

Approaches to Studying:

Contributions of Goal Orientation and Motivation for Attending University

by

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Abstract

The relationship between studying approach and two motivational constructs achievement goal orientation and motivation for attending university was examined. In a sample of 333 undergraduate psychology students, results indicate that mastery goals positively correlated with a deep approach to studying and that performance-approach and performance-avoidance goals predicted a surface approach to studying. Also, students with humanitarian or personal development motivations utilized a deep approach to studying, whereas students with career/materialistic or default motivations utilized a surface approach. Results showed that around 5-9% of additional variance in deep and strategic studying approaches can be explained by student motivation for attending university, over variance explained by goal orientation. For surface approach, 23% of the additional variance can be explained by student motivation for attending university. While statistically significant, the improvement in variance explained by university attendance motivation above and beyond goal orientation is practically insignificant. Therefore, most of the variance in study approach can be explained by variables other than goal orientation and student motivation for attending university.

Keywords: goal orientation, student motivation for attending university, study approach

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Approaches to Studying:

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Given demonstrated connections between academic performance and life outcomes, educational researchers have long been interested in understanding the individual and contextual variables that affect academic success. One construct that has received a lot of attention is the study approach that a student utilizes. When faced with an upcoming test, a student has to make a series of decisions regarding their own preparation and studying approach. They must decide the type of studying they will do, the information they need to succeed, the time necessary to study, and the setting where studying will occur. Past research has indicated that how students decide to approach studying has important consequences for their intellectual development and academic success (Entwistle & Peterson, 2004). Therefore, it is important for researchers to understand the individual differences that play a key role in differences in studying approach.

Research on study approach started out as a series of naturalistic experiments in which participants were asked to read academic articles and were interviewed in order to explore how they attempted each task assigned and what the students had learned (Marton, 1976). By analyzing the interviews, the author discovered differences in the levels of understanding achieved by the participants, and he noted that these differences could be related to how the students approached the assigned tasks. If students had an intention to *understand* the assignment, they were labeled as having a deep approach to learning. On the other hand, if students had the intention to simply *memorize* facts that were likely to be tested, they were labeled as having a surface approach. Students who used a deep approach achieved a higher level of understanding, whereas surface-level processing indicated less understanding.

Entwistle and Ramsden (1983) furthered our understanding of approaches to studying by examining them in an everyday studying form. They asked their students about the study strategies used for actual courses and assignments, instead of for a contrived experimental task. Like Marton, they found that some students routinely approached studying using deep methods, whereas others relied primarily on surface studying skills. However, they also discovered a third type of studying approach: strategic. Students who are strategic studiers take into account the requirements of each individual assessment before selecting a studying approach. That is, some assessments necessitate deep processing for success, whereas minimal effort is sufficient for others. Such strategic studiers focus on how to manage their time and resources in order to succeed academically.

Research indicates that the three studying approaches predict relevant academic outcomes. For example, McCune and Entwistle (2000) found that students who take a deep approach to learning tend to show active engagement and interest in their studies, understand information deeply, and have positive academic performance. They also found that students who adopt a deep approach have better academic performance than those who adopt any other single approach. In contrast, Adebini et al. 2013 found that in a surface approach to studying, students focus on memorizing the information given. Students who adopt this type of approach tend to be bound to the syllabus, fear failure, and lack purpose. They memorize notes without linking the new information to old information, which leads to a superficial understanding of course content. Although students who use a surface approach often have better class attendance than other students (Kember & Jamieson, 1995), they also take longer to study and have lower academic performance (Phan, 2009). Lastly, students who adopt the strategic approach tend to organize their workspace, time, and tasks in order to obtain the best grades (Adebini et al., 2013). They

choose their study strategies according to the demands of each assignment or assessment, which could sometimes necessitate memorizing and sometimes lead to developing a deeper understanding. Students who are strategic are aware of task criteria and requirements, as they focus on knowing what the professor wants. Kember and Jamieson (1995) found that students who use both a deep and strategic approach performed better academically than students who only use a single type of approach.

Individual Differences in Study Approach

Given that study approach predicts success, it is important to examine potential sources of variability across students. That is, why are some students surface studiers, whereas others utilize only deep study methods? Biggs (1987) proposed that student study approach is determined by student motive. That is, for a surface-level studier, the main motive of the student is to meet the minimum requirements. As such, a surface level strategy only requires the bare essentials such as memorization. With a deep approach, the student studies to gain interest and competence in academic subjects, which might lead the student to select beneficial study strategies such as relating new information to previous knowledge (Biggs, 1987). In addition to examining motive as a determinant of study approach, other research has examined the effects of the Big Five personality characteristics. Zhang (2003) demonstrated a positive correlation between conscientiousness and both deep and strategic approaches. Zhang also concluded that there is a positive relationship between neuroticism and surface approach. Finally, in a study connecting life goals and attitudes to study approaches, Wilding and Andrews (2006) found that participants who hope for wealth and success tend to adopt surface or strategic study approaches, while those with altruistic values tend to adopt a deep approach.

Study approach and goal orientation. Research indicates that the achievement goal orientation that a student holds also predicts variability in that student's study approach (Elliot et al., 1999). Goal orientation theory explains motivated behavior in terms of the goals a student has when engaging in an achievement situation. Dweck (1986) conceptualized two main goal orientations: mastery and performance. A mastery goal orientation refers to a student's drive for obtaining knowledge and their focus on mastering information (Kaplan & Maehr, 2006). Students with this type of goal orientation tend to care about learning, developing skills, and academic personal growth. Elliot (1999) found that students who endorse a mastery goal orientation have increased self-efficacy, persistence, self-regulated learning, and a preference for challenge. In contrast, a performance goal orientation refers to a focus on demonstrating knowledge instead of developing it (Dweck, 1999). Performance-oriented students strive to create the impression that they are knowledgeable and competent when compared to others. Dweck and Leggett (1988) found that a performance goal orientation is associated with maladaptive patterns of learning and behavior. However, Elliot (1999) found that a performance goal orientation was positively correlated with self-efficacy, proper use of learning strategies, and grades.

To understand this apparent contradiction in outcomes for performance-oriented students, Elliot and McGregor (2001) proposed an additional distinction in terms of performance-approach and performance-avoidant students. They stated that students who adopt performance-approach orientation are motivated by the desire to show their competence in comparison to others, whereas students with a performance-avoidance orientation focus on not being seen as incompetent in comparison to others. Elliot and Church (1997) assessed mastery, performance-approach, and performance-avoidance goals in college students. They found that mastery goals

predicted intrinsic motivation and that performance-approach goals improved academic performance. In contrast, performance-avoidance goals provided unfavorable predictions to both intrinsic motivation and graded performance.

Research has consistently demonstrated a relationship between study approach and goal orientation. Mastery goals have been shown to be positive predictors of a deep approach to studying, whereas performance-avoidance goals have been found to be positively correlated with a surface approach to studying (Elliot et al., 1999; Diseth, 2011; Liem et al., 2008). In contrast, research concerning performance-approach goals has produced contradicting evidence. Although some researchers have concluded that performance-approach goals are positively correlated with a surface approach to studying (Elliot et al., 1999; Diseth, 2011), Liem et al. (2008) found that performance-approach goals, like mastery goals, predicted deep learning strategies.

Study approach and student motivation for attending university. Although goal orientation demonstrates a statistically significant relationship with study approach, correlations between the two constructs typically range between .10 and .70 (Elliot & Church, 1997; Diseth, 2011; Liem et al., 2007; Elliot et al., 1999). This indicates that between 49 and 90% of the variance in study approaches is *not* explained by goal orientation, and it suggests that exploration of other relevant constructs is warranted. Another potential predictor of study approach is a student's motivation for attending university in the first place. Students who are pursuing a college degree for the purposes of career attainment or personal development are likely to select study strategies that differ from students who attend a university to fulfill parental expectations. Research by Cote and Levine (1997) indicated that there are five types of motivations that encourage students to attend university: desire to obtain a good job (career motivation), interest in developing oneself (personal motivation), intention to help others (humanitarian motivation),

pressure to meet the expectations of others (expectations motivation), and an attempt to avoid other unwanted options (default motivation). They found that career and personal motivations correlated positively with self-management and self-motivation skills. Humanitarian and personal motivations were shown to correlate positively with grade point average, whereas default motivation negatively predicted grades.

Phinney et al. (2006) extended the line of research on university attendance motivation and found that career, personal, and humanitarian motives contributed positively to college adjustment, while default motives negatively contributed. Dennis et al. (2005) found that personal and career motivation to attend university was a positive predictor of college adjustment, college GPA, and commitment to college. Furthermore, Cote and Levine (2000) demonstrated that personal development motives are even stronger predictors of college adjustment and academic success than are scores on intelligence tests. Because of the strong relationship between university attendance motivation and academic performance, it is possible that the various motivations for attending university might uniquely relate to the different studying approaches, as well. However, there is no existing research that examines the relationship between student motivation for attending university and study approach.

The Current Study

Although goal orientation explains, on average, 29% of the variance in approaches to studying, 71% of the variance remains unexplained (Elliot & Church, 1997; Diseth, 2011; Liem et al., 2007; Elliot et al., 1999). Therefore, the primary purpose of this study was to explore whether knowing information about a student's motivation for attending university explains additional variance in studying approaches, above and beyond what goal orientation would predict. The following research questions were explored:

1. Can the results of previous research regarding the relationship between goal orientation and studying approach (e.g., Elliot et al., 1999) be replicated in the current data set?
 - a. Hypothesis 1: Mastery goals will be positively correlated with a deep approach to studying.
 - b. Hypothesis 2: Performance-approach goals will be positively correlated with a surface approach to studying.
 - c. Hypothesis 3: Performance-avoidance goals will be positively correlated with a surface approach to studying.
2. Does a student's motivation for attending university relate to the study approach that student utilizes?
 - a. Hypothesis 1: Students with a default motivation will utilize a surface study approach.
 - b. Hypothesis 2: Students with a personal development motivation will utilize a deep study approach.
 - c. Hypothesis 3: Students with a humanitarian motivation will utilize a deep study approach.
 - d. Hypothesis 4: Students with career/materialist motivation will utilize a strategic study approach.
3. Does student motivation for attending university explain additional variance in studying approach, beyond variance explained by goal orientation?
 - a. Directional hypotheses are not provided, as this research question is novel and exploratory.

Method

Participants

The total sample of the study consisted of 333 undergraduate students from Appalachian State University. 72% of the sample identified as female, and 28% identified as male. Ninety percent of the sample selected “white” as the label most representative of their race. The sample was also 47% freshmen, 22% sophomores, 20% juniors, and 10% seniors. Participants were recruited through the Psychology Poll SONA, an online psychological research study participation system, and were given 1 ELC credit for their participation. An ELC is a credit for classroom participation in which students participate in research in order to acquire knowledge and experience in psychological research.

Measures

Demographic questionnaire. Participants were asked to complete a demographic questionnaire, which consisted of questions about their age, gender, educational level, class grade, ethnicity, and major.

Student Motivation for Attending University (SMAU) – Revised. The Student Motivation for Attending University questionnaire (Phinney et al., 2001), consists of 33 items that can be judged on a 5-point scale (1 = strongly agree and 5 = strongly disagree). The 33 items are arranged into seven subscales that assess student motivations for attending university/college: career/personal, humanitarian, default, expectations, prove worth, encouragement, and help family. Custode and Norvilities (2012) reported that the seven subscales had Cronbach’s alphas of .76, .80, .71, .83, .85, .75, and .78, respectively. The SMAU-Revised is presented in Appendix C.

Patterns of Adaptive Learning Scale (PALS). The Patterns of Adaptive Learning Scale measures many facets of academic motivation (Midgley et al., 2000), including a section focused on achievement goal orientation. This section consists of 13 items divided across three subscales: mastery goal orientation, performance-approach goal orientation, and performance-avoidance goal orientation. The items can be judged on a 5-point scale (1 = not at all true and 5 = very true). Midgley et. al (2000) reported that the three subscales have high internal reliability, with Cronbach's alphas of .85, .89, and .74 for goal orientations of mastery, performance-approach, and performance-avoidance, respectively.

Approaches and Study Skills Inventory for Students (ASSIST). The fourth questionnaire that students were asked to answer was the Approaches and Study Skills Inventory for Students (Tait et al., 1998), which consists of 60 items that can be judged on a 5-point scale (5 = agree and 1 = disagree). This questionnaire assesses the three main study approaches of deep, strategic, and surface learning. Adebin et. al (2013) reported a value of 0.84 for the internal consistency of the deep approach scale, 0.80 for the internal consistency of the strategic approach scale, and 0.87 for the internal consistency of surface approach scale.

Procedure

The questionnaires took approximately 30 minutes to complete and were administered through SONA. Participants first completed an electronic consent form (see Appendix D), which informed them of the purpose of the study and encouraged them to contact the researcher with questions. Immediately after accepting the consent form, participants were asked to complete the demographic questionnaire, followed by the Patterns of Adaptive Learning Scale, the Student Motivation for Attending University scale, and the Approaches and Study Skills Inventory for Students. Lastly, the participants were debriefed and told they would receive 1 ELC credit for

their participation. This procedure was approved by Appalachian State University's IRB (Appendix E).

Results

Descriptive Analyses

To examine the relationship between goal orientation and study approach, correlation tests were conducted (see Table 1). As hypothesized, results indicate that mastery goals are positively correlated with a deep approach to studying ($r = .440, p < .001$). In addition, both performance-avoidance and performance-approach goals correlated with a surface approach to studying ($r = .347, p < .001$ and $r = .332, p < .001$, respectively). As can be seen in Table 1, additional significant correlations surfaced that were not hypothesized. For example, mastery focused goals were also correlated to strategic learning. Also, performance-approach learners endorsed all three study approaches nearly equivalently, with surface approach having a slight edge. Additionally, correlations demonstrated that performance-avoidance learners primarily utilize a surface approach to studying.

Next, the relationship between student motivations for attending university and study approaches was examined (See Table 2). In accordance with hypotheses, results indicate that students who utilize a surface approach to studying have default motivations for attending university ($r = .492, p < .001$). Results also confirmed the hypothesis that students who utilize a deep approach have personal development motivations and humanitarian motivations for attending university ($r = .388, p < .001$ and $r = .324, p < .001$, respectively). Interestingly, personal development was more strongly correlated with the strategic approach than with the deep approach ($r = .409, p < .001$), which runs counter to expectations. Lastly, a strategic

approach to studying significantly correlated with career/materialistic motivations, as hypothesized ($r = .242, p < .001$).

Regression Analyses

In order to understand the relative contributions of goal orientation and student motivation for attending university to student studying approach, hierarchical linear regression was used (see Tables 3-5). The first regression examined the relationship between the motivational constructs and a deep studying approach. In step one, goal orientation explained 25.3% of the variance in deep studying ($p < .001$). In this step, both mastery and performance-approach significantly explained variance in deep studying. In step two of the regression, the results indicated that 9% of additional variance can be explained by student motivation for attending university ($\Delta R^2 = .090; F(8,319) = 5.453, p < .001$). Of the various student motivations for attending university, personal development was the only motivation to explain significant additional variance in a deep approach to studying.

The second regression examined the relative contributions of goal orientation and university motivation to strategic studying (see Table 4). In step one, I found that goal orientation explained 29% of the variance in strategic studying ($p < .001$) and that all three goal orientations explained significant variance in the strategic approach. In step two of the regression analysis, the results showed that 5% additional variance in strategic studying approach can be explained by student motivation for attending university ($\Delta R^2 = .045; F(8,319) = 2.714, p = .007$). Of the various student motivations for attending university, personal development was again the only motivation to explain significant additional variance in a strategic approach to studying.

The final regression examined the relative contributions of goal orientation and university motivation to a surface study approach (see Table 5). In step one of the analysis, I saw that goal

orientation explained only 13.3% of the variance in surface studying ($p < .001$), with performance-avoidance as the only goal orientation sharing a significant relationship with studying approach. In the second step of the regression, however, I found a 23% improvement in variance explained by adding student motivation for attending university to the model ($\Delta R^2 = .229$; $F(8,319)$, $p < .001$). In this step, both personal development motivation and default motivation explained significant variance in the surface approach to studying.

Discussion

The present study explored the relative contributions of goal orientation and student motivation for attending college to study approaches in students. Previous research has indicated that goal orientations explain significant variance in studying behaviors (Diseth, 2011; Elliot, 1999; Liem et al., 2008; Elliot & Church, 1997), but the relationship between college attendance motivation and study approach has not yet been explored. To answer my research questions, correlations between goal orientation, university motivation, and study approaches were examined. I also explored the correlation between student motivation for attending university and study approaches, while controlling for the variance in goal orientations to determine if student motivation uniquely relates to study approaches.

As hypothesized, my findings show that mastery goals are positively correlated with a deep study approach, and that performance-approach and performance-avoidance goals are positively correlated with a surface study approach. Mastery goals were also found to positively correlate with a strategic studying approach, whereas performance-avoidance was only found to positively correlate with a surface studying approach. Performance-approach was positively correlated with all three study approaches, but surface approach had a slight edge.

These data are congruent with previous research on study strategies (Elliot et al., 1999; Diseth, 2011). Elliot et al. (1999) also found that mastery goals are positive predictors of deep approaches to studying, whereas performance-avoidance goals are negatively related to the deep approach. They also found that performance-approach and performance-avoidance are positively related to surface studying, as can be seen in Table 1. In contrast, Liem et al. (2008) found that performance-approach goals were a positive predictor of deep cognitive engagement. My findings suggest that performance-approach shares significant positive correlations with all study types, including deep approach; however, the relationship between performance-approach and surface studying was the strongest.

In accordance with hypotheses, I found that student motivation for attending university relates to study approach. For the deep approach, personal development motivation was the most highly correlated with humanitarian motivation and encouragement from peers falling closely in second. Students who employ a deep approach are likely to do well in academic settings, as Marton (1976) found that self-motivation and self-management are aspects of a deep approach to studying. In addition, my data show that students with career/materialistic and humanitarian motivations utilize a strategic study approach. It should be noted that Phinney et al. (2006) found that materialistic motivations are negatively correlated with personal intellectual improvement, whereas humanitarian motivations positively correlate with college adjustment and GPA. Therefore, strategic studying may be beneficial for students when it is connected to humanitarian aims, but problematic when associated with monetary goals. Lastly, students who were more likely to have chosen to attend college due to lack of alternatives (i.e., a default motivation) were more likely endorse a surface approach to studying. As Liem et al. (2008) state in their research, surface approach is positively linked with task disengagement and is a negative predictor of

adaptive peer relationships and college adjustment. Taken together with my results, this suggests that students who attend college for default reasons may be particularly at risk.

Through a regression analysis, I found that student motivation for attending university does explain a small amount of additional variance in study approach, when controlling for the effects of goal orientation. For deep approach, an additional 9% of variance was explained by university attendance motivation, whereas an additional 5% of variance was explained in the strategic approach. In both study approaches, personal development motivation seemed to be the primary driver of the effect. This finding is congruent with past research, as Entwistle and Peterson (2004) characterize deep approach as being concerned with seeking meaning and understanding ideas for one's own benefit, whereas strategic approach is concerned with a desire to achieve personal goals by putting effort into studying. Despite the statistical significance of this increased variance, though, the increased predictive power of college motivation in explaining study approach is not likely to be practically significant. Since student motivations for attending university are associated with a variety of factors, including ethnicity, SES, and cultural values (Phinney et al., 2006), discovering that this construct does not really improve our understanding of the deep and strategic study approaches is an interesting result.

In contrast, results indicate that 23% additional variance in a surface approach to studying was explained by student motivation for attending university, beyond variance already explained by goal orientation. Both personal development and default motivations seemed to carry this effect. Adebun et al. (2013) found that in a surface approach to studying, students focus on memorizing and often tend to be syllabus-bound, fear failure, and lack purpose. Since a default motivation for attending university is explained as an avoidance of unwanted options (Cote & Levine, 1997), a positive relationship between default motivation and a surface study approach

makes sense. Students with a default motivation chose to attend college due to a lack of other viable alternatives, it is not surprising that they engage in the most superficial and least effortful type of studying. Additionally, it is not surprising that presence of a default motivation explains a practically significant amount of variance in surface study approach, above and beyond goal orientation. Students who endorse high levels of either mastery- or performance-oriented goal motivation are both endorsing high levels of motivated behavior. In contrast, students who are in college for default reasons are not likely to score highly on either mastery- or performance-oriented motivation measures. As such, knowing about a non-goal-oriented student's motivations for attending university helps us to predict that student's study approach much better than knowing about their goal orientation would.

Limitations

Several limitations of the study should be noted. First, the sample of students that was utilized for this study was highly imbalanced. There were far more female than male participants, which could be due to more females being psychology majors than males. If the study had included a larger male sample, it might have led to different responses and different results. The sample was also fairly ethnically homogenous, which presents additional concerns regarding the representativeness of the sample. Second, this study was correlational nature, so I cannot conclude that certain types of university motivation or goal orientation *caused* differences in study approach. Instead, a third variable that was not measured could be responsible for the observed relationships. Lastly, student behavior was assessed using self-report measures, which could have led to an inaccurate assessment of the participants' studying behaviors.

Future Research

In 2011, 62.5 % of high school graduates furthered their education by matriculating to colleges and universities, and this number is predicted to rise over time (The National Center for Higher Education Management System, 2017). With so many students continuing their education, it is important to understand the different ways college students study and learn. This thesis makes a meaningful contribution by examining the relative contributions of goal orientation and college attendance motivation to study approach, but additional work is needed. For example, future studies should attempt to obtain a more diverse sample in order to obtain results that are more applicable to the larger population. To obtain a balanced sample of females and males, future research should incorporate other majors and should allow more time in the semester for students to participate. Future research might also consider using other forms of assessing behavior, such as observations to examine whether student motivation relates to *observed* study approach in the same ways that it relates to *reported* study approach. Also, the results of this study raised the question of what other variables might explain variance in study approach, given that nearly 70% of the variance was left unexplained. Future research could explore other personal and contextual variables that might explain choice of study approach, including ethnicity, gender, past educational experiences with studying, course type, and more.

Regardless of the limitations and needed future research, studies such as this that link motivation to study approach have important implications. For example, university instructors could examine the motivational orientations of their own students in order to understand where achievement problems might arise, and they might be able to design a class that would allow at-risk students to become more strategic or deep in their study approach. Additionally, if professors discover that their students have default motivations for attending university, they

might be able to design a classroom where the students are asked to create personal goals for the course in order to foster a more adaptive approach to the college experience.

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	Mastery	Performance Approach	Performance Avoidance
Deep Approach	.440**	.275**	.133
Strategic Approach	.456**	.277**	.085
Surface Approach	-.021	.332**	.347**

Table 1

Pearson Product-Moment Correlations between Study Approaches and Goal Orientations

** $p < .001$.

Table 2

Pearson Product-Moment Correlations between Study Approaches and Student Motivation for Attending University

	Career/Materialistic	Personal	Humanitarian	Default	Expectations	Prove Worth	Encouragement	Help Family
Deep Approach	.142**	.388**	.324**	.108**	.133*	.288**	.324	.225**
Strategic Approach	.242**	.409**	.296**	-.024	.020	.128*	.220*	.118*
Surface Approach	.137**	-.078	.078	.492**	.362**	.393**	.316**	.185**

** $p < .00$

Table 3

Deep Approach

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	1.311	.107		12.207	.000
	Mastery	.478	.057	.407	8.4413	.000
	PerApp	.189	.041	.352	4.597	.000
	PerAvoid	-.101	.044	-.174	-2.283	.023
2	(Constant)	.897	.147		6.100	.000
	Mastery	.388	.061	.330	6.343	.000
	PerApp	.136	.042	.253	3.240	.001
	PerAvoid	-.090	.044	-.154	-2.036	.043
	Career_Mat	-.123	.053	-.122	-2.310	.022
	Personal	.031	.010	.188	3.108	.002
	Humanitarian	.063	.041	.087	1.524	.128
	Default	.081	.038	.125	2.166	.031
	Expectations	-.013	.035	-.022	-.382	.702
	Prove Worth	-.007	.028	-.016	-.239	.811
	Encouragement	.070	.038	.126	1.851	.065
	Help Family	.033	.022	.077	1.490	.137

Table 4

Strategic Approach

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	1.814	.102		11.597	.000
	Mastery	.478	.054	.417	8.8852	.000
	PerApp	.235	.039	.450	6.029	.000
	PerAvoid	-.170	.042	-.299	-4.028	.000
2	(Constant)	.976	.144		6.772	.000
	Mastery	.384	.060	.335	.6409	.000
	PerApp	.195	.041	.374	4.760	.000
	PerAvoid	-.137	.043	-.241	-3.166	.002
	Career_Mat	.042	.052	.043	.812	.417
	Personal	.028	.010	.171	2.870	.005
	Humanitarian	.022	.040	.031	.536	.593
	Default	.017	.037	.027	.461	.645
	Expectations	-.042	.034	-.071	-1.221	.223
	Prove Worth	-.018	.027	-.045	-.665	.506
	Encouragement	.044	.037	.080	1.170	.243
	Help Family	.001	.022	.002	.040	.968

Table 5

Surface Approach

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	1.998	.119		16.743	.000
	Mastery	-.073	.063	-.060	-1.152	.250
	PerApp	.093	.046	.168	2.031	.043
	PerAvoid	.133	.049	.221	2.691	.007
2	(Constant)	1.148	.149		7.682	.000
	Mastery	.040	.062	.033	.644	.520
	PerApp	.030	.043	.055	.717	.474
	PerAvoid	.073	.045	.121	1.622	.106
	Career_Mat	.067	.054	.065	1.245	.214
	Personal	-.033	.010	-.192	-3.216	.001
	Humanitarian	.071	.042	.095	1.686	.093
	Default	.224	.038	.335	5.887	.000
	Expectations	.045	.035	.073	1.269	.205
	Prove Worth	.059	.028	.138	2.082	.038
	Encouragement	.022	.039	.038	.572	.568
	Help Family	.010	.022	.022	.430	.667

Appendix A

Patterns of Adaptive Learning Scale (PALS)**Personal Achievement Goal Orientations**Mastery Goal Orientation

- 1 It's important to me that I learn a lot of new concepts this year.
- 2 One of my goals in class is to learn as much as I can.
- 3 One of my goals is to master a lot of new skills this year.
- 4 It's important to me that I thoroughly understand my class work.
- 5 It's important to me that I improve my skills this year.

Performance-Approach Goal Orientation

8. It's important to me that other students in my class think I am good at my class work.
26. One of my goals is to show others that I'm good at my class work.
41. One of my goals is to show others that class work is easy for me.
45. One of my goals is to look smart in comparison to the other students in my class.
48. It's important to me that I look smart compared to others in my class.

Performance-Avoid Goal Orientation

3. It's important to me that I don't look stupid in class.
33. One of my goals is to keep others from thinking I'm not smart in class.
51. It's important to me that my teacher doesn't think that I know less than others in class.
55. One of my goals in class is to avoid looking like I have trouble doing the work.

Midgley, C., Maehr, M. L., Huda, L. Z., Anderman, E., Anderman, L., Freeman, K. E., Gheen, M., Kaplan, A., Kumar, R., Middleton, M. J., Nelson, J., Roeser, R., & Urda, T., (2000). Manual for the Patterns of Adaptive Learning Scale. *Michigan*: The University of Michigan.

Appendix B

**Approaches and Study Skills Inventory for Student
(Short version)**

This questionnaire has been designed to allow you to describe, in a systematic way, how you go about learning and studying. The technique involves asking you a substantial number of questions which overlap to some extent to provide good overall coverage of different ways of studying. Most of the items are based on comments made by other students. Please respond truthfully, so that your answers will **accurately** describe your **actual** ways of studying, and work your way through the questionnaire quite **quickly**.

This part of this questionnaire asks you to indicate your relative agreement or disagreement with comments about studying again made by other students. Please work through the comments, giving your **immediate** response. In deciding your answers, think in terms of **this particular lecture course**. It is also very important that you answer **all** the questions: check you have.

5 = agree 4 = agree somewhat 3 = unsure 2 = disagree somewhat 1 = disagree

Try not to use 3 = unsure, unless you really have to, or if it cannot apply to you or your course

1. I manage to find conditions for studying which allow me to get on with my work easily.
2. When working on an assignment, I'm keeping in mind how best to impress the marker.
3. Often I find myself wondering whether the work I am doing here is really worthwhile.
4. I usually set out to understand for myself the meaning of what we have to learn.
5. I organize my study time carefully to make the best use of it.
6. I find I have to concentrate on just memorizing a good deal of what I have to learn.
7. I go over the work I've done carefully to check the reasoning and that it makes sense.
8. Often I feel I'm drowning in the sheer amount of material we're having to cope with.
9. I look at the evidence carefully and try to reach my own conclusion about what I'm studying.
10. It's important for me to feel that I'm doing as well as I really can on the courses here.

11. I try to relate ideas I come across to those in other topics or other courses whenever possible.
12. I tend to read very little beyond what is actually required to pass.
13. Regularly I find myself thinking about ideas from lectures when I'm doing other things.
14. I think I'm quite systematic and organized when it comes to revising for exams.
15. I look carefully at tutors' comments on course work to see how to get higher marks next time.
16. There's not much of the work here that I find interesting or relevant.
17. When I read an article or book, I try to find out for myself exactly what the author means.
18. I'm pretty good at getting down to work whenever I need to.
19. Much of what I'm studying makes little sense: it's like unrelated bits and pieces.
20. I think about what I want to get out of this course to keep my studying well focused.
21. When I'm working on a new topic, I try to see in my own mind how all the ideas fit together.
22. I often worry about whether I'll ever be able to cope with the work properly.
23. Often I find myself questioning things I hear in lectures or read in books.
24. I feel that I'm getting on well, and this helps me put more effort into the work.
25. I concentrate on learning just those bits of information I have to know to pass.
26. I find that studying academic topics can be quite exciting at times.
27. I'm good at following up some of the reading suggested by lecturers or tutors.
28. I keep in mind who is going to mark an assignment and what they're likely to be looking for.

29. When I look back, I sometimes wonder why I ever decided to come here.
30. When I am reading, I stop from time to time to reflect on what I am trying to learn from it.
31. I work steadily through the term or semester, rather than leave it all until the last minute.
32. I'm not really sure what's important in lectures so I try to get down all I can.
33. Ideas in course books or articles often set me off on long chains of thought of my own.
34. Before starting work on an assignment or exam question, I think first how best to tackle it.
35. I often seem to panic if I get behind with my work.
36. When I read, I examine the details carefully to see how they fit in with what's being said.
37. I put a lot of effort into studying because I'm determined to do well.
38. I gear my studying closely to just what seems to be required for assignments and exams.
39. Some of the ideas I come across on the course I find really gripping.
40. I usually plan out my week's work in advance, either on paper or in my head.
41. I keep an eye open for what lecturers seem to think is important and concentrate on that.
42. I'm not really interested in this course, but I have to take it for other reasons.
43. Before tackling a problem or assignment, I first try to work out what lies behind it.
44. I generally make good use of my time during the day.
45. I often have trouble in making sense of the things I have to remember.
46. I like to play around with ideas of my own even if they don't get me very far.

47. When I finish a piece of work, I check it through to see if it really meets the requirements.
48. Often I lie awake worrying about work I think I won't be able to do.
49. It's important for me to be able to follow the argument, or to see the reason behind things.
50. I don't find it at all difficult to motivate myself.
51. I like to be told precisely what to do in essays or other assignments.
52. I sometimes get 'hooked' on academic topics and feel I would like to keep on studying them.

Tait, H., Entwistle, N. J., & McCune, V. (1998). *ASSIST: a reconceptualisation of the Approaches to Studying Inventory*. In C. Rust (ed.) *Improving students as learners*. Oxford: Oxford Brookes University, The Oxford Centre for Staff and Learning Development.

Appendix C

Student Motivations for Attending University

Indicate the motivations for you attending your University.

Career/Personal

21. To help me earn more money
16. To obtain the "finer things in life"
25. To achieve a position of higher status in society
11. To achieve personal success
23. To improve my intellectual capacity
3. To get into an interesting and satisfying career
6. To understand the complexities of life
1. It gives me the opportunity to study and learn
28. To understand complexities of the modern world

15. To develop myself personally

Humanitarian

18. To contribute to the improvement of the human condition

9. To contribute to the welfare of others

19. To make meaningful changes to the “system”

4. To help people who are less fortunate.

Default

22. There are few other options

5. It is better than the alternatives

31. Had no choice but to come to college

10. I don't get anything out of my courses

27. I often ask myself why I'm in university

17. There were pressures on me from my friends

Expectation

13. Parents/family would be very disappointed

33. Would let parents/family down if I didn't succeed

29. There were pressures on me from parents/family

24. I owe it to parents/family to do well in college

12. I am expected to get a degree

Prove Worth

14. To prove wrong those who expected me to fail

2. To prove wrong those who thought I was not “college material”

20. To prove to others that I can succeed in college

Encouragement

30. Someone I admired or respected encouraged me

8. I was encouraged by a mentor or role model

26. There was someone who believed I could succeed

Help Family

7. To get an education in order to help my parents/family financially

32. It would allow me to help parents/family financially

Cote', J., & Levine, C. (1997). Student motivations, learning environments, and human capital acquisition: Toward an integrated paradigm of student development. *Journal of College Student Development*, 38, 229-243

Appendix D

Information to Consider about this Research**Examining the Relationship between Student Motivation for Attending University and Study Approaches**

Principal Investigator: Lucia Rodriguez

Faculty Adviser: Dr. Lindsay Masland

Department: Psychology

Contact Information: rodriguez11@appstate.edu or maslandlc@appstate.edu

You are invited to participate in a research study about student beliefs regarding the purpose of college and study approaches to academic material.

If you agree to be part of the research study, you will be asked to answer 3 questionnaires and a series of brief demographic questions; this process should not take more than 30 minutes. These main surveys will not be linked to your identifying information, so all responses will be kept anonymous and will not be linked to you in any way.

You will not be paid for your participation in this study. However, you can earn 1 ELC credit for your participation. Your ELC credit will be distributed electronically using the SONA system in the Department of Psychology when you have completed the main surveys. There are other research options and non-research options for obtaining ELC's. One non-research option to receive 1 ELC is to read an article and write a 1-2 page paper summarizing the article and your reaction to the article. More information about this option can be found at: psych.appstate.edu/research.

Participating in this study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. You may choose not to answer any survey questions or finish the surveys for any reason.

If you have any questions or concerns about the nature of this research or the survey please contact Lucia Rodriguez, Senior Psychology Student, Appalachian State University, rodriguez11@appstate.edu or Dr. Lindsay Masland, Assistant Professor of Psychology, 300-D Smith-Wright Hall, Appalachian State University, 828-262-2272, maslandlc@appstate.edu or irb@appstate.edu.

The Appalachian State University Institutional Review Board (IRB) has determined that this study is exempt from IRB oversight.

By continuing to the research procedures, I acknowledge that I am at least 18 years old, have read the above information, and agree to participate.

Appendix E

To: Lucia Rodriguez
Psychology
CAMPUS EMAIL

From: Monica Molina, IRB Associate Administrator
Date: 11/02/2016
RE: Notice of IRB Exemption

STUDY #: 17-0101

STUDY TITLE: Examining the Relationship between Student Motivation for Attending University and Study Approaches

Exemption Category: (2) Anonymous Educational Tests; Surveys, Interviews or Observations

This study involves minimal risk and meets the exemption category cited above. In accordance with 45 CFR 46.101(b) and University policy and procedures, the research activities described in the study materials are exempt from further IRB review.

All approved documents for this study, including consent forms, can be accessed by logging into IRBIS. Use the following directions to access approved study documents.

- 6 Log into IRBIS
- 7 Click "Home" on the top toolbar
- 8 Click "My Studies" under the heading "All My Studies"
- 9 Click on the IRB number for the study you wish to access
- 10 Click on the reference ID for your submission
- 11 Click "Attachments" on the left-hand side toolbar
- 12 Click on the appropriate documents you wish to download

Study Change: Proposed changes to the study require further IRB review when the change involves:

- e. an external funding source,
- f. the potential for a conflict of interest,
- g. a change in location of the research (i.e., country, school system, off site location),
- h. the contact information for the Principal Investigator,
- i. the addition of non-Appalachian State University faculty, staff, or students to the research team, or
- j. the basis for the determination of exemption. Standard Operating Procedure #9 cites examples of changes which affect the basis of the determination of exemption on page 3.

Investigator Responsibilities: All individuals engaged in research with human participants are responsible for compliance with University policies and procedures, and IRB determinations. The Principal Investigator (PI), or Faculty Advisor if the PI is a student, is ultimately responsible

for ensuring the protection of research participants; conducting sound ethical research that complies with federal regulations, University policy and procedures; and maintaining study records. The PI should review the IRB's list of PI responsibilities.

To Close the Study: When research procedures with human participants are completed, please send the Request for Closure of IRB Review form to irb@appstate.edu.

If you have any questions, please contact the Research Protections Office at (828) 262-2692 (Robin).

Best wishes with your research.