Dropping Out of High School: Assessing the Relationship between Supportive Messages from Family and Educational Attainment

Renee E. Strom & Franklin J. Boster

The purpose of this study is to assess the potential impact of various aspects of supportive messages from parents/primary caregivers on the decision to stay in or drop out of high school. Specifically, the relationships between the number, valence, and helpfulness of the messages, as well as type of support and message framing with educational achievement were investigated. Eighty respondents completed in-depth interviews about their experiences in high school. Ordinal regression was used to assess the relationships posited in the three research questions. Limitations and directions for future research are discussed.

Keywords: Family Communication; Instructional Communication; Interpersonal Communication

School dropout is a serious problem because those who fail to complete school are more likely to be unemployed (Census Bureau, 1999), use drugs (Beauvais, Chavez, Oetting, Deffenbacher, & Cornell, 1996), need welfare (Rumberger, 1987), and be incarcerated (Bureau of Justice Statistics, 1995). Students leave school for a variety of reasons (e.g., pregnancy, financial need), and there is not a simple profile of a dropout. New directions in understanding the school dropout puzzle center on

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understanding what is being communicated to students about the importance of school. The goal of this study is to begin to understand what specific parental/caregiver message variables may affect educational attainment, specifically valence of messages, repetition of messages, the helpfulness of messages, the type of support provided, and how messages are framed.

**Previous Research on School Dropout**

Traditional research on school dropout rates identified important predictors of dropping out such as age, socioeconomic status, poverty, single-parent family structure, parents’ level of education, pregnancy during high school, and grade retention (Alexander, Entwistle, & Horsey, 1997; Fine, 1986; Forste & Tienda, 1992; Geronimus & Korenman, 1992; Johnston, Markle, & Harshbarger, 1986; Rumberger, 1987). This research demonstrates that certain demographic factors are correlated with high school educational attainment.

While certain demographic factors have been linked to educational attainment, it is often difficult to target such factors in dropout prevention efforts (e.g., SES). A more pliant area for prevention efforts is the communication with the high school student; the specific focus of this study is *supportive communication in the home*.

**Supportive Communication in the Home**

The study of social support is the study of supportive communication through verbal and nonverbal behaviors intended to provide help (Burleson & MacGeorge, 2002). Research incorporating social support as communication involves studying the messages through which people seek and express support, as well as studying how supportive messages are produced and interpreted. Perceptions of available social support have a substantial impact on a receiver’s ability to cope with difficult situations (Mankowski & Wyer, 1996). Educational values and expectations that are rooted in and shared in families can serve as a type of supportive communication that, if articulated, may influence the decision to stay in or drop out of high school. An increase in supportive communication between parents and students decreases academic stress for students (MacGeorge, Samter, & Gillihan, 2005) and influences students’ achievement in school (see Fan & Chen, 2001 for a review) as well as school completion (Strom & Boster, 2006). Much of the research on supportive communication examined global indicators of support messages (e.g., if support was received or not) and has not assessed how certain aspects of the support message may differentially influence the effectiveness of the message. It is unclear from the support literature if positively valenced messages would differentially impact achievement, or if negatively valenced messages have more of an impact on a student’s educational achievement. Additionally, the role of perceived helpfulness of the message is unclear. Do students find positive support messages helpful, or do such messages become repetitive and thus decrease
helpfulness? To investigate the role message valence, helpfulness, and repetition have on educational attainment, the first research question is:

RQ1: To what degree do valence, helpfulness, and repetition of a message differentially affect educational attainment?

Types of Social Support

Researchers have categorized social support in various ways (Beehr, 1985; House, 1981; LaRocco, House, & French, 1980). Two types of social support, emotional and instrumental, have received considerable attention in the support literature. Emotional support involves expressions of care, concern, sympathy, understanding, and encouragement (Dunkel-Schetter, Blasbland, Feinstein, & Herbert, 1992) and has regularly been identified as either the most helpful or one of the most helpful forms of assistance (Barbee, Derlega, Sherburne, & Grimshaw, 1998; Caplan & Samter, 1999; Cramer, 1990; Dakof & Taylor, 1990; Goldsmith, 1994; Sullivan, 1996). In contrast, instrumental support is rendering tangible assistance, such as physical assistance or advice or guidance (Kaufmann & Beehr, 1986) and may include offers of information about resources and advice about effectiveness. Sharing information about a problem is experienced as helpful, provided the information is viewed as pertinent to the problem (Cutrona, Suhr, & McFarlane, 1990).

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). Researchers have linked perceived support from family with student’s academic outcomes, specifically, students’ academic performance and student learning in school (Cutrona et al., 1990; DeBerard, Spielmans, & Julka, 2004; Mortenson, 2006). There is also evidence that low perceived social support is related to academic nonpersistence (Mallinckrodt & Leong, 1992). Yet, such research has not distinguished between how various types of support may differentially impact high school degree attainment. The perceived helpfulness of emotional versus informational support types may be different in the current context. Both types of support messages may provide different, but equally important, forms of knowledge that high school students can use to alleviate anxiety as well as solve an immediate problem. Thus, greater emotional support (i.e., encouragement, praise) and instrumental support (i.e., advice, guidance) may result in higher educational achievement. Conversely, if parents are perceived as providing instrumental support that the student does not see as pertinent to the problem, then instrumental support could be perceived as unhelpful compared to emotional support. It is clear from the literature that helpfulness is an important aspect of the effectiveness of support messages. What is unclear is how perceived helpfulness may influence how support type is viewed in an educational context, and how support type then might impact educational attainment. To understand
the relationships between support type, helpfulness, and educational attainment, two research questions are posited:

RQ2: To what degree does support type (emotional vs. informational support) differentially affect educational attainment?

RQ3: To what degree do participants view the different support type messages (emotional vs. informational support) as more or less helpful?

Message Framing

Another aspect of the parental/caregivers message that may be important to consider is how the message is worded, specifically whether gain-framed versus loss-framed messages are incorporated. When considering framing of the message, the positive or negative aspects of a given alternative are made differentially salient (O’Keefe & Jenson, 2008). Gain-framing occurs when the appeal emphasizes the desirable consequences associated with compliance with the advocated viewpoint. A gain-framed appeal might take the form “If you perform the advocated action, desirable outcome X will be obtained.” Loss-framed messages occur when undesirable consequences are associated with noncompliance. A loss-framed appeal might take the form “if you do not perform the advocated action, desirable outcome X will be avoided” (O’Keefe, & Jensen, 2008). Loss-framed messages have been shown to be significantly more engaging than their gain-framed counterparts (e.g., Tversky & Kahneman, 1981). It is important to note that the application of message framing has traditionally occurred in studies of social influence but not with educational outcomes. It is unclear if loss-framed messages would be more engaging to students than gain-framed messages. Thus, the last research question is:

RQ4: To what degree does framing of the message (gain-framed vs. loss-framed) differentially affect educational attainment?

Method

Participants

Eighty respondents (48 women and 32 men, $M_{age} = 22.7$, range = 18–27 years, $SD = 2.62$) participated in the study. All respondents lived in midsized Midwestern towns within the same state. Their self-reported race was Caucasian/White (66.7%), Black (12.3%), Hispanic (9.9%), Bi/Multiracial (6.3%), and Asian (3.7%). Sixty-five percent of respondents reported that their current income was $15,000 or below, 18% reported an income level between $16,000 and 25,000, 11% reported an income between $36,000 and $50,000, and 33% reported an income of $50,000 or above. Participants were recruited through a snowball sampling technique designed to locate respondents who fit into one 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). There were 20 participants interviewed in each of the four categories.

**Procedure**

Prior to the interview, respondents were informed that they would receive $15 for participating in the interview regardless of interview completion. Respondents were asked a series of close-ended and open-ended questions about their high school experiences as well as about school achievement messages they recalled receiving from parents/caregivers in high school. A number of contingency questions tailored to how respondents answered allowed for further probing (e.g., Why? Can you elaborate?). All interviews were tape-recorded, but no identifying information was associated with the tapes. At the start of each interview, each participant was assigned a number code. This code was written on the cassette tape and on the demographic questionnaire. Names were not used in the interview nor on the demographic questionnaire. The primary investigator conducted the audiotaped, face-to-face interviews at a public library, generally lasting 25 to 30 minutes, and all respondents completed their interview. An undergraduate research assistant transcribed all interviews.

The tape-recorded interviews were divided into four sections, and a funneling technique was employed to help respondents remember high school experiences (moving from broad and general questions to more specific questions later in the interview). The first section of the interview assessed overall high school context and was used to facilitate high school memories (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 high school context (e.g., Where did you go to high school? Did you attend high school anywhere else?). The third section of the interview assessed family context (e.g., Do you have any brothers and sisters?). During the fourth section of the interview, the primary researcher asked specific questions about memorable messages respondents recalled while in high school. Respondents were told: “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?” After respondents recalled a message, a series of questions were asked (e.g., Who said this to you? Did you ask for this information?). Respondents were asked to recall as many messages as they could and were asked the same questions for each message. In the final section of the interview, respondents provided demographic information (e.g., age, income, parental educational achievement). At the conclusion of each interview, respondents were thanked, debriefed, and were given $15 for their participation.
Instrumentation

Demographic factors
A variety of demographic factors were assessed. On average, respondents reported having three siblings ($M = 3.18$, $SD = 2.41$), and four respondents reported having no siblings. A majority of respondents reported that their siblings were biological (61%). A number of demographic factors that have been known to impact educational attainment were included as control variables. Respondents reported on their parents’ income while in high school. Sixteen percent reported parental income of $15,000 or below, 18% reported a parental income level between $16,000 and 25,000, 11% reported a parental income between $36,000 and $50,000, and 33% reported a parental income of $50,000 or above. Respondents also reported on educational attainment for each parent. Not all respondents were able to recall parental educational attainment ($N = 69$ for fathers; $N = 76$ for mothers). Three percent of respondents reported that their father dropped out of high school and did not get a GED and 4% reported this for their mother. Twenty-three percent of fathers and 21% of respondents mothers dropped out of high school but did get a GED. Twenty-nine percent of fathers and 28% of mothers graduated from high school but did not attend college, and 17% of fathers and 17% of mothers graduated from high school and attended college and/or received a college degree. Respondents also reported on the number of siblings who dropped out of high school ($M = 1.05$, $SD = 1.56$), and if the respondent had been pregnant, or had caused someone to become pregnant, while in high school (12.5% said yes).

Valence of reported memorable support message
To determine the valence of reported memorable support messages, respondents were asked specific, in-depth questions about each message. Some interviewees provided more than one message ($n = 26$); however, for the purposes of this study, only the first message reported was used in the analyses. An example of a message recalled is “If you can’t read and write, it’s hard to find a job.” This procedure has been used successfully for the recall of memorable messages (Smith & Ellis, 2001). Valence of each message was assessed by asking each respondent to answer questions concerning how positive or negative they viewed the remembered support message (on a scale of $-2$ to $+2$ with $-2 =$ very negative and $+2 =$ very positive and a separate category for messages reported as both positive and negative). Five percent of respondents reported that the message recalled was very negative, 10% reported the message as somewhat negative, 29% reported the message as neither positive or negative, 15% reported the message as somewhat positive, and 38% reported the message as very positive. Very few respondents saw their messages as both positive and negative (3%). Along with valence, respondents also were asked to report on the helpfulness of the message (yes or no); a majority of respondents thought the message was helpful (61%). Finally, respondents were asked to report how often they remembered hearing the message. A little less than one half of the respondents reported hearing the message once in a while (40%), 18% recalled hearing the message once a month,
24% recalled hearing the message every week, and only a few respondents recalled hearing it on a daily basis (18%).

Type of support
All messages were coded as emotional and/or instrumental support. Two undergraduate research assistants were trained to code each message according to a coding scheme developed by the primary researcher. All messages were coded as one of four possible support codes: (a) instrumental, (b) emotional, (c) both instrumental and emotional, or (d) as neither instrumental nor emotional support. The four support codes were then converted into two dichotomous variables: Emotional support (present = 1 or absent = 0) (e.g., “I could do anything in school I put my mind to”) and instrumental support (present = 1 or absent = 0) (e.g., “Academics require work and are not easy”). Cohen’s kappa was used to assess coder reliability or the proportion of agreement between raters after accounting for chance (Cohen, 1960); 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. Coders discussed discrepant codes to develop a mutually agreed to and consensus decision. Very few messages were coded as emotional support (3%), while most messages (83%) were coded as instrumental support messages. Four percent of responses were coded as both emotional and instrumental, and 10% were coded as neither emotional nor instrumental support.

In addition to support type, coders evaluated each message for how it was framed. An example of a gain-framed message is “He always said to go to a good college because if you are successful there you will be successful in life.” An example of a loss-framed message is “If you drop out of high school, you’re not going to get a good job; you’re not going to have friends, and you’re not going to get your own place.” Codes for framing included (a) positive framing, (b) negative framing, (c) both positive and negative framing, and (d) indeterminate due to phrasing; kappa = 0.77. According to Landis and Koch (1977), a kappa coefficient that falls between 0.61 and 0.80 is considered substantial overall agreement. Coders discussed discrepant codes to develop a mutually agreed to and consensus decision. Twenty-five percent of the messages were coded has having a positive frame, 20% percent of the messages were coded as having a negative frame, 10% was of the messages were coded as having a positive and negative, and 45% of the messages were coded as indeterminate.

Educational attainment
Respondents were asked to report their level of educational attainment thus far in their life. Respondents 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 was treated as an ordinal variable in which respondents who graduated from high school and went to college are treated as having achieved the highest level of educational attainment and dropouts without a GED are treated as having achieved the lowest level of educational attainment, but the distance between the categories is unknown.

Results

To understand the relationship between each variable (message number, valence, repetition, perceived helpfulness, support type, and message framing) and educational attainment, all research questions and control variables were assessed with an ordinal regression model. The model revealed that message valence, message repetition, helpfulness of the message, pregnancy, and parental income were significant predictors of educational attainment, \( \chi^2(197) = 318.28, p < .01, R^2 = .64 \) (see Table 1 for individual ordinal regression results).

The first research question addressed the degree to which the valence and helpfulness of the message, as well as how often the message was repeated, may differentially affect educational attainment. For a one-unit increase in message valence (i.e., going from 0 to 1), there is a .63 decrease in the ordered log odds of being in a lower category of educational attainment, given all of the other variables in the model are held constant. Similarly, for a one-unit increase in message repetition, there is a .74 decrease in the ordered log odds of being in a lower category of educational attainment. Conversely, for a one-unit increase in helpfulness of the message, there is a 3.55 increase in the ordered log odds of being in a higher level of educational attainment, given all of the other variables in the model are held constant.

The second research question assessed how support type (emotional vs. informational support) may differentially affect educational attainment. Results revealed that support type was not a statistically significant predictor of educational attainment.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Ordinal Regression Results for Valence, Repetition, Perceived Helpfulness, Support Type, Message Framing, and Educational Attainment</th>
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<tbody>
<tr>
<td></td>
<td>( \beta )</td>
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<tr>
<td>Message valence</td>
<td>(-.63^*)</td>
</tr>
<tr>
<td>Helpfulness of message</td>
<td>(3.55^*)</td>
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<tr>
<td>Message repetition</td>
<td>(-.74^*)</td>
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<tr>
<td>Emotional support</td>
<td>(-.70)</td>
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<tr>
<td>Instrumental support</td>
<td>(-.37)</td>
</tr>
<tr>
<td>Gain framed</td>
<td>(-.33)</td>
</tr>
<tr>
<td>Loss framed</td>
<td>(-.66)</td>
</tr>
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\(N = 80. \ ^{*}p < .05. \ ^{**}\) Educational attainment was dichotomized as graduate or dropout.
The third research question assessed to what degree participants viewed the different support type messages (emotional vs. instrumental support) as more or less helpful. Results revealed that instrumental support was a statistically significant predictor of helpfulness ($\beta = 1.89$, $p < .05$, Wald $\chi^2 = 5.01$, odds ratio $= 4.44$) and emotional support was not ($\beta = 1.93$, n.s., Wald $\chi^2 = 2.28$, odds ratio $= 3.40$). For a one-unit increase in instrumental support (i.e., going from 0 to 1), there is a 1.89 increase in the ordered log odds of being in a higher level of educational attainment, given all of the other variables in the model are held constant.

The last research question asked to what degree framing of the message (gain-framed vs. loss-framed) may differentially affect educational attainment. Results revealed that framing was not a statistically significant predictor of educational attainment.

The control factors included in the analysis (parental income and pregnancy) were statistically significant predictors of educational attainment and replicate what has been previously found in research on demographics and school dropout such that for a one-unit increase in parental income (i.e., going from 0 to 1), there is a .88 increase in the ordered log odds of being in a higher level of educational attainment, given all of the other variables in the model are held constant ($\beta = .88$, $p < .05$, Wald $\chi^2 = 18.24$, odds ratio $= 15.00$). Similarly for a one unit increase in pregnancy (i.e., going from 0 to 1), there is a (2.12 decrease in the ordered log odds of being in a higher level of educational attainment, given all of the other variables in the model are held constant ($\beta = -2.12$, $p < .05$, Wald $\chi^2 = 6.99$, odds ratio $= 2.62$).

**Discussion**

In this study, educational attainment was investigated as an outcome of the valence, repetition, and helpfulness of reported memorable support messages, as well as type of support, and framing of the message. Additionally, support type was assessed concerning the helpfulness of the messages recalled. The number of times respondents recalled hearing a message, valence of the message, and helpfulness of the message did impact educational attainment. As message repetition increases the likelihood of dropping out decreased. Additionally, given that the coding for valence was on a scale of $-2$ to $+2$ and the beta weight for valence was negative, it appears that someone who heard a message and viewed it as negative was less likely to attain more education than someone who heard a more positive message. These findings provide important information to communication researchers concerning the importance of message design and delivery for important outcomes like educational attainment. Positive messages may resonate more with students than negative messages, which could be viewed more as scare tactics. In addition, 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. Finally, if a message is viewed as helpful to the situation or problem a student faces, then it will likely be more impactful concerning decisions about educational attainment.
The findings for the second research question reveal that type of support was not a significant predictor of educational attainment. Very few messages were coded as emotional support type so the lack of variance in this variable may have contributed to the lack of findings. Conversely, it may not make a difference to students if the support message is viewed as emotional or instrumental in nature. Instead, the helpfulness of the message may be the most impactful message factor for staying in school.

The findings for the third research question revealed that instrumental support messages were perceived as more helpful than emotional support messages. 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 solve a problem as more helpful than emotional messages that express care or sympathy. Such results are a departure from what has been previously found concerning the helpfulness of emotional support messages in other contexts (Barbee et al., 1998; Caplan & Samter, 1999). Many of the studies that have assessed the perceived helpfulness of emotional support versus instrumental support have examined how supportive messages influenced people with serious health problems (Dakof & Taylor, 1990), where negative consequences could not necessarily be prevented or altered. In the present study, respondents may believe that the negative consequences surrounding educational attainment could be altered; thus, instrumental messages were seen as particularly helpful.

Finally, concerning the last research question, there were no differences in gain-framed versus loss-framed messages recalled by respondents with different levels of attainment. Thus, it seems loss-framed messages were not more memorable and were not recalled more readily than gain-framed messages. These nonsignificant findings may be due to the small sample size and thus a possible lack of statistical power to detect differences. Another interpretation is the wording of the message itself is not what is important in communication about educational attainment, but instead the context within which the communication occurs. For example, the person providing the message and the relationship between the sender and the receiver may influence if the message is viewed as positive or negative or helpful or not, not the words used to construct the message. Further, nonverbal cues used in the delivery of a gain- or loss-framed message (e.g., saying something sarcastically) may override the framing of the message and have more of an impact on attitudes about educational attainment.

Limitations

One limitation of this study is the small sample size incorporated. A small sample size may mean that there was not enough statistical power to detect differences between some variables of interest in this study (e.g., differences in gain-framed and loss-framed messages). Future research may benefit from conducting a power analysis before collecting data to ensure that differences will be able to be detected and nonsignificant findings are not due to type II error.
A second limitation concerns the convenience sample; its representativeness remains unknown, given the lack of random sampling. Participants were recruited through a convenient, nonrandom method of obtaining respondents. 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 respondents when assessing issues associated with educational attainment.

A third limitation is that respondents predominantly recalled instrumental support messages. Very few emotional support messages were actually reported. The predominance of instrumental messages might have been due to how message recall was solicited, namely respondents were asked to verbally share their messages with an interviewer. Future research examining instrumental messages may benefit from incorporating both verbal and written message recall to address this issue as well as ask direct questions soliciting recall of emotional support message.

A fourth limitation is that single items were used to measure message valence and perceived helpfulness of the message. Thus internal consistency reliability could not be fully assessed. Future research could incorporate multiple indicators of valence and helpfulness to allow for assessment of internal consistency.

Future Directions

This study is an initial attempt at understanding how various aspects of messages in the home may affect educational attainment. To determine the validity of the results in this study, it is recommended that future researchers conduct a replication of this study employing formal hypotheses about the relationships investigated here.

References


