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ABSTRACT

Factors in high school students' motivation for school and homework were studied, and other factors that may correlate with achievement motivation were explored. The project was designed in a framework of self-determination. A total of 372 high school students aged 13 to 20 years from 2 high schools completed the survey. Students also reported their cultural and ethnic backgrounds. Results of the survey resulted in a continuum parallel to, but not identical to, a self-determination continuum. The study confirms previous research that has shown that students have varied reasons for attending school and doing homework. This study finds that students' achievement motivations are stable across the two learning realms of school and homework. In addition, findings show that students who are rewarded for good grades also report a higher grade point average than students who are not rewarded. The self-determination framework for describing achievement motivation did not manifest as seven unique layers as expected from the factor analyses, probably a result of the exploratory factor analysis technique used for the study. Four appendixes contain the survey and supplemental materials. (Contains 5 tables and 27 references.) (SLD)

# Why Go to School? Why Do Homework?

## Motivational Correlates for School and Homework in High School Students

By

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# Introduction

Motivation for further learning has been recently recognized by the Office of Educational Research and Improvement (OERI) as the second highest national priority for research in education (1997). Their fourth highest national priority consists of "strengthening schools, particularly middle and high schools, as institutions capable of engaging young people as active and responsible learners." Previous studies have shown that although motivation for school is high in the 3rd grade for most students, by the time students reach 9th grade their intrinsic motivation to learn has fallen precipitously (Harter, 1996).

Unfortunately but not surprisingly, as a student's academic achievement motivation declines, so too do other indicators of performance (e.g. grade point average). A negative change in a student's achievement across time, relative to an estimate of past school years' achievement (termed achievement deflection) has been found to be predicted by the home environment, family, school and the "child factors" in a study of high-risk children. A quality home environment and parent involvement were found to be protective factors facilitating academic success through age 16. SES was found to be a strong predictor with the least advantaged children faring poorest. Other predictors of deflection are the number of years in special education, socio-emotional and behavior problems including *lack of motivation* (Jimerson, Egeland & Teo, 1999).

There are many causes and correlates of academic achievement motivation in learners and several theoretical frameworks in which to consider them. As motivation is a dynamic construct--that is, motivation to behave one way as a young child may not

parallel the motivation as a teen--there is currently not a crystal clear picture of academic achievement motivation across educational or developmental experiences (Murphy & Alexander, 2000).

In this study, I sought a greater understanding of at least some of the factors that make up high school students' motivation for school and homework. In addition, I looked at other factors that may correlate with achievement motivation (e.g. peers, scheduling pressures or conflicts, closeness to teachers/relatedness, and autonomy) that may obstruct or enhance a student's achieving his full potential. It is hoped that greater understanding of achievement motivation in adolescents will inform parents, teachers and schools so that opportunities for exploiting students' natural motivation to learn may increase and at the same time motivational barriers to success may diminish.

Background

*I love to rise in a summer morn*
*When the birds sing on every tree;*
*The distant huntsman winds his horn,*
*And the sky-lark sings with me.*
*O! what sweet company.*

*But to go to school in a summer morn,*
*O! it drives all joy away;*
*Under a cruel eye outworn,*
*The little ones spend the day,*
*In sighing and dismay.*

*Ah! Then at times I drooping sit,*
*And spend many an anxious hour,*
*Nor in my book can I take delight,*
*Nor sit in learnings bower,*
*Worn thro' with the dreary shower.*

*How can the bird that is born for joy,*
*Sit in a cage and sing.*
*How can a child when fears annoy,*
*But droop his tender wing,*
*And forget his youthful spring.*

*O! father and mother, if buds are nip'd,*
*And blossoms blown away,*
*And if the tender plants are strip'd*
*Of their joy in the springing day,*
*By sorrow and cares dismay,*

*How shall the summer arise in joy*
*Or the summer fruits appear.*
*Or how shall we gather what griefs destroy*
*Or bless the mellowing year,*
*When the blasts of winter appear.*

William Blake "The School Boy"
From *Songs of Experience,* 1794 in
*Colfax & Colfax, 1987*

In his poem, Blake notes "Oh how shall we gather what griefs destroy." In the context of his poem the grief was caused by spending the summer morn at school.

Unfortunately, many young students throughout the years could, and likely did, express parallel opinions to Blake, albeit perhaps not as eloquently. Recent drop-out rates ranging from 15% to 50% (depending on geographical area) show that many students are so unhappy with their school experience they buck the law, their peers, and even their parents by withdrawing from the educational system (Murdock, 1999).

I recently conducted research with chronically truant high school students (N=30) and their parents (N=30) at the request of a large school district. Many of these students were no longer enrolled in school, some were incarcerated and some of their parents were incarcerated as well. Most were difficult to track down. I inquired of the students and parents how much each of 19 factors that have been shown to contribute to truant or drop-out behavior in some students may have contributed to their (or their child's) decision to skip or drop out of school. Items included those currently getting heightened media and political coverage such as "being bullied at school," "academic difficulty," "substance abuse," as well as some items less publicized by the press but present in academic literature such as "low school bonding," etc. The item with the greatest response by both parents and students was "not motivated for school" with 80.0% of students and 82.8% of parents reporting this was an important factor in recent truancy episodes. (Coughlan-Mainard, 2001). Although it was not within the scope of that project to follow up with more than a brief inquiry, it was clear that parents and students were not able to verbalize in more detail exactly what "not motivated for school" meant in their individual situations. The typical follow-up response was "S/he just doesn't want to be there" or "I have no reason to go." Although this number may seem high, considering the population it is probably valid.

In a previous study within a traditional school (N=145), 9.8% of respondents reported they were "not motivated for school" (Coughlan-Mainard, 1998). Even this much smaller percentage when expanded over a high school campus is a significant number of students using substantial resources yet are either not perceiving or not integrating the benefits of their educational opportunities into their daily lives.

The goal of the present study is to gain a more complete understanding of school factors, homework factors, and other factors (e.g. conflict) that relate to academic achievement motivation. Self-determination theory is the framework within which this project was designed. I will begin by briefly reviewing the self-determination theory and following this I will review issues pertaining to homework and other factors that may influence student motivation. Finally, I will pose my current questions this project is designed to answer.

Self-Determination Theory

The self-determination theory was proposed in 1975 by Edward Deci. It has undergone several revisions since the initial introduction based on research that further enriched the theory (Deci & Ryan, 1985). Within this theoretical framework, motivation comprises two major propositions. The first is that the level of intrinsic motivation (partaking in an activity for enjoyment of the activity itself, not external contingencies) is related to the need for self-determination (individual choice). Secondly self-determination has a relationship to the perceived competence process, that is, individual choice and ability may bootstrap each other to reach a higher level of enjoyment in the activity itself.

Within the self-determination construct, several levels along an autonomy continuum, from intrinsic motivation to amotivation, have been identified. A brief review and explanation of each level of motivation within the self-determination construct is outlined below. For a more detailed explanation, please see Deci, Vallerand, Pelletier and Ryan (1991).

The self-determination theory, instead of focusing on a goal or outcome, focuses on the "energy" of behavior. The ingredients of the "energy" recipe include competence (effective ability and means towards an end), relatedness (social connectedness with others) and autonomy (personal independence in whether and how much to engage in a task).

Intrinsic Motivation

Intrinsically motivated activities are engaged in for the delight and fascination an individual enjoys while partaking in the activity itself with no external reward for participation and no threat for lack of participation. Examples of intrinsically motivated activities include: reading a good novel, working on a Rubic cube, doing a crossword puzzle, playing solitaire, listening to music, or engaging in a hobby. Even very young children, it seems, engage in intrinsically motivated activities such as playing with newly discovered toes, blowing bubbles with spit and articulating the first phonemes, over and over again (even when there is no one in the room to hear--or reinforce the behavior). It is likely that these early intrinsically motivated explorations are important for normal infant development.

As an infant progresses into walking age, curiosity is piqued and the infant frequently wants to examine everything she can reach. Attentive parents may take this

opportunity to say the names of items as baby holds them. In this way the parents can exploit the child's natural intrinsic interest in an object and link this interest with early language acquisition skills (Gopnik, Meltzoff & Kuhl, 1999).

Much of youth up until a child goes to school is spent fairly autonomously. That is, in American culture, the childhood years are generally not tightly structured. When a child begins formal schooling, however, the autonomy of how to spend the day, and actually most of the time, has greatly decreased. Mornings now are organized around preparing for school, the school day is structured by academic routine, evening is consumed with homework (maybe less at first then more as the years progress) and bedtime may be earlier. The child may suffer not only a decrease in autonomy but also may suffer from the decrease in parental companionship to which she has grown accustomed. She now has to build new relationships within the social schema of school.

Almost from the first day of school (or preschool), a child's intrinsic motivation to engage in learning activities may be at risk. Studies done from third grade through high school show that intrinsic motivation is highest at third grade and falls (for most students) as students hit high school (Harter, 1996). If one were to interpolate from this existing data to younger children, it is feasible that in many children, intrinsic motivation to learn is actually higher before a child starts formal schooling. It is with the transition from home to school (or preschool) that the child may lose opportunity for engagement in autonomous learning, being replaced with directed learning.

Extrinsic levels of motivation are considered extrinsically "regulated," that is, the onus of behavior is not intrinsic to the individual but is governed by a contingency at

some level. Therefore, following levels of extrinsic motivation are labeled along with the term "regulation"

Integrated Regulation

Integrated regulation is not usually present in children but is thought to develop as one reaches adulthood (Deci et al, 1991). At this level, identities within an individual are assimilated and activities linked with the identities are performed for a valued outcome. For example, a cheerleader may identify with being a good student and with cheerleading, in part, because without good grades she perhaps couldn't be a cheerleader and without cheerleading she wouldn't have as much enjoyment of school. Two identities, linked, towards a valued outcome.

Identified Regulation

Identified regulation is when a regulatory process is accepted toward a valued end. For example, a student who wishes to attend college and chooses to sign up for a more difficult mathematics courses than is required by her high school. The student has accepted the regulatory process (college admission requirements) toward a valued end (admission).

Introjected Regulation

Introjected regulation is understanding but not accepting a regulation as personally valuable or worthwhile. This may involve coercion or seduction but not true choice as in all previous levels up to this point. At this level an individual can even be coerced or seduced by himself. That is, a person may engage in an activity to eliminate a "bad feeling" he might have if he doesn't engage in the activity. A parishioner may tithe to reduce guilt or a student may do a homework assignment even when he doesn't believe

it is valuable for learning to avoid a bad feeling associated with an incomplete assignment.

External Regulation

External regulation is behavior that is performed entirely due to a contingency external to the self. Often this includes a promised reward or threat of punishment. Taxpayers deal with external regulation on a regular basis. A taxpayer completes often voluminous record keeping and paperwork (and usually includes a check) not because he values the income tax process or sending money to the government but more likely because he imagines the implications for not doing so. External regulation is the least self-determined level of motivation.

Amotivation

Amotivation is not included as a level of self-determination in Deci et al, 1991. However in Vallerand, Pelletier, Blais, Briere, Senecal and Vallieres' The Academic Motivation Scale: A Measure of Intrinsic, Extrinsic, and Amotivation in Education (1992) they found amotivation to be an important additional level at the bottom of the self-determination continuum. Amotivation is characterized as apathy, or the lack of behavior that advances one toward a meaningful end. Apathy may have a more pathologic origin than the self-determined levels discussed above. However for the purpose of this project, identifying amotivation in students is the primary focus.

A brief review of the self-determination continuum is included here as Table 1.

Table 1

Self-Determination Theory (Deci, Vallerand, Pelletier & Ryan, 1991)

| **Motivation Level** | **Brief Description** | **Example** |
|---|---|---|
| Intrinsic | Interest in an activity for the pure enjoyment of the activity itself—an internal drive to engage or perform (Deci & Ryan 1991). | Long-term hobbies, reading an exciting book, etc. |
| **Extrinsic motivation** (the following four groups) | **Outside forces dictate behavior** | **Teachers, bosses, parents, IRS agents, etc.** |
| Integrated regulation | Identities within an individual are assimilated with each other and activities linked with those identities are performed for valued outcome. | A student may have an identification with being a good musician and another with being a good cheerleader. |
| Identified regulation | A regulatory process is accepted and a person has some value for the outcome of the behavior. | A student who does extra work in a subject because he knows it will add to his knowledge of the subject. There is a component of self-determination because it was his choice to do the extra work. |
| Introjected regulation | Understanding but not accepting a regulation as one's own. Usually involve coercion or seduction but not true choice. | A student that does his homework because he would feel guilty if he didn't do it. Homework for this person is not internalized as valuable for learning but to avoid a bad feeling. |
| External regulation | Behavior is performed due completely to an external force or contingency often including a reward or punishment. | A taxpayer files his 1040 and pays taxes not because he values spending his free time on voluminous paperwork and sending his money to the government, but because he imagines the implications for not doing so. For an example of student-related external regulation see *Daffodils and Diesels*, Appendix E. |
| **Total lack of motivation** | **Behavior does not occur or occurs so incompletely as to be useless** | **Apathy** |
| Amotivation | Lack of behavior that advances towards a meaningful end. | A student who attends school but does not participate with class activities, classmates, or do homework. |

Data from multiple studies utilizing the self-determination theory as well as Connell & Wellborn's (1990) closely linked research on competence, relatedness and autonomy show that students working at the intrinsic and more autonomous levels of extrinsic regulated motivation have greater academic achievement as well as social adjustment and lower self-determination levels (introjected, external and amotivation) are associated with anxiety. In addition, Pintrich and DeGroot (1990) found that higher levels of intrinsic interest correlated with higher student achievement in a population of junior high school students. Unfortunately, as mentioned previously, intrinsic motivation for learning decreases and is overtaken by extrinsic motivation with each advancing year in school (Harter, 1996).

Self-determination may also extend beyond academic achievement motivation into everyday life and health and certain types of regulation (especially introjected and external regulations due to their coercive or threatening natures) may actually lead to stress-related health difficulties. In cases where ill health is an added personally draining demand, a student may be even less interested in educational endeavors within the classroom (Deci & Ryan, 2000; Deci & Ryan, 1991; Deci & Ryan, 1987; Gottfried, 1985; Connell & Wellborn, 1990).

Other Factors

There are several other factors that have been shown related to achievement motivation, that act, perhaps, as moderating or ancillary forces within or separate from self-determination theory. For example, in my previous research I found that one of the largest factors students thought would help them achieve better grades at school was a "less hectic schedule at home" (Coughlan-Mainard, 1998). Because this previously had

such a strong showing, for this project I expanded this construct to see if a "conflict" factor would emerge. Since this study focused on homework, items were created to assess conflict in respect to homework activities and "conflict" is considered an activity or situation that a students perceives conflicts with the opportunity to engage in homework. Sample items include "My schedule is often too busy to complete all the assigned homework", "My homework gets in the way of my friendships", "doing homework gets in the way of other things I am learning", "doing homework gets in the way of my job."

Closely related to the relatedness component of self-determination theory is the person-environment fit theory, that is, how well a student "fits" within his educational environment. This theory posits that an inappropriate educational environment may influence a student's motivation, behavior and mental health. In addition, younger adolescents undergoing significant developmental "storm and stress" may not fit in at home either. Similar findings of an important "relatedness" component have emerged along parallel research domains. Recent research shows that a student's motivation is less vulnerable to negative peer influences when supportive relationships with parents or teachers exist (Wenzel, 1999; Eccles, Midgley, Wigfield, Buchanan, Reuman, Flanagan, MacIver, 1993; Connell & Wellborn, 1990).

Along with student/adult relationships at school another important relationship is that of peers, specifically peer support. The degree to which a student feels accepted by his peers is predictive of self-esteem. During the adolescent years when peer relationships have gained significantly in school life, peers are moderately strong determinants of how engaged a student is with his education (Murdock, 1999). This may be particularly troublesome among the African-American students where peer support for

academic achievement may be low (Harter, 1996; Steinberg, Brown & Dornbusch, 1996; Steinberg, Dornbusch & Brown, 1992; Buhrmester & Furman, 1986).

Homework

*As an elementary school teacher, I have conferences with parents about their children. At one meeting a mother asked, "Is there some way that the teachers can have my son do his homework at school? He doesn't like to do it at home."*

Kirk Beckendorf



Although homework can be seen as a component of school work, it's inherent differences from the activities and social context of school provoked me to take a closer look. Nicholls, McKenzie, and Shufro noted in their research on homework "...the focus on homework offers an uncontrived way to explore the place of school knowledge in the wider organization of student experience" (1994). In addition, since homework is performed relatively autonomously, that is, a student may be given an assignment by the teacher but the student chooses if, where, and when to complete any given assignment, homework might by its general nature be a more autonomous activity than school (Cooper, 1989). If this is so, since greater autonomy is associated with more self-determined levels of motivation, homework activities may be at more intrinsic levels than school work. Because satisfactory homework research is so complex and costly, few experimental studies have been done and conclusions regarding the effectiveness of homework are not forthcoming (Cooper, 1989). Although the goal of the present study is not to add to the body of knowledge regarding the effectiveness of homework (whether

students learn more with or without homework), the findings may provide insight into whether students' motivation to participate in homework differs from that of school work.

Some work has been done in an effort to find the important components of homework-related activity. The revised Homework Performance (Hong & Milgram, 2000) model has five major components: 1) "Motivational" which has subcomponents including source (self, parent, teacher) and strength (responsibility, persistence). 2) "Organizational" including structure, place, and order. 3) "Surroundings" including sound, light, temperature, design. 4) "Perceptual-physical" including auditory, visual, tactile, kinesthetic, intake, mobility. 5) "Individual/Social" including alone-peers and authority figures. Although the instrument created to test these components has internal consistency and content validity, some of the components had less than desired reliability indicating that further refinement is in order. In addition, all of the studies performed to generate this instrument and theory were conducted with 5$^{th}$ and 7$^{th}$ graders only. Based on these data, generalizations to high school students may not be prudent. However, this preliminary work provides a basic foundation for further research. The present study is designed to focus on the first component of the Homework Performance model: Motivation. Specifically, whether students' self-determined motivation for homework is similar or different to self-determined motivation for school work.

Hypotheses

Within the context of self-determination theory I hoped to answer to the following questions:

1. Do self-determination factors emerge in a sample of adolescents?
2. If so, do the factors relate in ways consistent with self-determination theory and previous research?
   A. Does level of self determination at school relate to self-reported achievement (GPA)?
   B. Does level of self-determination for doing homework relate to achievement (GPA)?
   C. Does level of self-determination for homework relate to the level of self-determination at school?
   D. Do "other factors" (e.g. conflict) relate to level of self-determination for school?
   E. Do "other factors" (e.g. conflict) relate to level of self-determination for homework?
3. How is motivation for homework related to motivation for schoolwork in general?

# Method

## Participants

A total of 372 students completed the survey. Students' ages ranged from 13 to 20 years (M=15.66, SD=1.23). The surveys were administered in 9th through 12th grade classrooms. There were 143 9th graders, 130 10th graders, 57 11th graders and 31 12th graders. Students reported their cultural/ethnic background by filling in the blank. There were 205 Euro-Caucasian students, 80 students who chose not to report their ethnicity, 46 multi-ethnic students, 16 African-Americans, 12 Hispanic/Latinos, 7 Native-Americans, 3 Asian-Americans, and 3 students who did not fit into any of the above ethnic groups.

While recruiting potential schools for participation, multiple schools were contacted. The research was explained in detail including the responsibilities and activities of both the researcher and participating schools within the successful execution of the research project. Two schools volunteered to participate in this project; the first a four-year traditional high school in a rural "bedroom" community equidistant to two larger cities. Many of the students' parents are employed in one of the larger cities. The second was an alternative high school in a large city. Both participating schools are located in the Pacific Northwest within a 75-mile radius of Seattle (however, they were not within the Seattle school district boundaries).

Within each participating school, administrative personnel recruited teachers willing to have their students participate in the survey. A total of 20 teachers representing 23 classes of students volunteered. This project was designated minimal risk by the Human Subjects Office at the University of Washington, thus parental passive consent and student assent was permitted.

The students were informed of the survey several days in advance of survey administration by the teachers and parental notification letters (Appendix C) were mailed to the students' parents one to two weeks prior to the scheduled survey administration within their child's classroom. Via the parental notification letter, parents were informed of the purpose of the study and were asked to call the researcher if they had further questions about the survey. A total of two calls were received. One call was from a student who queried the purpose of the survey. The second call was from a parent who noted she wanted her son to take the survey and called to ensure she had provided adequate permission.

Procedures

The survey questionnaires were administered within the classrooms of teachers that agreed to participate. A total of 23 classrooms for a total of 372 students participated.

At the time of survey administration, the students were read the purpose and goal of the study followed by the instructions (Appendix B) and their voluntary participation was requested. In one school I administered all directions and surveys. In the other school, due to last minute changes by the school, the surveys were administered by the classroom teachers. Students were told the survey is completely anonymous and were asked not to place their names or identifying marks on the survey. An opportunity was provided for students to ask questions before survey administration. Surveys (Appendix A) were distributed to all students present on the day of survey administration. Students were asked to place the completed survey face down in a box provided within the classroom. Students who chose not to complete a survey were asked to place their blank

survey face down in the box when they were ready. It was not obvious to other students, the researcher or teacher which students chose to not participate in the survey. Candy canes and logo pencils were provided to all students in surveyed classrooms, regardless of individual participation, as a token of thanks.

Instrument

The questionnaire designed for this study (Appendix A) was adapted and revised from components of the Academic Motivation Scale, high school version (Vallerand, Pelletier, Blais, Briere, Senecal, & Vallieres, 1992) and the investigator's previous research questionnaire (Coughlan-Mainard, 1998). New items were developed based on the literature for factors thought to be important in self-determined motivation for academics. These items relate to students' perceptions of autonomy, relatedness, competence/ability, and conflict within the school setting. As noted previously, competence, relatedness and autonomy have been found to be closely linked to self-determination level. That is, as competence, relatedness and autonomy increase, so does the level of self-determined motivation.

The college version of the Academic Motivation Scale is an English translation of the Echelle de Motivation en Education (EME). This demonstrated satisfactory levels of internal consistency (mean alpha value=.81) and temporal stability over a one-month period (mean test-retest correlation=.79). LISREL confirmatory factor analysis confirmed a seven-factor structure of the Academic Motivation Scale. The seven factors structure included three types of intrinsic motivation (to know, toward accomplishment, to experience stimulation), three types of extrinsic motivation (identified, introjected, and external regulation) and finally amotivation (Valerand et al, 1992). There are no

published validation studies for the high school English or French version of the Academic Motivation Scale.

The questionnaire used in the present study has a total of 101 items. The first 81 items are structured as a 5-point Likert scale ranging from strongly agree to strongly disagree with a neutral midpoint. The final 20 items are open-ended, yes/no, or rank order and include demographic variables. Items 1-30 pertain to motivation for school work and items 31-60 pertain to motivation for homework. These 60 items were expected to fall into the seven factors identified by Vallerand et al (three levels of intrinsic, three levels of extrinsic and amotivation). Items 61-81 pertain to other factors thought to pertain to academic achievement motivation (Connell and Wellborn, 1990, Roeser, Midgley & Urdan, 1996) and were expected to fall into four factors (autonomy, relatedness, competence/ability and conflict).

Motivation for schoolwork.

Thirty items followed the instruction "Please take a moment to think about why you go to high school. Please indicate your opinion about the following questions related to school." Sample items include: "I go to school because I need at least a high school diploma in order to find a high-paying job later on"; "Most of the time I wish I were somewhere else besides school." "I go to school for the pleasure that I experience in learning about subjects which appeal to me."

Motivation for homework.

Thirty items followed the instruction "Now take a moment to think about your favorite class during high school that had homework. This can be a class you are taking now. Please answer the following questions about your favorite class." Sample items

include: "I do homework because I think doing homework will help me prepare for my career." "I do my homework so my teacher won't think badly of me."; "I do homework because I enjoy learning new things."

Items that may relate to academic achievement motivation.

Twenty-one items follow the statement "Questions about school in general". These were included in an attempt to capture competence/ability, relatedness, autonomy, and conflict. Sample items include: "I feel close to my friends at school", "I usually understand what I am supposed to do on my homework." " Most of the time I decide where I do my homework." "My schedule is often too busy to complete all of the assigned homework.."

Other Items.

Several open-ended survey items were included in an attempt to more fully understand students' perspectives. These items include: "I do my homework because..." and "What does achievement mean to you?" Other items not related to categories previously discussed were included to ascertain if receiving a reward for good grades and if so, the type of reward, is related to self-reported academic achievement. This is a follow up to my previous research that found rewarded students had a higher GPA than non-rewarded students.

## Results

### Exploratory Factor Analyses

Data reduction for each section consisted of Principle Components Analysis with oblique rotation and Kaiser normalization through SPSS Factor on the first three sections of items. Factors were extracted with eigenvalues greater than one. The criteria for

choosing subscales was based on at least three items, each having a coefficient absolute value greater than .3 with an alpha level for the scale greater than 0.70. Three separate factor analyses were conducted: The first, "school work," included the first 30 items of the questionnaire—all related to motivation for school. The second, "homework," included the second 30 items of the questionnaire—all related to motivation for homework. The third "other factors" included the following 21 items—are thought to be related to achievement motivation for school or homework, not within the self-determination framework but other areas of inquiry including competence/ability, relatedness, autonomy, and conflict (Connell & Wellborn, 1990; Roeser, Midgley, & Urdan, 1996).

Within the 30 "School work" items the factor analysis extracted four factors with adequate factor loadings and sufficient number of items to meet the established criteria. The four factors include "Intrinsic Motivation" (alpha = .87, percent of variance = 39.50%), "Instrumental" (alpha = .88, percent of variance = 7.69%), "Amotivation" (alpha = .88, percent of variance = 3.70%) and "Accomplishment" (alpha = .89, percent of variance = 3.70%).

Intrinsic Motivation includes six items reflecting an intrinsic motivation for school. As noted above, previous LISREL confirmatory factor analysis for the AMS (Vallerand et al, 1992) had three types of intrinsic motivation. In this study, in the motivation for school work items, only items regarding motivation "to know"and motivation "to experience stimulation" factored together. "Instrumental" includes eight items that reflect students attend school for the benefit it will provide at some later point in time, most often in the job market or future educational endeavors. The items that

factored into "instrumental" in this study had previously been classified (on the AMS) as extrinsic motivation--identified (five items) and extrinsic motivation—external regulation (3 items). Amotivation includes six items that reflect students have no goal or personal concept of utility for school. On the AMS five of the six items also were considered amotivation however one additional item that they considered extrinsic motivation--external regulation ("I mostly go to school so my parents won't nag me") factored in this study with amotivation items. Accomplishment includes five items that represent students who go to school for the purpose of accomplishing something. Four of these items were classified on the AMS as extrinsic motivation—introjected and one item was intrinsic motivation—toward accomplishment. A complete list of the items for each scale and the scales discussed below are included as Table 2.

In summary, and for purposes of answering the research questions, the results of this study resulted in a continuum parallel (although not identical) to the self-determination continuum with the levels of intrinsic followed by identified ("instrumental"), followed by introjected ("accomplishment") then amotivation.

Within the 30 "Homework" items the factor analysis extracted three factors with adequate factor loadings and sufficient number of items to meet the established criteria. The three factors include Intrinsic and Accomplishment (alpha = .94, percent of variance = 40.34%), Instrumental (alpha = .90, percent of variance = 8.31%) and Amotivation (alpha = .84, percent of variance 6.60%). Again, the continuum is not identical but somewhat representative of the levels of self-determination. That is, intrinsic and amotivation are present. In this case, intrinsic and accomplishment are combined (as was found previously) and grouped as intrinsic. The items in my "instrumental" category are

made up of items expected to fall into the identified and external regulation levels of self determination theory (based on the Vallerand et al factor analysis).

Intrinsic and Accomplishment includes 13 items related to intrinsic interest for homework combined with items that reflect accomplishment and/or satisfaction. These items were previously found to group in all three types of intrinsic motivation (to know, toward accomplishment and to experience stimulation—9 items) and extrinsic motivation—introjected (4 items). "Instrumental" includes seven factors that are related to a job or career purpose for completing homework. These items originally were classified as extrinsic motivation—identified (4 items) and extrinsic motivation—external regulation (3 items). Amotivation includes four items reflecting a lack of motivation for engaging in homework. All four of these items were considered amotivation per the LISREL factor analysis as well (Vallerand et al, 1992).

The third and final factor analysis was conducted on the 21 items thought to relate to achievement motivation but treated separately from the other items that were within the Self-Determination framework. Although these "other items" were expected to factor into the motivation-related constructs of relatedness, autonomy, perceived competence/ability, and conflict. However, the factor analysis extracted only one factor with adequate factor loadings and sufficient number of items to meet the established criteria. "Conflict" (alpha = .74, percent of variance = 13.26%) has six items—all represent points of conflict of a student's academics with activities or events in their lives—that is, students' perceptions of conflicting demands on their time and/or life energy. A second factor "relatedness" (also considered a sense of belonging or feeling welcome at school) met the criteria of at least three items but had a substandard alpha of

.69 (percent of variance = 20.27%). All items that factored into this category reflect a student's psychological attachment to school personnel. Although the "relatedness" factor does not meet the established criteria, because of it's documentation as an important motivational component in previous research (Connell & Wellborn, 1990; Roeser, Midgley & Urdan, 1996), borderline alpha in this research, combined with the potential for informing future research, the items are included in Table 2. Items related to peers were expected to factor into the relatedness category, they did not.

Table 2

Scales After Factor Analysis with Factor Loadings and Variance

Scale: Strongly agree = 1, Strongly disagree = 5

School Work.

| Intrinsic Motivation (alpha = .87, M=2.89, SD=.88) | Factor loading | |
|---|---|---|
| I go to school because I experience pleasure and satisfaction while learning new things. | 0.82 | |
| I go to school for the pleasure that I experience in learning about subjects which appeal to me. | 0.80 | |
| I go to school because my studies allow me to continue to learn about many things that interest me. | 0.68 | |
| I go to school because I enjoy being at school. | 0.58 | |
| I go to school because for me, school is fun. | 0.56 | |
| I go to school for the pleasure that I experience when I am in discussions with interesting teachers. | 0.55 | |
| Variance accounted for by intrinsic items | | 39.50% |
| Instrumental (alpha = .88, M=1.96, SD=.71) | | |
| I go to school in order to have a better salary later on. | 0.75 | |
| I go to school because eventually it will enable me to enter the job market in a field that I like. | 0.73 | |
| I go to school because I want to have "the good life" later on. | 0.70 | |
| I go to school because this will help me make a better choice regarding my career orientation. | 0.65 | |
| I go to school because I think that a high-school education will help me prepare for a career. | 0.57 | |
| I go to school to learn about topics that will help me later on (e.g. learning grammar will help me write a good job application or do well in college). | 0.56 | |
| I go to school because I need at least a high school diploma in order to find a high-paying job later on. | 0.54 | |
| I go to school because I believe that my high school education will make me a better worker later on. | 0.50 | |
| Variance accounted for by instrumental items | | 7.70% |
| Amotivation (alpha = .88, M=3.46, SD=.95) | | |
| I once had good reasons for going to school; however, now I wonder whether I should continue. | 0.75 | |
| I mostly go to school so my parents won't nag me. | 0.73 | |
| I can't see why I go to school and frankly, I couldn't care less. | 0.68 | |
| Most of the time I wish I were somewhere else besides school. | 0.68 | |
| Honestly, I don't know why I go to school; I really feel that I am wasting my time. | 0.63 | |
| I mostly go to school because the law says I must. | 0.55 | |
| Variance accounted for by amotivation items | | 6.93% |
| Accomplishment (alpha = .89, M=2.61, SD=.82) | | |
| I go to school to show myself that I am an intelligent person. | 0.81 | |
| I go to school in order to prove to myself that I am capable of completing my high school diploma. | 0.78 | |
| I go to school because I want to show myself that I can succeed in my studies. | 0.71 | |
| I go to school because of the fact that when I succeed in school I feel important. | 0.69 | |
| I go to school for the satisfaction I feel when I am in the Process of accomplishing difficult academic activities. | 0.62 | |
| Variance accounted for by accomplishment items | | 4.07% |
| TOTAL VARIANCE ACCOUNTED FOR | | 58.20% |

Homework

| | | |
|---|---|---|
| Intrinsic and Accomplishment (alpha = .94, M=2.90, SD=.85) | | |
| I do homework because for me, homework is enjoyable. | 0.89 | |
| Table 3 continued | | |
| I do homework for my favorite class because I really like doing homework. | 0.81 | |
| I do homework because of the fact that when I finish my homework I feel important. | 0.77 | |
| I do homework for the satisfaction I feel when I am in the process of accomplishing a complicated project, lab, or assignment. | 0.75 | |
| Completing homework gives me personal satisfaction in my quest for excellence in my studies. | 0.73 | |
| I do homework for the pleasure I experience when doing better than I did before. | 0.72 | |
| I do homework because I want to show myself that I can succeed in my studies. | 0.63 | |
| I enjoy doing interesting homework assignments. | 0.63 | |
| I do homework for my favorite class to show myself that I am an intelligent person. | 0.62 | |
| I do homework because I enjoy learning new things. | 0.62 | |
| Doing homework allows me to continue to learn about many things that interest me. | 0.60 | |
| I do homework for my favorite class to prove to myself that I am capable of difficult or complicated assignments. | 0.56 | |
| I do homework for my favorite class because I enjoy broadening my knowledge about subjects I like. | 0.52 | |
| Variance accounted for by intrinsic and accomplishment items | | 40.34% |
| Instrumental (alpha = .90, M=2.46, SD=.88) | | |
| I do homework in order to have a better salary later on. | 0.90 | |
| I do homework because I want to have "the good life" later on. | 0.87 | |
| I do homework because this will help me complete my high-school diploma and find a high-paying job later on. | 0.72 | |
| I do homework in my favorite class because not doing homework may prevent me from getting a job I want. | 0.67 | |
| I do homework because I think doing homework will help me prepare for my career. | 0.65 | |
| What I learn doing homework will help me make a better choice regarding my career orientation. | 0.63 | |
| Doing homework now will improve my competence on the job later on. | 0.57 | |
| Variance accounted for by instrumental items | | 8.31% |
| Amotivation (alpha = .84, M=3.44, SD=.98) | | |
| I believe I can pass my favorite class without doing homework so I wonder whether I should do it at all. | 0.85 | |
| I believe most homework for my favorite class is pointless. | 0.80 | |
| I don't do homework and frankly, I couldn't care less. | 0.74 | |
| I see no reason to do homework. | 0.66 | |
| Variance accounted for by amotivation items | | 6.60% |
| TOTAL VARIANCE ACCOUNTED FOR | | 59.27% |

Other Factors

| | |
|---|---|
| Conflict (alpha = .74, M=2.99, SD=.77) | |
| Doing homework gets in the way of other things I am learning. | 0.78 |
| Usually I feel like I don't really understand what the teacher expects of me. | 0.66 |
| My schedule is often too busy to complete all the assigned homework. | 0.65 |
| My homework gets in the way of my friendships. | 0.64 |
| Doing homework gets in the way of my job. | 0.62 |

| | | |
|---|---|---|
| Most of the time I feel like I don't have any choice about the classes or teachers I have in school. | 0.59 | |
| Variance accounted for by conflict items | | 20.27% |
| | | |
| Relatedness (alpha = .69, M=2.79, SD=1.29) | | |
| I feel close to at least one teacher. | 0.86 | |
| I feel I can discuss non-class things with at least one teacher. | 0.81 | |
| I feel close to at least one adult at school that is not one of my teachers (e.g. coach, principal, club leader, teacher's aide, secretary). | 0.59 | |
| Variance accounted for by relatedness items | | 13.25% |
| TOTAL VARIANCE ACCOUNTED FOR | | 33.52% |

Tests of Means

A paired-samples t-test was calculated between the means for school/instrumental and homework/instrumental. There was a statistically significant difference (t=-12.21, p=.000). There was no significant difference between the means for school/amotivation and homework/amotivation.

Correlations

Following the initial factor analyses, correlations were calculated to answer the remaining research questions. Correlations were calculated between the scales (School/Intrinsic, School/Instrumental, School/Amotivation, School/Accomplishment, Homework/Intrinsic-Accomplishment, Homework/Amotivation, Homework/Instrumental, Other Factors/Conflict, Other Factors/Relatedness) and self reported grade point average. The correlations are presented in Table 3.

Some of the highest correlations were between similar factors that emerged on the school items and the homework items. These ranged from .625 to .694.

The intercorrelations within the school and homework factors are fairly strong, with the absolute value of the coefficients ranging from .483 to .704. The absolute values of the correlations within the three homework factors range from .330 to .660. There was not a statistically significant correlation between conflict and relatedness factors.

Within both "school" and "homework" domains, amotivation was moderately to strongly negatively correlated with "intrinsic", "instrumental", and "accomplishment" ranging from -.330 to -.613.

Grade point average correlated positively with school/instrumental and homework/instrumental although the correlations were weak at .231 and .229

respectively. However grade point average correlated negatively with school/amotivation (.261), homework/amotivation (-.236) and relatedness (-.190) however again the correlations were relatively weak.

Table 3

Correlations Between Scales and Grade Point Average

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Grade Point Average | 1.000 | | | | | | | | | |
| 2. School—Intrinsic | .154 | 1.000 | | | | | | | | |
| 3. School—Instrumental | .231* | .489* | 1.000 | | | | | | | |
| 4. School—Accomplishment | .114 | .704* | .595* | 1.000 | | | | | | |
| 5. School—Amotivation | -.261* | -.613* | -.483* | -.539* | 1.000 | | | | | |
| 6. Homework--Intrinsic/Accomplishment | .129 | .637* | .476* | .694* | -.455* | 1.000 | | | | |
| 7. Homework—Instrumental | .229* | .467* | .666* | .560* | -.450* | .660* | 1.000 | | | |
| 8. Homework—Amotivation | -.236* | -.419* | -.330* | -.357* | .625* | -.546* | -.330* | 1.000 | | |
| 9. Other—Conflict | -.048 | -.123* | -.091 | -.063 | .190* | -.098 | -.042 | .146 | 1.000 | |
| 10. Other—Relatedness | .190* | .252* | .185* | .214* | -.138 | .256* | .152* | -.049 | .022 | 1.000 |

The modified Bonferroni alpha maintaining the experimentwise Type I error over all comparisons at .05 was .0011.

* Correlation is significant at the .0011 level (two tailed).

Top Reasons and Least Important Reason for School Attendance

Students were provided a list of 13 items related to reasons for attending school. The students were asked to put in order of importance the top 5 reasons they attend school and place a star (*) next to the item that represents the least important reason they are at school.

The frequencies for the five most important reasons students report they attend school are summed (each student had an opportunity to select up to 5 items). The number of times each item was chosen in the "top five" is reported as its frequency. In addition, the percentage of the total response is reported. See Table 4. Each student was asked to place a "*" next to a single item that represents the least important reason they are at school. The frequencies and percentage of responses are reported in Table 5.

Table 4

Five Most Important Reasons Students Report Attending School

| Item | Frequency | Percent of Students Selecting |
|---|---|---|
| To graduate | 306 | 17.16 |
| Friendships | 267 | 14.97 |
| Parents | 211 | 11.83 |
| Academics | 197 | 11.05 |
| It's the law | 150 | 8.41 |
| Sports | 141 | 7.91 |
| Girl/Boyfriends | 116 | 6.51 |
| Driving privileges | 101 | 5.66 |
| Job requires school attendance | 94 | 5.27 |
| Enjoy teachers | 60 | 3.37 |
| Network | 57 | 3.20 |
| Music Program | 52 | 2.92 |
| Clubs | 31 | 1.74 |

Frequencies and percentages of total responses. Each student could choose up to five items. N=372

Table 5

Least Important Reason Students Report Attending School

| Item | Frequency | Percent of Students Selecting |
|---|---|---|
| Music program | 54 | 18.6 |
| It's the law | 53 | 18.2 |
| Enjoy teachers | 38 | 13.1 |
| Sports | 33 | 11.3 |
| Network about parties | 31 | 10.7 |
| Clubs | 26 | 8.9 |
| Girl/boyfriends | 17 | 5.8 |
| Academics | 10 | 3.4 |
| Job requires school attendance | 7 | 2.4 |
| Driving privileges | 7 | 2.4 |
| To graduate | 6 | 2.1 |
| Friendships | 5 | 1.7 |
| Parents | 4 | 1.4 |

Frequency and percent of total responses. Each student could choose one item. N=372

Open-ended Items:

Two items were open-ended. The first item "What does achievement mean to you?" is an attempt to draw out the students' achievement orientation. The second item is "I do my homework because...." Again I hoped this item would reveal students' psychological orientation or motivation for participating in homework activities.

Students' responses to these items were quite short, likely, in part, to being near the end of the lengthy questionnaire. The responses were too short, in fact, to clearly understand the motives behind them. For example, 36.8% of students indicated they do homework for "grades." According to self-determination theory a "grade" response could fall into integrated, identified, introjected, or external motivation depending on what aspect of "grades" is most important to the respondent. The inadequacy of such one-word responses became apparent when evaluating the qualifying statements a few students provided. For example, one student wrote "It can affect my grades if I don't [do my homework] and it helps me to better understand what I am doing." This would be considered the integrated level of self determination (high). Alternatively, the student who wrote "grades--my parents will beat the crap out of me if I don't do it [homework]" is operating at the external level of self determination (low) due to the perceived threat of punishment. The vast majority of students who put "grades" as a response did not qualify the response enough to interpret the motives. A similar circumstance occurred with the second open-ended item "What does achievement mean to you?" Therefore, further interpretation of these items is inappropriate.

Reward for Grades

Students were asked "Do you receive a reward from anyone for good grades?" Students who reported they were rewarded had a higher self-reported grade point average than students who were not rewarded ($F = 5.705$, $p = .018$).

## Discussion

This study has expanded current knowledge on academic achievement motivation in adolescents and has stepped lightly into some new territory on motivation for homework.

Although the instrument used for the survey was modified very little (for the "school" questions at least) the items did not factor into the seven levels the scale was expected to produce but instead factored into four scales along a similar continuum.

As noted previously, the scale was expected to fall into seven factors (three types of intrinsic motivation followed by three types of extrinsic motivation and amotivation). These results fell into four factors (intrinsic, instrumental, accomplishment, and amotivation) for the school items and three factors (intrinsic & accomplishment, instrumental, and amotivation) for the homework items. The factor discrepancy is most likely because the original scale was evaluated with a confirmatory factor analysis (LISREL) following translation of the scale from French to English (Vallerand et al, 1992). In this sample, an exploratory factor analysis was of primary interest.

When comparing between self-determination theory and the factor structure produced by this research, it is clear that both ends of the self-determination continuum are demonstrated, that is intrinsic and amotivation. The four levels of extrinsic motivation reduce to two levels in the school items (accomplishment and instrumental) and reduce to only one (instrumental) within the homework items. It is possible that a larger sample size would produce the additional factors. However, in light of the fairly high alphas for the scales that were produced from the factors in this study, it is unclear if a more complex factor structure including all levels of self-determination would add any

practical significance to applying students' motivation for school and homework into classroom practice.

Since I was unable to replicate the exact factor structure of the researchers of self-determination theory using the Vallerand et al (1992) instrument (with slight modification) for the school and homework items, it may be inappropriate to attempt to answer the questions using the pre-established self-determination continuum. Alternatively, I will discuss the results I found and the possible theoretical and practical implications.

The first research question queried whether self-determination factors would emerge in a sample of adolescents. As noted, although not identical to the Vallerand et al (1992) factors, a factor structure along a self-determination continuum did manifest from this sample.

There were only weak correlations between any of the scales and self-reported grade point average. Amotivation scales for both school and homework correlated negatively with self-reported grade point average. The instrumental scales for both school and homework correlated positively with self-reported grade point average. There was no significant correlation between grade point average and the scales of school—intrinsic, school—accomplishment, or homework—intrinsic & accomplishment. From this we may conclude that a student's motivation level and achievement status are not strong predictors of each other. It is likely that a student's motivation status combined with other parameters (e.g. ability) may be more predictive of achievement (measured by grades) than motivation status alone. Additionally, achievement and learning may not be synonymous and it may be more prudent to follow up with studies that find predictors for

and measures of learning instead of focusing on achievement as I did here (by requesting grade point average). Taken in light of self-determination theory, the finding that grades and intrinsic motivation are not correlated is not surprising. That is, although learning is expected to be higher in the intrinsically motivated student, the mere presence of grades makes school work an extrinsically regulated task. Conversely, a student who is truly intrinsically motivated for a subject in school is probably less likely to follow another person's "regulation" on *how* that intrinsically motivated learning will occur. That is, if a student is truly interested in solving a certain problem (e.g. a computer or laboratory activity), the student will likely forsake other activities to pursue the interest, even if the other activities are assignments within the same course. Thus, it is logical and consistent within theory that there is no correlation between grades and intrinsic motivation in this study.

When comparing similar factors (school—intrinsic to homework—intrinsic & accomplishment; school—instrumental to homework—instrumental; school—amotivation to homework—amotivation) this is where the strongest correlations are found showing moderate to high correlations ranging from .625 to .666. This may demonstrate that students' (taken as a group) motivation status between school work and homework is consistent. Means tests between similar factors in school versus homework domains showed that amotivation is not significantly different. Instrumental is minimally different with the students seeing school as more instrumental than homework.

Do "other factors" correlate with factors for school and homework? The only two "other factors" that emerged were conflict and relatedness. The slightly negative correlation between conflict and school intrinsic motivation (-.123) and the slightly

positive correlation between school amotivation and conflict (.190) is consistent with my previous finding that students thought having a "less hectic schedule at home" would help them succeed in school. However, the practical implications considering these small correlations may be minimal. Further research into the importance of conflict, motivation and learning should be pursued with a more sensitive measure possibly including an interview study with an opportunity to ask follow-up questions for clarification.

This study has some limitations that should be addressed by future research before results should be applied to educational practice. First, self reported GPA is used as a measure of achievement. While this was useful for this preliminary study, a grade point average is not the definitive role or goal of education. A more comprehensive variable for analysis would be a multi-component measure of actual learning. Once this measure is determined with satisfactory reliability and validity across samples, this could then be compared to students' achievement motivation. This would probably be more useful for informing practice.

Conclusion

This study confirms previous work showing that students have varied reasons for attending school and doing homework. The present study has gone a step further than previous research by comparing motivation for school with motivation for homework and found that similar factors that arose from the responses are relatively highly correlated. This suggests that students' achievement motivations are stable across these two learning realms.

In addition, students who reported being rewarded for good grades also report a higher grade point average than students who are not rewarded. It is inappropriate to

infer that rewarding students *causes* them to get good grades as this research does not support that conclusion.

Although tempting, given the grade point information provided, I will stop short of discussing which motivational status among those found is correlated with academic success and greatest learning. To do so would equate grades with learning and that could result in an over-simplistic expression of a much more complex schema as previously discussed. Perhaps the findings of this study can be used to inform future achievement motivation research—especially the parallels between motivation for school and homework in adolescents.

This study may also be informative for what it did not demonstrate. That is, the self-determination framework for describing achievement motivation did not manifest as seven unique layers as expected from the factor analyses. This most likely is merely a result of the exploratory factor analysis technique employed for this study. It should be noted however, that the validation studies for the scale (as cited previously) were done with the college questionnaire on a college sample. No validation studies have been published for the high school questionnaire with a high school population. Additionally, this study did not show a correlation between intrinsic motivation and achievement. However, this cannot be interpreted to mean there is not a correlation between intrinsic motivation and learning.

This research showed some new information regarding motivation status for school and homework, and is consistent with previous research findings that relatedness is correlated with academic intrinsic motivation (Connell & Wellborn, 1990) and conflict is correlated with amotivation (Coughlan-Mainard, 1998). Although follow-up research is

warranted—especially regarding relationships between achievement motivation and learning in the school and homework domains—this study has addressed the question that achievement motivation across both school work and homework domains appears consistent.

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# Appendix A

## Questionnaire

Please take a moment to think about why you go to high school. Please indicate (by circling) your opinion about the following questions related to school.

| | | Strongly Agree | Agree | Neutral | Dis-agree | Strongly Disagree |
|---|---|---|---|---|---|---|
| 1.1 | I go to school because I need at least a high school diploma in order to find a high-paying job later on. | SA | A | N | D | SD |
| 1.2 | I go to school because I experience pleasure and satisfaction while learning new things. | SA | A | N | D | SD |
| 1.3 | I go to school because I think that a high-school education will help me better prepare for a career. | SA | A | N | D | SD |
| 1.4 | I go to school because I enjoy being at school. | SA | A | N | D | SD |
| 1.5 | Honestly, I don't know why I go to school; I really feel that I am wasting my time. | SA | A | N | D | SD |
| 1.6 | I go to school to learn about topics that will help me later on (e.g. learning grammar will help me write a good job application or do well in college). | SA | A | N | D | SD |
| 1.7 | I go to school in order to prove to myself that I am capable of completing my high-school diploma. | SA | A | N | D | SD |
| 1.8 | I mostly go to school so my parents won't nag me. | SA | A | N | D | SD |
| 1.9 | Most of the time I wish I were somewhere else besides school. | SA | A | N | D | SD |
| 1.10 | I go to school because eventually it will enable me to enter the job market in a field that I like. | SA | A | N | D | SD |
| 1.11 | I go to school because for me, school is fun. | SA | A | N | D | SD |
| 1.12 | I once had good reasons for going to school; however, now I wonder whether I should continue. | SA | A | N | D | SD |
| 1.13 | I go to school for the pleasure I experience while I am surpassing myself in one of my personal accomplishments. | SA | A | N | D | SD |
| 1.14 | I go to school because of the fact that when I succeed in school I feel important. | SA | A | N | D | SD |
| 1.15 | I go to school because I want to have "the good life" later on. | SA | A | N | D | SD |
| 1.16 | I go to school for the pleasure that I experience in learning about subjects which appeal to me. | SA | A | N | D | SD |
| 1.17 | I go to school because this will help me make a better choice regarding my career orientation. | SA | A | N | D | SD |
| 1.18 | I go to school for the pleasure that I experience when I am in discussions with interesting teachers. | SA | A | N | D | SD |
| 1.19 | I can't see why I go to school and frankly, I couldn't care less. | SA | A | N | D | SD |
| 1.20 | I go to school for the satisfaction I feel when I am in the process of accomplishing difficult academic activities. | SA | A | N | D | SD |
| 1.21 | I go to school to show myself that I am an intelligent person. | SA | A | N | D | SD |
| 1.22 | I go to school in order to have a better salary later on. | SA | A | N | D | SD |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1.23 | I go to school because my studies allow me to continue to learn about many things that interest me. | SA | A | N | D | SD |
| 1.24 | I go to school because I believe that my high school education will make me a better worker later on. | SA | A | N | D | SD |
| 1.25 | I mostly go to school so that I can be involved in the extra-curricular activities that I enjoy (e.g. sports, music, clubs). | SA | A | N | D | SD |
| 1.26 | I mostly go to school because the law says I must. | SA | A | N | D | SD |
| 1.27 | I mostly go to school because high school allows me to experience a personal satisfaction in my quest for excellence in my studies. | SA | A | N | D | SD |
| 1.28 | I go to school because I want to show myself that I can succeed in my studies. | SA | A | N | D | SD |
| 1.29 | I mainly go to school because I want to be with my friends. | SA | A | N | D | SD |
| 1.30 | I mostly go to school because I fear what might happen if I don't. | SA | A | N | D | SD |

Now take a moment to think about your favorite class during high school that had homework. This can be a class you are taking now. Please answer the following questions about your favorite class.

**My favorite class was/is**_____

**In my favorite class...**

| | | | | | | |
|---|---|---|---|---|---|---|
| 2.1 | I do homework because this will help me complete my high-school diploma and find a high-paying job later on. | SA | A | N | D | SD |
| 2.2 | I do homework because I enjoy learning things. | SA | A | N | D | SD |
| 2.3 | I do homework because I think doing homework will help me prepare for my career. | SA | A | N | D | SD |
| 2.4 | I do homework for my favorite class because I really like doing homework. | SA | A | N | D | SD |
| 2.5 | Honestly, I don't know; I really feel that I am wasting my time doing homework, even in my favorite class. | SA | A | N | D | SD |
| 2.6 | When I can see a point to the homework I am more likely to do it. | SA | A | N | D | SD |
| 2.7 | I do homework for my favorite class to prove to myself that I am capable of difficult or complicated assignments. | SA | A | N | D | SD |
| 2.8 | I do homework so my teacher won't think badly of me. | SA | A | N | D | SD |
| 2.9 | I see no reason to do homework. | SA | A | N | D | SD |
| 2.10 | I do homework in my favorite class because not doing homework may prevent me from getting a job I want. | SA | A | N | D | SD |
| 2.11 | I do homework because for me, homework is enjoyable. | SA | A | N | D | SD |
| 2.12 | I believe I can pass my favorite class without doing homework so I wonder whether I should do it at all. | SA | A | N | D | SD |
| 2.13 | I do homework for the pleasure I experience when doing better than I did before. | SA | A | N | D | SD |
| 2.14 | I do homework because of the fact that when I finish my homework I feel important. | SA | A | N | D | SD |
| 2.15 | I do homework because I want to have "the good life" later on. | SA | A | N | D | SD |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2.16 | I do homework for my favorite class because I enjoy broadening my knowledge about subjects I like. | SA | A | N | D | SD |
| 2.17 | What I learn doing homework will help me make a better choice regarding my career orientation. | SA | A | N | D | SD |

**In my favorite class...**

| | | | | | | |
|---|---|---|---|---|---|---|
| 2.18 | I enjoy doing interesting homework assignments. | SA | A | N | D | SD |
| 2.19 | I don't do homework and frankly, I couldn't care less. | SA | A | N | D | SD |
| 2.20 | I do homework for the satisfaction I feel when I am in the process of accomplishing a complicated project, lab, or assignment. | SA | A | N | D | SD |
| 2.21 | I do homework for my favorite class to show myself that I am an intelligent person. | SA | A | N | D | SD |
| 2.22 | I do homework in order to have a better salary later on. | SA | A | N | D | SD |
| 2.23 | Doing homework allows me to continue to learn about many things that interest me. | SA | A | N | D | SD |
| 2.24 | Doing homework now will improve my competence on the job later on. | SA | A | N | D | SD |
| 2.25 | I do my homework so that I can get good enough grades to be involved in the extra-curricular activities that I enjoy (e.g. sports, music, clubs). | SA | A | N | D | SD |
| 2.26 | I believe most homework for my favorite class is pointless. | SA | A | N | D | SD |
| 2.27 | Completing homework gives me personal satisfaction in my quest for excellence in my studies. | SA | A | N | D | SD |
| 2.28 | I do homework because I want to show myself that I can succeed in my studies. | SA | A | N | D | SD |
| 2.29 | I do homework because I work on it with my friends and I enjoy spending this time with them. | SA | A | N | D | SD |
| 2.30 | Mostly I do homework for my favorite class because if I don't do it something might happen that I would not like. | SA | A | N | D | SD |

**Questions about school in general:**

| | | | | | | |
|---|---|---|---|---|---|---|
| 3.1 | My friendships conflict with my homework. | SA | A | N | D | SD |
| 3.2 | I usually understand what I am supposed to do on my homework. | SA | A | N | D | SD |
| 3.3 | Doing homework gets in the way of other things I am learning. | SA | A | N | D | SD |
| 3.4 | I feel close to my friends at school. | SA | A | N | D | SD |
| 3.5 | Doing homework gets in the way of my job. | SA | A | N | D | SD |
| 3.6 | Most of the time I decide what classes I will take. | SA | A | N | D | SD |
| 3.7 | I feel I can discuss non-class things with at least one teacher. | SA | A | N | D | SD |
| 3.8 | Most of the time I decide when I do my homework. | SA | A | N | D | SD |
| 3.9 | My schedule is often too busy to complete all the assigned homework. | SA | A | N | D | SD |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3.10 | Most of the time I feel like I don't have any choice about the classes or teachers I have in school. | SA | A | N | D | SD |
| 3.11 | I feel close to at least one teacher. | SA | A | N | D | SD |
| 3.12 | Usually I feel like I don't really understand what the teacher expects from me. | SA | A | N | D | SD |
| 3.13 | I have some choice in the type of projects or homework I do in my favorite course. | SA | A | N | D | SD |
| 3.14 | I feel close to at least one adult at school that is not one of my teachers (e.g. coach, principal, club leader, teacher's aide, secretary). | SA | A | N | D | SD |
| 3.15 | There is usually enough time in my schedule to do everything I want to do. | SA | A | N | D | SD |
| 3.16 | I have the brains to figure out what needs to be done on my homework. | SA | A | N | D | SD |
| 3.17 | Most of the time I decide where I do my homework. | SA | A | N | D | SD |
| 3.18 | I am smart enough to do most of my homework assignments. | SA | A | N | D | SD |
| 3.19 | My homework gets in the way of my friendships. | SA | A | N | D | SD |
| 3.20 | Usually I feel I'm not smart enough to do what the teachers expect me to do. | SA | A | N | D | SD |
| 3.21 | I feel like I really fit in at school. | SA | A | N | D | SD |

4.1 I do my homework because: _____

4.2 Do you receive a reward from anyone for good grades? (circle one) yes no

4.3 If yes, what reward have you received or has been promised to you?

_____

4.4 Would/does having a reward for good grades make you work harder? yes no

4.5 What does achievement mean to you?_____

4.6 Please put in order of importance **to you** the **top 5** reasons you are at school (1=**most** important)

| | | | | | |
|---|---|---|---|---|---|
| ____ | Sports | ____ | Music Program | ____ | It's the Law |
| ____ | Academics | ____ | Job requires school attendance | ____ | Parents |
| ____ | Friendships | ____ | Driving privileges | ____ | Clubs |
| ____ | Girl/Boy Friend | ____ | Enjoy teachers | ____ | To Graduate |
| ____ | Network about parties etc. | | | | |

Please place a * next to the item above that represents the least important reason you are at school.

These next few questions will help me describe the group of people who filled out these surveys:

4.8 Gender (circle one): Male Female

4.9 Age (circle one): 10 11 12 13 14 15 16 17 18 19 20 21

4.10 Year/grade in school (circle one): 9 10 11 12

4.11 My cultural/ethnic background is:_____

4.12 My grade point average (GPA) last quarter was (estimate if you can't remember): _____

Your opinion is valuable. Thank you very much for your input.

# Appendix B

## Instructions to Participants

Dear Student:

I would like to know what students think about school and homework. You can help in this project by giving your thoughts on the questions on this form.

The questionnaire is completely anonymous. Your name will not be used. Don't put your name on the survey and individual responses will not be shared with your school. Please avoid sharing your answers with others during the time you are filling out the survey but feel free to discuss it after the forms are collected.

If you choose not to participate please take a survey when they are passed out and turn it in at the end. You do not have to complete the survey. If you choose not to participate, please be respectful of others as they take the time to read through and answer the questions.

Participating in this project is voluntary. You may choose not to participate and you may stop at any time. Your answers are important both for my study and possibly for future students.

I very much appreciate both your time and your willingness to share your opinions with me.

Thank you very much.

Kelly Coughlan-Mainard
Graduate Student
Department of Educational Psychology
University of Washington

# Appendix C

## Parental Notification Letter

September 15, 2000

Dear Parent:

I am presently involved in research on student motivation for academics at the University of Washington. I am interested in what motivates teenage students both within the classroom and for doing homework. This information is valuable in preparing teachers and may contribute to our knowledge of how to help some students improve academically.

I would like permission for your student to participate in this study that will be conducted as part of his or her regularly scheduled class. The study is titled "Why Go to School? Why do Homework? Motivational Correlates for School and Homework in High School Students." This study involves several high schools in the greater Puget Sound region. Your teen was chosen to participate in this study because he or she is in a class in which the principal and teacher have agreed to participate. The study consists of a questionnaire wherein students indicate how much they agree with statements related to schoolwork and homework. The questionnaire is completely anonymous and once placed face down in a central collection box, the questionnaire cannot be matched to the student. Students will not be identified by name at any time in any reports of this research.

Sample items:

- Usually I feel like I don't really understand what the teacher expects from me
- I do homework because not doing homework may prevent me from getting a job I want.
- I do homework because I enjoy learning things.
- I have some choice in the type of projects or homework I do in my favorite course.

The questionnaires will be completed in your teenager's classroom in the next couple of weeks. Students will be told about the study and that participation is completely voluntary. A student may withdraw at any time without prejudice. If a student chooses not to participate s/he will be given a survey when they are handed out and will be asked to turn this in, but does not need to complete it. Thus, it will not be obvious during the survey which students are participating and which are not. If you would prefer that your teen not participate, please notify me at the number below leaving within the context of your message, your child's name, the teacher's name and the school. If I don't hear from you, I will assume approval for your teen to participate.

When the results of the study are complete, I will provide the school principal with a summary that will be available to you upon request. If you have any questions about the study, please don't hesitate to call: (253) 843-0160 or email: kcm@u.washington.edu.

Respectfully,

Kelly Coughlan-Mainard
Graduate Student
Human Development & Cognition
Department of Educational Psychology
University of Washington
(253) 843-0160

## Appendix D

### Daffodils and Diesels

I'm not very good in school. This is my second year in the seventh grade, and I'm bigger than most of the other kids. They like me all right, even though I don't say much in class, and that sort of makes up for what goes on in school.

I don't know why the teachers don't like me. They never have. It seems like they don't think you know anything unless you can name the book it came out of. I read a lot at home—things like *Popular Mechanics* and *Sports Illustrated* and the Sears catalog—but I don't just sit down and read them through like they make us do in school. I use them when I want to find something out, like a batting average or when Mom buys something second-hand and wants to know if she is getting a good price.

In school, though, we've got to learn whatever is in the book and I just can't memorize the stuff. Last year I stayed after school every night for two weeks trying to learn the names of the presidents. Some of them were easy, like Washington and Jefferson and Lincoln, but there must have been thirty altogether and I never did get them straight. I'm not too sorry, though, because the kids who learned the presidents had to turn right around and learn all the vice-presidents. I am taking the seventh grade over, but our teacher this year isn't interested in the names of the presidents. She has us trying to learn the names of all the great American inventors.

I guess I just can't remember names in history. Anyway, I've been trying to learn about trucks because my uncle owns three and he says I can drive one when I'm sixteen. I know the horsepower and gear ratios of twenty-six American trucks, and want to operate a diesel. Those diesels are really something. I started to tell my teacher about them in science class last week when the pump we were using to make a vacuum in a bell jar got hot, but she said she didn't see what a diesel engine had to do with our experiment on air pressure, so I just shut up. The kids seemed interested, though. I took four of them around to my uncle's garage after school and we watched his mechanic tear down a big diesel engine. He really knows his stuff.

I'm not very good in geography, either. They call it economic geography this year. We've been studying the imports and exports of Turkey all week, but I couldn't tell you what they are. Maybe the reason is that I missed school for a couple of days when my uncle took me downstate to pick up some livestock. He told me where we were headed and I had to figure out the best way to get there and back. He just drove and turned where I told him. It was over 500 miles round trip and I'm figuring now what his oil cost and the wear and tear on the truck—he calls it depreciation—so we will know how much we made.

When we got back I wrote up all the bills and sent letters to the farmers about what their pigs and cattle brought at the stockyard. My aunt said that I made only three mistakes in 17 letters, all commas. I wish I could write school themes that way. The last one I had to write was on "what a daffodil thinks of Spring," and I just couldn't get going.

I don't do very well in arithmetic, either. Seems I just can't keep my mind on the problems. We had one the other day like this:

> "If a 57 foot telephone pole falls across a cement highway so that 17 ¾ feet extend from one side and 14 16/17 feet extend from the other, how wide is the highway?"

That seemed to me like an awfully silly way to get the width of a highway. I didn't even try to answer it because it didn't say whether the pole had fallen straight across or not.

Even in shop class I don't get very good grades. All of us kids made a broom holder and a bookend this semester and mine were sloppy. I just couldn't get interested. Mom doesn't use a broom anymore with her new vacuum cleaner, and all of our books are in a bookcase with glass doors in the family room. Anyway, I wanted to make an end gate for my uncle's trailer, but the shop teacher said that meant using metal and wood both and I'd have to learn how to work with wood first. I didn't see why, but I kept quiet and made a tie rack even though my dad doesn't wear ties. I made the tail gate after school in my uncle's garage and he said I saved him twenty dollars.

Government class is hard for me, too. I've been staying after school trying to learn the Articles of Confederation for almost a week, because the teacher said we couldn't be good citizens unless we did. I really tried because I want to be a good citizen. I did hate to stay after school, though, because a bunch of us guys from the Southend have been cleaning up the old lot across from Taylor's Machine Shop to make a playground out of it for the little kids from the Methodist home. I made the jungle gym out of old pipe, and the guys put me in charge of things. We raised enough money collecting scrap this month to build a wire fence clear around the lot.

Dad says I can quit school when I'm sixteen. I'm sort of anxious to because there are a lot of things I want to learn to do, and as my uncle says, I'm not getting any younger.

Author Unknown
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