary caregiver work while you were in high school?
5b. *(Probe*) How many hours a week did they work?
5c. (*If parent/primary caregiver worked*) Did they like their job a lot or not much?
6. Was your performance in school important to your parent(s)/primary caregiver?
6a. (*If yes)* In what way did your parent(s)/primary caregiver show you that your performance was important?
6b. (*If no*) In what way did your parent(s)/primary caregiver show you that your performance was unimportant?

7. Were there other things your parent(s)/primary caregiver did that helped you achieve what you needed to in school?
7a. (*Probe if necessary*) Like what?
8. Were there other things your parent(s)/primary caregiver didn't do that helped you achieve what you needed to in school?
8a. (*Probe if necessary*) Like what?

Memorable Messages

Now think about the things people said to you while you were in high school. These things could be positive or negative in nature. Specifically think about the things people said about education and being successful in school and think about what effect the things they said had on you.

When you think about when you were in high school what do you remember your parent(s)/primary caregiver telling you about education? Please tell me the things you remember hearing.

*Addressing the first message

1a. Who said this to you?
1b. Did you ask for this information?
1c. (*Probe if necessary)* Did your mom/dad/primary caregiver tell you this a lot?
1d. (*If they only talk about mom*) Did your dad ever say anything like this to you?
1e . Did anybody else ever say this to you as well?
1f. (*If no*) Did siblings, peers, teachers ever say this to you?
1g. The first time someone said this to you did you take it as a positive message about education, a negative message about education, or as a neither positive or negative message about education?
1h. (*If positive*) How positive? (somewhat positive, very positive?)
1i. (*If negative)* How negative? (somewhat negative, very negative?)
1j. (*Probe*) Did this information discourage you from persuing school or encourage you to try harder?
1k. (*Probe*) Why?
1l. (*Probe if necessary*) How often did people say this kind of thing to you (every day, a few times, once)?
1m. (*If they heard it often)* After you heard people say this a lot of times did you still view it in the same way as you did the first time you heard it? (Because sometimes when people say things over and over the meaning changes for us)
1n. (*Probe if they didn't see it the same way after hearing it often*) What changed?
1o. Did what they said to you come in response to something you said?
1p. Was what they said to you helpful?
1q. (*If yes*) How so?
1r. (*If no*) Why not?
1s. When they said this to you did you respond?
1t. (*If yes*) What did you say?
1u. (*Probe*) How positive/negative was your response?

1v. Did the person who told you this ever help you with your homework?
1w. (*If yes*) How often did they help you with your homework (how many nights during an average week)?
1x. (*If no*) Did they ever talk to you about your homework (offer to help, monitor, check answers?)
1y. Did your parent(s)/primary caregiver often go to parent-teacher conferences?
1z. (*If yes*) What percentage of conferences did your parent(s)/primary caregiver attend?
*Addressing the second message

2. What else do you remember your parent(s)/primary caregiver telling you about education?
2a. Who said this to you?
2b. Did you ask for this information?
2c. (*Probe if necessary)* Did your mom/dad/primary caregiver tell you this a lot?
2d. (*If they only talk about mom*) Did your dad ever say anything like this to you?
2e . Did anybody else ever say this to you as well?
2f. (*if no*) Did siblings, peers, teachers ever say this to you?
2g. The first time someone said this to you did you take it as a positive message about education, a negative message about education, or as a neither positive or negative message about education?
2h. (*If positive*) How positive?
2i. (*If negative)* How negative
2j. (*Probe*) Did this information discourage you from persuing school or encourage you to try harder?
2k. (*Probe*) Why?
2l. (*Probe if necessary*) How often did people say this kind of thing to you (every day, a few times, once)?
2m. (*If they heard it often)* After you heard people say this a lot of times did you still view it in the same way as you did the first time you heard it?
2n. (*Probe if they didn't see it the same way after hearing it often*) What changed?
2o. Did what they said to you come in response to something you said?
2p. Was what they said to you helpful?
2q. (*If yes*) How so?
2r. (*If no*) Why not?
2s. When they said this to you did you respond?
2t. (*If yes*) What did you say?
2u. (*probe*) How positive/negative was your response?
2v. Did the person who told you this ever help you with your homework?
2w. (*If yes*) How often did they help you (how many nights during an average week)?
2x. (*If no*) Did they ever talk to you about your homework (offer to help, monitor, check answers?)
2y. Did your parent(s)/primary caregiver often go to parent-teacher conferences?
2z. (*If yes*) What percentage of conferences did your parent(s)/primary caregiver attend?

* (Repeat these steps until subject can't recall anymore messages)

Peer Context

1. Did you have friends in high school who dropped out of high school?
1a. (*If yes*) How many dropped out?
1b. (*If yes*) How did that affect you?
1c. (*If yes*) Did you have other friends who didn't drop out of high school?
1d. (*if yes*) Were they involved in school?
1e. (*if friends didn't drop out*) Were your friends involved in school?
1f. (*If they had friends)* As far as you know how many of your friends ever considered dropping out of high school?
1h. (*If they had friends*) How many of your friends did well in high school?
1i. (*if they had friends)* Did your friends ever skip school?
1j. (*if yes*) How often?
1k. (*if yes*) Did you ever skip school with your friends?
1k. (*If they had friends)* Did any of your friends go to college?

APPENDIX C

Demographic Questions

1. Please circle the average amount of money you currently make in a year.

$15,000 or Below	$16,000- $25,000	$26,000- $35,000	$36,000- $50,000	$50,000 or Above

2. Please circle the average amount of money your primary caregiver(s) made a year while living with them.

$15,000 or Below	$16,000- $25,000	$26,000- $35,000	$36,000- $50,000	$50,000 or Above

3. Please circle the highest educational level your father has achieved.

Some High School	High School Degree	Some College	2 year College Degree	Bachelor Degree	Masters Degree	Doctoral Degree

Other: _____

4. Please circle the highest educational level your mother has achieved.

Some High School	High School Degree	Some College	2 year College Degree	Bachelor Degree	Masters Degree	Doctoral Degree

Other: _____

5. Please circle the highest educational level achieved by the person you recalled above (if not your mother or father).

Some High School	High School Degree	Some College	2 year College Degree	Bachelor Degree	Masters Degree	Doctoral Degree

Other: _____

6. Please circle the highest educational level you have achieved thus far:

Some High School	High School Degree	Some College	2 year College Degree	Bachelor Degree	Masters Degree	Doctoral Degree

Other: _____

7. What is your gender? Male Female

8. How old are you? _____ years old

9. What is your ethnicity? (Please circle the number next to the race/ethnicity that best describes you)

1) Asian/Asian-American
2) Black/African-American
3) Hispanic, Latina
4) Pacific Islander
5) Native American/American Indian
6) White, European American
7) Multicultural Mixed Race
8) Other

Thank you for your participation!

APPENDIX D

Instructions for Coders and Coding Scheme for Message Types

Instructions for Coders:

Definition of Emotional Support: expressions of care, concern and sympathy, understanding, and encouragement, and indicates acceptance of a person.

KEY WORDS:

- Acceptance for the target
- Love for the target
- Positive regard for the target
- Affection for the target
- Expresses concern for the situation
- Expresses care and interest about the target's current situation
- Expresses availability to the target
- Expresses alliance with the target

Definition of Instrumental support: rendering tangible assistance, such as physical assistance or aid in the form of advice or guidance.

KEY WORDS:

- Help in defining, understanding, and/or coping with problematic events
- Offers of information about resources
- Suggest alternative courses of action
- Provide advice about what to do
- Help in obtaining needed services
- Provide a new way of seeing the problem
- Referral to some other helper
- Assisting in active coping efforts
- Providing financial assistance or material resources

Support Message types

Subject #	**Message #**	**Type message here**	**Support Code** Emotional = 1 Instrumental = 2 Both Emotional & Instrumental = 3 Neither Emotional or instrumental = 4
N/A 1	Message 1	My mom always said she was really proud of how I was doing in school	1
N/A 2	Message 1	My parents told me that it was important that I get my high school diploma or I was going to struggle in life.	2
	Message 2	My mom said she would buy me a car if I graduated from high school.	2
N/A 3	Message 1	My parents told me that they were there for me no matter what happened at school. They said, "We will help you get your grades up. The best way for you to do that is to come to us with your questions and problems."	3
N/A 4	Message 1	My mom told me I should finish school but those were just words. Her actions never supported her words because she never saw to it that I actually did it.	4
Practice	Message 1	My dad always told me was that he didn't want me to go down the same path as he did and not graduate.	
Practice	Message 1	I remember hearing that school is really important.	
Practice	Message 1	My mom just always told me how I am a screw-up.	
Practice	Message 1	My mom and dad would talk to me about how they were concerned about how I was doing in school. They wanted to make sure I was okay and that I wasn't going to flunk out.	

Practice	Message 1	My mom would ask me what my plans were for after high school. She would say all I have to worry about is school right now.	

APPENDIX E

Instructions for Coders and Coding Scheme for Kernel States and Framing

- Kernel States
  - Basic, root state mentioned in the message's description of the consequence under discussion

  - Code as

- 1) **desirable kernel state** (e.g., graduating from high school, getting high school diploma, going to college, finishing school, importance of school)

- 2) **undesirable kernel state** (not graduating from HS, not getting high school diploma, dropping out, not finishing school, unimportance of school)

- 3) **a combination of desirable and undesirable kernel states** (mentions graduating from high school, or getting high school diploma, or going to college, or finishing school, or importance of school AND not graduating from HS, or not getting high school diploma, or dropping out, or not finishing school, or unimportance of school)

- 4) **indeterminate due to phrasing** (doesn't mention any of the above)

Ex: "You will be homeless if you drop out of high school"
- This message has an undesirable kernel state (dropping out)
- undesirable consequences of noncompliance by discussing an undesirable kernel state that will happen

Ex: "If you graduate from high school you can get your own place"
- describes a desirable kernel state (graduating from HS) that will be attained by compliance

- Gain vs. loss framing

  - **1) Gain-framed**: The appeal emphasizes the desirable *consequences* associated with compliance with the advocated viewpoint
    - Ex: "If you graduate from high school you can get your own place"
      - This message emphasizes the desirable consequences of compliance.

  - **Loss-framed**-undesirable *consequences* associated with noncompliance
    - Ex: "You will be homeless if you drop out of high school"
      - This message discuss the undesirable consequences of noncompliance

Subject	Message	Type message here	Kernel State 1=undesirable 2=desirable 3= both 4= indeterminate	Framing 1=negative 2=positive 3= both 4=indeterminate
N/A 1	Message 1	My mom always said she was really proud of how I was doing in school	4	4
N/A 2	Message 1	My parents told me that it was important that I get my high school diploma or I was going to struggle in life.	2	1
	Message 2	My mom said she would buy me a car if I graduated from high school.	2	2
N/A 3	Message 1	My parents told me if I quit school I would never amount to anything.	1	1
N/A 4	Message 1	My mom told me I should finish school but those were just words. Her actions never supported her words because she never saw to it that I actually did it.	2	4
N/A 5	Message 1	If you don't take graduating seriously, you're never going to amount to anything.	2	1
N/A 6	Message 1	School is important. It's important that I go. She told me my education should be my first priority.	2	4
Practice	Message 1	My dad always told me was that he didn't want me to go down the same path and struggle as he did and not graduate.		
Practice	Message 1	I remember hearing that school is really important.		
Practice	Message 1	My mom just always told me how I am a screw-up.		
Practice	Message 1	My mom and dad would talk to me about how they were concerned about how I was doing in school. They wanted to make sure I was going to graduate and get a job.		

Practice	Message 1	My mom would ask me what my plans were for after high school. She would say all I have to worry about is school right now.		

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