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Perceptions of Intelligence and Academic Achievement Among Undergraduate Students with Learning Disorders

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This research is a product of the Doctor of Psychology (PsyD) program at George Fox University. Find out more about the program.

Perceptions of Intelligence and Academic Achievement Among

Undergraduate Students with Learning Disorders

by

Ashley Blake

Presented to the Faculty of the

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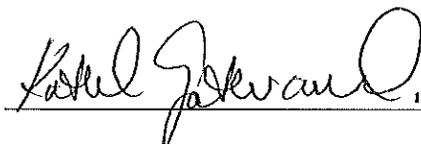Learning Disorders

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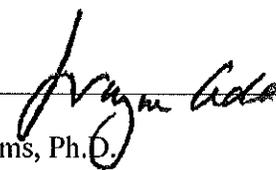Graduate Department of Clinical Psychology

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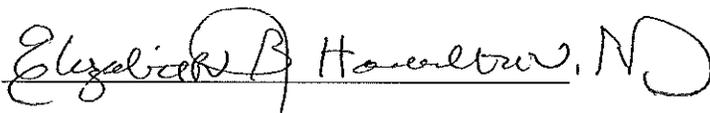
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Abstract

Students with learning disorders are one of the largest and fastest growing populations of

college students with disabilities, yet many experience significant difficulty in formal academic

settings. These challenges may include lower levels of academic achievement, negative

perceptions of school, and negative perceptions of themselves. Research has shown that certain

variables, including implicit theory of intelligence, goal orientation, and self-efficacy, are related

to academic achievement. The current study sought to assess the relationships between these

variables and academic achievement, as measured by cumulative GPA, among a sample of

college students with identified learning disorders. Results showed medium to large correlations

between self-efficacy scales and GPA. There was no relationship between implicit theory of

intelligence and college GPA, though a small negative relationship with high school GPA.

Additional small correlations were found between goal orientation and GPA, implicit theory of

intelligence and goal orientation, and implicit theory of intelligence and self-efficacy. When compared to a control group, students with learning disorders had similar GPAs and were no more likely to endorse a fixed view of intelligence. Though this sample did not differ significantly from the control group, some of the relationships among the variables may warrant further investigation as areas of intervention among this population.

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Chapter 1

Introduction

A learning disorder (LD) is a condition where an individual's academic performance on an individually administered, standardized test is significantly below where it should be, based on his or her age, education, and level of intelligence, according to the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; *DSM-IV-TR*; American Psychiatric Association [APA], 2000). Within the *DSM-IV-TR*, learning disorders are separated into three categories: reading disorder, mathematics disorder, and disorder of written expression, with a fourth category for learning disorders that are not otherwise specified. In the recently released fifth edition of the manual (*DSM-5*), all learning disorders are combined under one overall diagnosis: specific learning disorder (APA, 2013). This change accounts for shortcomings in general academic skills, and specifiers are available to further detail difficulties in the area of reading, writing, or math.

Individuals with a learning disorder experience significant difficulty in formal academic settings, as well as activities of daily living that involve reading, writing, or mathematical skills. Historically, the school drop-out rate for those with a learning disorder has been up to 40%, and they may have difficulty in employment or social adjustment (APA, 2000). However, with proper diagnosis and personalized academic support, opportunities for higher academic achievement are increasing, and more students with learning disorders are pursuing post-secondary education.

Students with learning disorders are one of the largest and fastest growing populations of college students with disabilities, with more than three million students enrolled in postsecondary education (Foley, 2006; Orr & Goodman, 2010). This group has more than tripled in size over the past three decades (Connor 2012). However, these students tend to experience less successful academic outcomes. LD college students have poor retention and degree completion rates (Orr & Goodman, 2010). Only 28% of LD college students graduate from either a 2- or 4-year college program (Connor, 2012). Multiple studies have found that LD students across ages and grade levels tend to have lower levels of academic achievement when compared to their non-LD peers (Baird, Scott, Dearing, & Hamill, 2009; DaDeppo, 2009; Lackaye & Margalit, 2008).

As a group, LD students experience a unique set of challenges and obstacles beyond their disability, particularly in an academic environment. Students with learning disorders tend to have more negative perceptions of school (DaDeppo, 2009; Irvin et al., 2011; Orr & Goodman, 2010). LD adolescents are more likely to rate their mood as more negative, report more negative social-emotional perceptions, report lower levels of hope, and less investment of effort in their academic work, even when academic performance is controlled for (Lackaye, Margalit, Ziv, & Ziman, 2006; Lackaye & Margalit, 2008). In the Lackaye et al. study (2006), even some LD students with high academic achievement reported low levels of hope. While in high school, they are less likely to plan to go to college (Irvin et al., 2011). For students who do go on to college, their emotions, identities, and self-concepts continue to be impacted by their learning disorder. In interviews conducted with LD college students by Orr and Goodman (2011), participants frequently endorsed feeling embarrassed and ashamed of their learning difficulties. Many spoke

of feeling stupid, lazy, unmotivated, scared, and overwhelmed, even after achieving academic success in college.

LD students tend to experience higher levels of clinical symptomatology. In one meta-analysis, it was shown that school-aged students with learning disorders had higher mean scores on measures of anxiety than non-LD students (Nelson & Harwood, 2011). However, in none of the studies sampled did the participants have scores in the clinically significant range, on average, indicating that while LD students may experience more anxious symptoms than their non-LD peers and be at greater risk for developing an anxiety disorder, most would not meet criteria for a clinical diagnosis.

Heath and Ross (2000) compared children with and without learning disorders on depressive symptoms. They found that while the mean level of depressive symptoms did not differ between LD and non-LD students, the prevalence of depression was different, particularly for girls with learning disorders, who reported higher levels of depressive symptoms, higher prevalence of depression, more negative mood, and higher levels of negative self-esteem. Maag and Reid (2006) conducted a meta-analysis of the prevalence of depression in LD students, which showed that LD students have significantly higher scores on measures of depression than their non-LD peers. However, like the Nelson and Harwood (2011) study, these levels were not, on average, in the clinically significant range. While LD students are more likely to experience depressive symptoms, they are no more likely to be diagnosed with a major affective disorder than the general population (Maag & Reid, 1994). This is an important distinction: students with learning disorders may experience additional subjective distress in the form of depressive or anxious symptoms, but if these symptoms do not cross the threshold that defines a clinical

diagnosis, they may be minimized or disregarded, even though they may impact self-concept and academic performance.

The relationship between one's self concept and performance can be cyclical in nature. Students with LD typically have a history of poor academic performance before diagnosis (Baird et al., 2009). According to motivation researchers, poor performance can lead students to doubt their intellectual abilities. This in turn leads to reduced effort, which further impacts performance and results in poor academic outcomes (Hampton & Mason, 2003; Klassan & Lynch, 2007). Baird et al. (2009) suggest that interventions for students with learning disorders should target a wider range of cognitive self-regulatory processes. This may include examining how they perceive themselves and their abilities and designing interventions that address those variables. The current study aims to explore three variables—implicit theory of intelligence, goal orientation, and self-efficacy.

Implicit theories of intelligence

Implicit theories of intelligence are beliefs about the nature of intelligence (Dweck 1999). Dweck identified two implicit theories of intelligence: an "entity" theory and an "incremental" theory. Individuals who adhere to the entity theory (referred to as "entity theorists") view their intelligence as a fixed and unchangeable trait. They would agree with statements such as "Your intelligence is something about you that you can't change very much." Intelligence is a stable entity, according to this view, and cannot be controlled. Entity theorists tend to believe that learning does not increase underlying intelligence; people can learn new things, but their intelligence remains the same. Those who adhere to the incremental theory (referred to as "incremental theorists"), on the other hand, view their intelligence as a malleable trait, which can

be increased with effort. They would agree with statements such as "You can develop your

intelligence if you really try." Incremental theorists tend to believe that intelligence is

controllable, and it can be developed with investment in learning (Dweck, 1999).

An individual's beliefs about the nature of intelligence significantly impact the way they

approach challenging intellectual tasks (Dweck & Leggett, 2000; Mihlon, 2010). When students

consider their own intelligence to be an unchangeable characteristic, they tend to avoid tasks that

might challenge them beyond their perceived intellectual competence. They are more likely to

attribute their negative outcomes to a fixed trait, such as intelligence. Success is valued, and

failure may be seen as an indication of a lack of intellectual ability. Therefore, they are more

likely to make choices that ensure they will perform well, such as enrolling in a lower-level

course because it is more likely they will achieve a higher grade (Hong, Chiu, Dweck, Lin, &

Wan, 1999). Entity theorists tend to adopt performance goals: such as getting a good grade

regardless of how well they learned the material, believing the good grade signifies to them a

direct indication of a satisfactory level of intellectual ability (Payne, Youngcourt, & Beaubien,

2007, Robin & Pals, 2002).

Incremental theorists, however, are more likely to seek tasks that challenge them

intellectually, for example taking a higher level math course in school, even with equal levels of

intelligence as entity theorists. They believe their intelligence can be increased through effort,

and challenging tasks facilitate intellectual growth. Compared to entity theorists, incremental

theorists are less likely to be threatened by failure, because they understand negative outcomes

relative to the amount of effort they may have put into the task. They are more likely to go back

and try again if their performance on a task was unsatisfactory (Dweck et al., 1999). Incremental

theorists tend to adopt mastery goals: such as learning the material of a class, even if they do not receive the highest grade (Payne et al., 2007; Robin & Pals, 2002).

These constructs have been demonstrated in real-world context. In one study, junior high students with an incremental theory were more likely to believe that effort leads to positive outcomes, utilize positive strategies when presented with a hypothetical academic scenario, endorse learning goals, make non-helpless self-attributions, and achieve higher grades in mathematics in subsequent semesters (Blackwell, Trzesniewski, & Dweck, 2007). In one sample of Australian high school students, endorsing an entity theory was predictive of fewer achievement goals, greater helplessness attributions, lower academic performance, as well as an increased risk for self-handicapping, truancy, and disengagement from school (De Castella & Byrne, n.d.). The positive outcomes associated with an incremental theory have also been demonstrated in a multicultural context (Abdullah, 2008; Delavar, Ahadi, & Barzegar, 2011).

In the college context, an entity theory is associated with more negative outcomes. Students who adhere to an entity theory are more likely to demonstrate a helpless response pattern when challenged (Robin & Pals, 2002). Robin and Pals found in their sample that entity theorists were more likely to give up in challenging situations, feel more distressed about their academic performance, and have lower self-esteem, despite performing as well as incremental theorists within the same sample. Mihlon (2010) also found that entity theorists displayed a helpless response: when faced with a highly difficult vocabulary task, they were more likely to ask for the answer to the problem rather than a hint that would help them solve the problem themselves.

A person's implicit beliefs about intelligence are generally stable after high school and through college (Robin & Pals, 2002). However, there is evidence that one's implicit theory can be influenced. Frequently praising students for their intelligence, rather than effort, can lead them to adopting an entity view (Dweck, 1999; Mueller & Dweck, 1998). Conversely, one study found that teaching an incremental theory to 7th graders promoted positive change in classroom motivation, compared with a control group (Blackwell et al., 2007). Anderson (2010) found that teaching incremental theory as a metaphor (using the mind as a muscle) increased college students' willingness to accept learning challenges on a test of statistical literacy, as well as increased overall scores on the test.

Most of the research examining this theory in an LD population has been conducted with children and adolescents. One of the most relevant studies measured implicit theory of intelligence, among other variables, in LD students that were in the 6th through 12th grade (Baird et al., 2009). They found that LD students were more likely to believe that intelligence was fixed and nonmalleable (entity theory), were more likely to prefer performance over learning goals, were more likely to possess low academic self-efficacy, and were more likely to believe that exerting effort to complete a task meant that they were less capable. Another study demonstrated that teaching an incremental theory to children with reading difficulties resulted in a significant increase in reading performance (Pepi, Alesi, & Geraci, 2004)

Goal Orientation

Goal orientation refers to a person's goal preferences in an achievement situation (Payne et al., 2007). Goal preferences fall into two categories: learning goals or performance goals (Dweck, 1986). A person with a learning goal is interested in gaining knowledge for its own

sake, regardless of their performance of a task or judgment from others. It is a self-referent goal, and success is measured against oneself (Nicholls 1975, 1978). For example, a student might take a difficult class and view it as beneficial if they learned a lot on the topic, even if they got a lower grade than others in the class. A person with a performance goal, however, is interested in performing well to gain favorable judgment or avoid negative judgment from other people (Dweck, 1986). Success is measured in reference to others. For example, a student might take an easier course in order to get a high grade, regardless of how much they actually learn in the class. Adopting performance goals has been associated with more negative outcomes; particularly those with performance goals are more prone to a helpless learning response when they receive negative feedback (Baird et al., 2009).

Research shows that a malleable view of intelligence is associated with setting learning goals and a fixed view of intelligence is associated with performance goals (Dweck & Leggett, 1988; Payne et al. 2007; Robins & Pals, 2002). This is consistent with the theoretical basis of implicit theory of intelligence. If someone believes they can grow and develop their intelligence, it is logical that they would set learning goals in an effort to develop their knowledge. In contrast, if someone believes that they cannot change their intelligence, setting goals beyond their perceived level of competence would be useless.

The relationship between beliefs about intelligence and goal orientation is influenced by self-efficacy (Abdullah, 2008). Individuals who believe that intelligence is malleable (incremental theory) *and* that they are capable of acting to develop that intelligence (self-efficacy) are more likely to set learning goals (Payne et al. 2007).

Self-efficacy

Self-efficacy refers to a person's judgment of their capabilities to perform actions to attain a goal (Bandura & Locke, 2003). Self-efficacy is relatively malleable and can vary based on the task and the interaction with an individual's experiences (Hughes, Galbraith, & White, 2011). Self-efficacy affects a person's behavior and how he or she interacts with their environment. These experiences, in turn, influence one's self-efficacy (Schunk & Meece, 2005). Individuals with high self-efficacy tend to have constructive thoughts, expand greater efforts, and persist longer in challenging tasks than those with low self-efficacy. Those with high self-efficacy are more likely to believe that intelligence is a malleable trait, which can be enhanced with efforts, and they are more likely to engage in learning activities purely for the sake of enhancing their own knowledge because they believe that they can become more intelligent (Pajares, 2005). Conversely, Kanfer (1990) suggested individuals who view their intelligence as fixed have lower levels of general self-efficacy than individuals who view their intelligence as malleable—essentially, if someone believes that they cannot act to change or develop a trait such as intelligence, they are less likely to have confidence in their capability to. This association between a fixed view of intelligence and lower self-efficacy has been supported by research (Abdullah, 2008, Baird et al., 2009; Payne et al., 2007).

Research has also demonstrated that individuals with learning disorders tend to have lower levels of self-efficacy (Hampton & Mason, 2003; Klassen & Lynch, 2007; Klassen, Krawchuk, Lynch, & Rajani, 2008; Lackaye et al., 2006; Lackaye & Margalit, 2008). Hampton and Mason (2003) suggested that one's learning disorder may have an indirect effect on self-efficacy beliefs through its influence on the sources of self-efficacy. Self-efficacy beliefs are

developed through previous accomplishments, exposure to efficacious models, support from others, and the experience of emotional or physiological arousal during the performance of a task. If someone has a learning disorder, they are more likely to experience difficulty or failure in certain tasks, or experience a negative emotional state during a task performance. Essentially, they argued that LD students had less access to the four identified sources of self-efficacy, which negatively affected their self-efficacy beliefs.

Given the context of the current study, it is important to differentiate general self-efficacy from academic self-efficacy. Academic self-efficacy refers to a person's judgment of their capability to perform a specific academic task or behavior in a given context (Bandura, 1993). Similar to general self-efficacy, a student with a higher sense of academic self-efficacy tends to perform better on academic tasks than a student with a lower sense of academic self-efficacy, even when actual academic ability is similar (Baird et al., 2009). In one study that examined cognitive strategies used by children with low academic ability, those with higher academic self-efficacy were more likely to use effective cognitive strategies and persist longer in challenging tasks (Schunk, 1989). Possessing a high level of academic self-efficacy is also associated with an incremental view of intelligence, a preference of learning goals over performance goals, and a more adaptive view of exerting effort during learning tasks (Baird et al., 2009). However, similar to general self-efficacy, students with learning disorders tend to endorse lower levels of academic self-efficacy (Lackaye & Margalit, 2008)

There have been studies that have examined the relationship between implicit theories and self-efficacy (Mihlon, 2010), and implicit theories and goal orientation (Blackwell et al., 2007; Delavar et al., 2011; O'Keefe, 2010; Robin & Pals, 2002). There have also been studies

that have including all three variables: implicit theory of intelligence, goal orientation, and self-efficacy (Abdullah, 2008; Baird et al., 2009; Payne et al., 2007); however, both Abdullah (2008) and Baird et al. (2009) sampled children. Payne et al. (2007) conducted a meta-analysis that included over one dozen variables in an adult population, though they did not differentiate between educational settings and occupational settings. Relevant studies that have sampled only undergraduate students (Delavar et al., 2011; Mihlon, 2010; O'Keefe, 2009; Robin & Pals, 2002) have not included students with an identified learning disorder. .

It has been demonstrated that college students with learning disorders tend to have lower levels of academic achievement, as well as a host of negative perceptions about school and academic pursuits. As the literature suggests, a fixed view of intelligence, low general self-efficacy, low academic self-efficacy, and a preference for performance goals over learning goals are all associated with lower academic achievement. Are these variables also associated with lower academic achievement in students with learning disorders? Can these variables predict academic achievement in this population? The current study aims to explore these variables, how they relate to each other, and how they may impact academic achievement among college students who have an identified learning disorder.

If the findings of this study follow the expectations set forth by the literature, then it may provide additional areas to address through intervention. For example, studies have shown that implicit theories of intelligence can be influenced and changed, and academic achievement subsequently increases (Anderson, 2009; Blackwell et al., 2007). If this population demonstrates a particular tendency, targeted interventions may be useful beyond traditional accommodations in assisting students to maximize their academic potential.

Hypotheses

The hypotheses of this study are as follows:

H1. Students with a learning disorder will be more likely to endorse an entity view of intelligence.

H2. Students who endorse an entity view of intelligence will have lower academic achievement when compared to those students who endorse a incremental view of intelligence.

H3. Students who endorse an entity view of intelligence will have lower self-efficacy when compared to those students who endorse an incremental view of intelligence.

H4. Students who endorse an entity view of intelligence will endorse a preference for performance goals over learning goals

H5. Students who report lower levels of self-efficacy will have lower academic achievement

H6. Students who report preference for performance goals over learning goals will have lower academic achievement.

Chapter 2

Methods

Participants

Participants with identified learning disorders were recruited from three colleges in Oregon: George Fox University, Concordia University, and Linfield College. All three of these institutions qualify as small colleges with a student population of less than 5,000 students. They list similar policies for students to document their learning disability: a student must provide recent documentation, which was completed by a qualified professional, such as a psychologist, psychiatrist, or doctor. Documentation must describe the disability and provide recommendations for specific accommodations.

There were 19 participants in the learning disorder group, with 73% identified as females and 26% identified as males. Of the participants, 52% identified as European American, 21% as Hispanic/Latino, 5% Asian/Pacific Islander, 5% American Indian, 10% multiracial, and 5% preferred not to identify. Thirty-one percent were in their first year of college, 15% in their second year, 31% in their third year, and 21% in their fourth year. The average age was 20.8 with a standard deviation of 2.9. Forty-two percent were diagnosed with a reading disorder, 31% had a math disorder, 10% had a written disorder, and 31% had a learning disorder not otherwise specified.

A control group of students without learning disorders was recruited from University of Northern Colorado and completed in-person surveys. There were 21 participants, with 60%

females and 40% males; 68% identified as European American, 9% as Black/African American,

9% Hispanic/Latino, 5% Asian/Pacific Islander, 5% multiracial, and 5% preferred not to identify.

Materials and Instruments

       Theory of Intelligence Scale—Self Form for Adults. The Theory of Intelligence Scale

(TIS; Dweck, 1999) was developed based on years of research by Dweck and colleagues. It

assesses an individual's beliefs about the nature of intelligence, and whether it is something that

can be changed. The scale is composed of eight items, which load onto two factors: entity and

incremental. Entity items include "You have a certain amount of intelligence, and you cannot

really do much to change it," and incremental items include "You can always substantially

change how intelligent you are." Items are rated on a Likert scale from 1 (*strongly agree*) to 6

(*strongly disagree*). Incremental items are reverse scored, so that a higher average score (over 3)

indicates an incremental theory, and a lower average score (3 or less) indicates an entity theory.

Originally, the measure included only entity items, as incremental items tended to be highly

compelling and would be endorsed even among those who also endorsed entity items (Dweck,

Chiu, & Hong, 1995). However, incremental items were designed that were not as appealing and

show a high negative correlation with entity items (Dweck, 1999).

       Across six validation studies, the internal reliability of the measure ranged from .94 to .98

(Dweck et al., 1995). Test-retest reliability over a two-week interval was .80. The discriminant

validity of the measure was assessed, and it is not correlated with measures of optimism, political

ideology, religious preference, religiosity, cognitive or motivational styles, or cognitive abilities.

Implicit theories about different human attributes (such as intelligence and morality) were also

shown to be statistically independent (Dweck et al., 1995).

Goal Choice Questionnaire. The questions on the Goal Choice Questionnaire were developed by Dweck (1999) based on several years of research on goal orientation in relation to implicit theory of intelligence. There are three items that are rated on a Likert scale, from 1 (*strongly agree*) to 6 (*strongly disagree*). Two items indicate a preference for performance goals over learning goals ("If I knew I wasn't going to do well on a task, I probably wouldn't do it, even if I might learn a lot" and "I would rather do well in a class than learn a lot"). One item indicates a preference for learning goals over performance goals (It is much more important for me to learn things than it is to get the best grades") and it is reversed scored. A higher average score (over 3) indicates a preference for learning goals, while a lower average score (3 or less) indicates a preference for performance goals. The final item asks for preference directly: participants are asked to choose between getting a good grade (a performance goal) or being challenged in class (a learning goal).

Unlike other measures of goal orientation, which measure learning and performance goals separately, Dweck's model pits learning goals against performance goals. She argued that both entity and incremental theorists value learning and performance goals when measured separately, therefore questionnaires that measure them separately find no difference between entity and incremental theorists. However, by asking a question that pits these two goals against each other (such as "It's much more important for me to learn things in my classes than it is to get the best grades"), preference can be assessed.

College Self-Efficacy Inventory. The College Self-Efficacy Inventory (CSEI) was designed specifically to describe self-efficacy beliefs within a college student population (Solberg, O'Brien, Villarreal, Kennel, & Davis, 1993). It assesses a student's beliefs in his or her

ability to complete a wide range of behaviors common in a college environment. It is a self-report questionnaire, and participants are asked to rate their confidence in their ability to complete 20 tasks, including "write course papers," "ask a question in class," and "talk to your professors." Items scored on a Likert scale from 1 (*not at all confident*) to 10 (*extremely confident*), with higher scores indicating higher levels of self-efficacy. It includes three sub scales: academic self-efficacy, social self-efficacy, and roommate self-efficacy.

It has demonstrated convergent validity through positive correlations with measures of academic integration, parental, and peer support; divergent validity was demonstrated through negative correlations with measures of psychological and academic stress (Gore, Leuwerke, & Turley, 2006). The scale has also demonstrated high internal consistency. In the original validation study, coefficient alpha estimates were .93 for the total inventory, and .88 for each of the sub-scales. Gore et al. (2006) also found high reliability (.92) for the total inventory. Subsequent studies have repeatedly found high internal consistency coefficients for each of the subscales, ranging from .83 to .89 (Gore, et al., 2006; Wernersbach, 2011).

Three additional items were added at the end of the CSEI, asking participants to rate their confidence in their ability to have a successful marriage, be successful at a job, and be a good parent. Items are scored on the same 10-point Likert scale. These additional items will not be included in the final CSEI score, but will provide qualitative data regarding the participant's self-efficacy beliefs outside of an academic context.

Patient Health Questionnaire 9. The Patient Health Questionnaire 9 (PHQ-9) is a nine-question screening tool that measures depressive symptoms, based on the *DSM-IV-TR* (2000) criteria for depressive disorders (Kroenke, Spitzer, & Williams, 2001). It is a self-report

questionnaire, which is a module of the larger Patient Health Questionnaire. Participants are

asked to rate how often they experienced a symptom within the past two weeks using a Likert

scale ranging from 0 (*not at all*) to 3 (*nearly every day*). Items include "Little interest or pleasure

in doing things" and "feeling tired or having little energy." The scores for each item are totaled

together, with higher scores indicating higher likelihood of a depressive disorder and higher

severity.

Internal reliability of the PHQ-9 is consistently high, with Cronbach's alpha ranging from

0.86 to 0.89 (Kroenke et al., 2001). Test-retest reliability was also high, as correlation between

scores taken within 48 hours were 0.84. It discriminates well between those with and without

depression. PHQ-9 scores higher than 10 had a sensitivity of 88% and a specificity of 88% for

Major Depressive Disorder. Positive likelihood ratios ranged from 0.04 for PHQ-9 scores of 0-4

to 36.8 for PHQ-9 scores of 20-27. For example, a patient who scores a 20 in the PHQ-9 is 36.8

times as likely to be diagnosed with depression. Construct validity was measured by comparing

the PHQ-9 to the Short Form Health Survey (SF-20). PHQ-9 was correlated highest with the

mental health subscale (0.73), followed by general health perceptions (0.55), social functioning

(0.52), role functioning (0.43), physical functioning (0.37), and bodily pain (0.33).

General Anxiety Disorder 7. The Generalize Anxiety Disorder 7 (GAD-7) is a brief

seven-question screening tool that measures anxiety symptoms, based on the *DSM-IV-TR* (2000)

criteria for anxiety disorders (Spitzer, Kroenke, Williams, & Löwe, 2006). It is a self-report

questionnaire, which includes items such as "feeling nervous, anxious, or on edge" and "trouble

relaxing." Participants rate each item on a Likert scale ranging from 0 (*not at all*) to 3 (*nearly*

every day). The scores for each item are totaled together, with higher scores indicating higher

likelihood of an anxiety disorder and higher severity.

Internal reliability of the GAD-7 is high, with Cronbach's alpha equal to 0.93 (Spitzer et

al., 2006). Test-retest reliability was also high: the correlation between self-report and clinician-

administered versions was 0.83. When GAD-7 scores are 10 or above, sensitivity was 89% and

specificity was 82%. Construct validity was measured by comparing the GAD-7 to the SF-20.

The GAD-7 was highly correlated with the mental health subscale (0.75), followed by the social

functioning (0.46), general health perceptions (0.44), bodily pain (0.36), role functioning (0.33),

and physical functioning (0.30). Convergent validity was measured by comparing the GAD-7 to

the Beck Anxiety Inventory (r = 0.72) and the anxiety subscale of the Symptom Checklist-90

(r = 0.74).

Academic achievement. Academic achievement was assessed by cumulative college

GPA. Most studies that have compared variables such as implicit theory of intelligence and self-

efficacy to college achievement have used GPA as a reliable and practical measure of

achievement (Aronson, Fried, & Good, 2002; Blake & Rust, 2002; DaDeppo, 2009; Elias &

Macdonald, 2007; O'Keefe, 2009; Robins & Pals, 2002). Other indicators of academic

achievement that have been used in similar studies include high school GPA (Blake & Rust,

2002; DaDeppo, 2009; Elias & Macdonald, 2007; Robins & Pals, 2002), semester grades in

required classes such as math, history, and English (Aronson et al., 2002; Blackwell et al., 2007;

Hampton & Mason, 2003; Lackaye & Margalit, 2008) and SAT scores (Robins & Pals, 2002;

DaDeppo, 2009).

Procedures

      Participants were recruited through the disability services office of their respective

university. The disability services coordinator at each school forwarded an invitation email to

students who had submitted documentation of an identified learning disorder to the disability

services office within the current school year. This method was preferred in order to reach the

maximum number of targeted students. It also ensured that confidentiality and anonymity were

preserved, as the researcher did not need to access student files in order to solicit appropriate

students, and university employees did not know who completed the surveys.

      The email, written by the researcher, explained the purpose of the survey and contained a

link to a survey on Survey Monkey. Students were informed that the research was sent to

individuals with learning disorders, and they were aware of why they were contacted. In order to

accommodate any reading difficulties the participant may have experiences as a result of their

learning disorder, a link was provided on the first page of the survey, which opened a window

with an audio recording of the researcher reading the informed consent, the demographics

questionnaire, and each item of the survey. After informed consent (see Appendix A) was

obtained, participants completed the rest of the survey in the following order: the Theory of

Intelligence Scale (Flesch-Kincaid grade level: 5.1; see Appendix B), Goal Choice Questionnaire

(Flesch-Kincaid grade level: 4.9; see Appendix C), College Self-Efficacy Inventory (Flesch-

Kincaid grade level: 4.5; see Appendix D) the PHQ-9 (Flesch-Kincaid grade level: 7.1; see

Appendix E), the GAD-7 (Flesch-Kincaid grade level: 7.6; see Appendix F), and demographics

questionnaire (Flesch-Kincaid grade level: 8.3; see Appendix G). As reimbursement for their

participation, those who completed the survey had the option of submitting an email address to

enter into a drawing for one of two $25 gift cards to Amazon.com, funded by the researcher.

Chapter 3

Results

The Theory of Intelligence Scale—Self Form for Adults was used to assess participant's implicit theory of intelligence. Participant's reported cumulative college GPA and high school GPA was used to assess academic achievement. The PHQ-9 assessed depressive symptoms, and the GAD-7 assessed anxiety symptoms. The Goal Choice Questionnaire was used to assess goal orientation, and the College Self-efficacy Inventory was used to assess self-efficacy. Table 1 shows the means and standard deviations of theory of intelligence, college and high school GPA, depression and anxiety scores, which was assessed with LD and non-LD students. Table 2 shows the means and standard deviations of goal orientation and college self-efficacy scores, as well as each of the self-efficacy subscales: academic, social, and roommate.

Table 1

Means and Standard Deviations for Theory of Intelligence, GPA, Depression, and Anxiety.

	Learning Disorder Group		Non-Learning Disorder Group	
	M	(*SD*)	*M*	(*SD*)
Theory of Intelligence	3.7	(1.1)	3.6	(1.4)
College GPA	3.1	(0.4)	3.4	(0.3)
High School GPA	3.3	(0.4)	3.2	(0.4)
Depression	6.3	(4.6)	5.2	(5.2)
Anxiety	6.1	(4.8)	4.7	(4.4)

Table 2

Means and Standard Deviations for Goal Orientation, and Self-efficacy.

	Learning Disorder Group	
	M	(*SD*)
Goal Orientation	3.2	(0.6)
College Self-efficacy	143.7	(24.3)
Academic Self-efficacy	6.5	(1.5)
Social Self-efficacy	7.3	(1.3)
Roommate Self-efficacy	7.3	(1.2)

The first hypothesis of this study was students with a learning disorder would be more likely to endorse a fixed view of intelligence when compared to a control group of students without a learning disorder. A chi square showed that there was no difference in the proportion of students who endorsed a fixed view of intelligence, *chi sq*(1) = .72, *p* = .40. A between-subjects ANCOVA was conducted to control for depression and anxiety, and all assumptions were met. There was no significant difference between LD participants and non-LD participants in theory of intelligence after controlling for depression and anxiety, $F(1, 37) = 0.90, p = .349$. An ANCOVA was also conducted to compare college GPAs and high school GPAs between LD participants and non-LD participants. The ANCOVA showed no significant differences for college GPA, $F(1, 36) = 0.47, p = .50$, or high school GPA, $F(1, 34) = 0.15, p = .70$, after controlling for depression and anxiety.

The second hypothesis was students who endorsed a fixed view of intelligence would have lower academic achievement when compared to students who endorsed a malleable view of intelligence. There was no correlation between theory of intelligence and college GPA, *r* = .04, *n*

= 16, p = .86, and a small negative correlation between theory of intelligence and high school

GPA, r = -.17, n = 14, p = .54. Additional analysis showed that there was a moderate correlation

between a student's year in school and his or her college GPA, r = .41, n = 16, p = .09, and a

moderate correlation between a student's year in school and their high school GPA, $r(14)$ = .36,

n = 14, p = .18. Table 3 shows correlations for theory of intelligence, college GPA, high school

GPA, and year in school.

Table 3

Theory of Intelligence and Academic Achievement Correlations

	Theory of Intelligence	College GPA	High School GPA	Year in School
Theory of Intelligence	1.0	.044	-.166	-.041
College GPA	.044	1.0	.309	.408
High school GPA	-.166	.309	1.0	.355
Year in School	-.041	.408	.355	1.0

Note. * Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the
0.01 level (2-tailed).

The third hypothesis was students who endorsed a fixed view of intelligence would have

lower self-efficacy when compared to those students who endorsed a malleable view of

intelligence. There was a small negative correlation between theory of intelligence and college

self-efficacy, r = -.13, n = 15, p = .60. There was also a small negative correlation between

theory of intelligence and social self-efficacy, r = -.18, n = 17, p = .46. There were no

correlations between theory of intelligence and academic self-efficacy, r = -.08, n = 17, p = .74,

or theory of intelligence and roommate self-efficacy, $r = -.07$, $n = 17$, $p = .79$. Table 4 shows

correlations for theory of intelligence and the self-efficacy scores.

Table 4

Theory of Intelligence and Self-efficacy Correlations

	Theory of Intelligence	College Self-efficacy	Academic Self-efficacy	Social Self-efficacy	Roommate Self-efficacy
Theory of Intelligence	1.0	-.128	-.083	-.179	-.065
College Self-efficacy	-.128	1.0	.924**	.945**	.802**
Academic Self-efficacy	-.083	.924**	1.0	.802**	.603**
Social Self-efficacy	-.179	.945**	.802**	1.0	.699**
Roommate Self-efficacy	-.065	.802**	.603**	.699**	1.0

Note. * Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

The fourth hypothesis was students who endorsed a fixed view of intelligence would

endorse a preference for performance goals over learning goals. There was a small negative

correlation between theory of intelligence and goal orientation such that a fixed theory of

intelligence was a weak predictor of performance goals, $r = -.21$, $n = 17$, $p = .38$.

The fifth hypothesis was students who report lower levels of self-efficacy would have

lower academic achievement. There was a large correlation between college GPA and college

self-efficacy, $r = .61$, $n = 16$, $p < .01$, and between college GPA and academic self-efficacy, $r =$

.66, $n = 16$, $p < .01$. There was a medium correlation between college GPA and social self-efficacy, $r = .57$, $n = 16$, $p = .014$, and a college GPA and roommate self-efficacy, $r = .37$, $n = 16$, $p = .13$. High school GPA was also compared to self-efficacy scores. There was a medium correlation between high school GPA and roommate self-efficacy, $r = .50$, $n = 14$, $p < .05$, but no correlation between high school GPA and academic self-efficacy, $r = -.01$, $n = 14$, $p = .97$, or high school GPA and social self-efficacy, $r = .04$, $n = 14$, $p = .87$. Table 5 shows correlations between academic achievement and self-efficacy scores.

Table 5

Academic Achievement and Self-efficacy Correlations

	College GPA	HS GPA	College SE	Academic SE	Social SE	Roommate SE
College GPA	1.0	.309	.611**	.658**	.569*	.368
HS GPA	.309	1.0	.123	-.009	.044	.499*

Note. * Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

The sixth hypothesis was students who report preference for performance goals over learning goals would have lower academic achievement. There was a small correlation between high school GPA and goal orientation such that a higher GPA was a weak predictor of learning goals, $r = -.22$, $n = 14$, $p = .41$. There was no correlation between college GPA and goal orientation, $r = -.08$, $n = 16$, $p = .73$.

Chapter 4

Discussion

It was hypothesized that college students with a learning disorder would be more likely to endorse a fixed view of intelligence, a trend which has been observed in adolescents with learning disorders (Baird et al., 2009). The sample population, which was collected from three private colleges in Oregon, was compared to a control group of non-LD students. Both depression and anxiety were controlled for, as research has shown that students with learning disorders tend have higher levels of clinical symptoms (Nelson & Harwood, 2011; Maag & Reid, 2006). The majority of LD students endorsed a fixed view of intelligence by a nearly two to one ratio. However, there was no statistically significant difference in theory of intelligence when compared to the control group, and a similar proportion of students in both groups (63% of LD students and 50% of non-LD students) agreed with a fixed view of intelligence. Despite the lack of statistical significance, the Cramer's V post-hoc test showed a medium effect size, which suggests that a larger sample size may show any differences that exist.

The GPAs of LD and non-LD students were also compared. Research has shown that LD students may tend to have lower academic performance when compared to peers (Hampton & Mason, 2003; Klassan & Lynch, 2007). In this study, there was no significant difference between college or high school GPAs. This result may illuminate more significant implications; despite their diagnosis, LD students in this sample perform similarly to their peers academically.

There was no relationship between participant's theory of intelligence and their cumulative college GPA. This is contrary to what may be expected based on previous studies (Abdullah, 2008; Blackwell et al., 2007; Delavar et al., 2011; De Castella & Byrne, n.d.). There was a small relationship between theory of intelligence and high school GPA, where a malleable view of intelligence was correlated with higher high school GPA. This is more consistent with the research mentioned previously. Based on these results, it may be possible that an individual's belief about his or her intelligence is more influential in high school than it is in college. There is evidence that interventions targeting a student's implicit theory of intelligence can change their beliefs (Blackwell et al., 2007), and high school might be a more effective time to use such interventions.

There was no correlation between theory of intelligence and the participant's year in college, though there was a significant correlation between year in college and both college GPA and high school GPA, suggesting that students who have advanced further through their college education tend to have higher GPAs. There could be several factors influencing this relationship. For example, one issue that impacts this particular population is retention rates. If a student struggles in college, he or she may be more likely to drop out, while a student who thrives academically may be more likely to stay in college. The fact that this relationship also exists with high school GPA may lend some weight to the idea that early interventions are important to help LD students succeed academically.

There was a relationship between goal orientation and theory of intelligence, where those who endorsed a fixed view of intelligence tended to prefer performance goals, which was consistent with the literature (Payne et al., 2007, Robin & Pals, 2002). If a student believes that

his or her intelligence is a fixed trait that cannot be changed, learning goals likely do not serve

the same purpose they would for someone who believes their intelligence can be changed. Goal

orientation was also correlated with high school GPA, though not college GPA. This seems to

match with some of the patterns already discussed, where variables tend to be correlated with

high school achievement but not necessarily college achievement.

Some of the most significant results of this study involved self-efficacy. There was a

small negative correlation between theory of intelligence and overall self-efficacy, such that

those who endorsed a malleable view of intelligence tended to have higher self-efficacy.

Research advises that self-efficacy should be divided into specific domains (Bandura & Locke,

2003), therefore the sub-scales of the self-efficacy measure were compared to several variables.

Contrary to expectations, academic self-efficacy was not correlated to theory of intelligence,

though social self-efficacy was. This may demonstrate the importance of separating different

domains of self-efficacy, as the correlation between the overall college self-efficacy can most

likely be attributed to the relationship between social self-efficacy and theory of intelligence.

Self-efficacy had some of the greatest correlations with both college and high school

GPA. College GPA had large correlations with college self-efficacy and academic self-efficacy

and medium correlations with social self-efficacy and roommate self-efficacy. The relationship

between GPA and academic self-efficacy has been well demonstrated in the literature (Abdullah,

2008; Baird et al., 2009; Mihlon, 2010; Payne et al., 2007). In spite of that, there was no

correlation between high school GPA and academic or social self-efficacy.

It should be noted that within the self-efficacy questionnaire, the subtests were all highly

correlated with the overall score and with each other. Given that both the social and academic

self-efficacy subscales were so highly correlated with the total college self-efficacy score, it is possible that these subscales are not as distinct as anticipated. Yet the specific relationships between the other variables and the self-efficacy scales create an interesting contrast. Theory of intelligence, a self construct, was correlated with social self-efficacy, though GPA, an academic construct, was most correlated with academic self-efficacy. The research with theory of intelligence tends to focus on academic or intellectual variables. Implication for social variables may be worth exploring.

Limitations

There were multiple limitations to this study. One of the primary limitations was gaining access to the population. Though the number of individuals with learning disorder who attend college are increasing, they are still a relatively small percentage on most college campuses. Participants were recruited through their university's disability service offices. This ensured that the participants had a confirmed learning disorder diagnosis while maintaining their confidentiality and anonymity. However, this may have limited the sample population to those students who have already enough knowledge of the university system to access services.

One of the identified barriers for individuals with learning disorders is the shift in responsibility for managing their accommodations—what was once handled primarily by parents and teachers now must be handled primarily by the students themselves. The participants of the current study had overcome that barrier. It is possible that there are students who may have a learning disorder, but for some reason do not connect with their school's disability services, such as not having documentation of their learning disorder, lacking the knowledge or motivation to

navigate the system, or having negative feelings about identifying themselves to their school. These students, had they been included in the sample, may have altered the results.

Another issue that limited the sample size was gaining the cooperation of disability offices. Given the small percentage of LD students at each school, the directors of the disability service offices at several institutions were contacted by email and phone to recruit an appropriate number of participants. However, response rates from offices were low, and though all four-year institutions in Oregon were contacted, only three maintained contact long enough to distribute the research materials to students.

Recommendations for Future Studies

Though no difference was found between LD students and non-LD students in their endorsement of a fixed or malleable view of intelligence, or GPA, Cramer's V showed a medium effect size, which indicates that a larger sample size may yield significant results. Future studies should address the limitations experienced with this population, specifically gaining more participants and establishing a cooperative relationship with the offices and entities that have access to this population.

A factor that may have influenced this population was their college environments. All LD participants were recruited from small colleges, a designation which indicates that an institution has less than 5,000 students. Small colleges typically have smaller class sizes, advisors are responsible for fewer students, and there may be a difference in availability of campus resources, such as those available through the disability service offices. With fewer students, there may be a different culture of support and interaction between faculty, staff, and students. For example, students may feel differently about talking to professors or seeking help during office hours in a

small college versus a larger one. These factors may influence some of the variables measured in

this study, such as academic self-efficacy. Future studies may benefit from examining the

influence of college environment and culture.

Conclusion

Though this sample did not differ significantly from the control group, some of the

relationships among the variables may warrant further investigation as areas of intervention

among this population.

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Appendix A

Informed Consent

The purpose of this study is to examine some self-perceptions among college students with learning disabilities. You will be asked to complete a short series of self-report surveys. There are no right or wrong answers, just answer according to how you feel right now. Your answers to these surveys will remain confidential and will only be accessed by the researcher. After the surveys, you will be asked to complete a short demographics questionnaire, though no identifying information, such as your name or address, will be gathered. Individuals who complete both the survey and the demographics questionnaire will be directed to a separate site, where they may enter an email address into the drawing for one $25 Amazon.com gift card.

You may stop participation at any time and for any reason.

There are no risk factors associated with participation, other than some mild fatigue associated with reading the survey items. Most individuals take no longer than 10-20 minutes to complete all items.

If you have any questions or concerns, you may email the primary researcher, Ashley Blake, at ablake10@georgefox.edu.

In order to qualify for participation in this research, you acknowledge that you:
1. Are at least 18 years old
2. Are currently enrolled in a college or university and attend classes at least part time
3. Have been diagnosed with a learning disability by a licensed professional

By continuing with the survey, you indicate that you understand and accept the conditions outlined above and provide your consent to participate.

Appendix B

Theories of Intelligence Scale—Self Form for Adults

This questionnaire has been designed to investigate ideas about intelligence. There are no right or wrong answers. We are interested in your ideas.

Using the scale below, please indicate the extent to which you agree or disagree with each of the following statements by writing the number that corresponds to your opinion in the space next to each statement.

1	2	3	4	5	6
Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree

_____ 1. You have a certain amount of intelligence, and you cannot really do
much to change it

_____ 2. Your intelligence is something about you that you can't change very
much

_____ 3. No matter who you are, you can significantly change your intelligence

_____ 4. To be honest, you can't really change how intelligent you are

_____ 5. You can always substantially change how intelligent you are

_____ 6. You can learn new things, but you can't really change your basic
intelligence.

_____ 7. No matter how much intelligence you have, you can always change it
quite a bit

_____ 8. You can change even your basic intelligence level considerably

Appendix C

Goal Choice Questionnaire

If I knew I wasn't going to do well at a task, I probably wouldn't do it even if I might learn a lot

1	2	3	4	5	6
Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree

I would rather do well in a class than learn a lot

1	2	3	4	5	6
Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree

It's much more important for me to learn things in my classes than it is to get the best grades

1	2	3	4	5	6
Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree

If I had to choose between getting a good grade and being challenged in class, I would choose
"Good grade"
"Being challenged"

Appendix D

College Self-Efficacy Inventory

Think about yourself as a college student. For each of the statements below, circle the number that best represents your confidence.

How confident are you that you could successfully complete the following tasks? (Circle <u>one</u> number)

1	2	3	4	5	6	7	8	9	10
Not at all Confident									**Extremely Confident**

Make new friends at college.
    1   2   3   4   5   6   7   8   9   10

Divide chores with others you live with.
    1   2   3   4   5   6   7   8   9   10

Talk to university staff.
    1   2   3   4   5   6   7   8   9   10

Manage time effectively.
    1   2   3   4   5   6   7   8   9   10

Ask a question in class.
    1   2   3   4   5   6   7   8   9   10

Participate in class discussions.
    1   2   3   4   5   6   7   8   9   10

Get a date when you want one.
    1   2   3   4   5   6   7   8   9   10

Research a term paper.
    1   2   3   4   5   6   7   8   9   10

Do well on your exams.
    1   2   3   4   5   6   7   8   9   10

Join a student organization.

1   2   3   4   5   6   7   8   9   10

Talk to your professors.

1   2   3   4   5   6   7   8   9   10

Join an intramural sports team.

1   2   3   4   5   6   7   8   9   10

Ask a professor a question.

1   2   3   4   5   6   7   8   9   10

Take good class notes.

1   2   3   4   5   6   7   8   9   10

Get along with others you live with.

1   2   3   4   5   6   7   8   9   10

Divide space in your residence.

1   2   3   4   5   6   7   8   9   10

Understand your textbooks.

1   2   3   4   5   6   7   8   9   10

Keep up to date with your schoolwork.

1   2   3   4   5   6   7   8   9   10

Write course papers.

1   2   3   4   5   6   7   8   9   10

Socialize with others you live with.

1   2   3   4   5   6   7   8   9   10

Have a successful marriage.

1   2   3   4   5   6   7   8   9   10

Be successful at your job

1   2   3   4   5   6   7   8   9   10

Be a good parent.

1   2   3   4   5   6   7   8   9   10

Appendix E

PHQ-9

Over the last 2 weeks, how often have you been bothered by any of the following problems?

	Not at all	Several days	More than half the days	Nearly every day
Little interest or pleasure in doing things	O	O	O	O
Feeling down, depressed, or hopeless	O	O	O	O
Trouble falling/staying asleep, sleeping too much	O	O	O	O
Feeling tired or having little energy	O	O	O	O
Poor appetite or overeating	O	O	O	O
Feeling bad about yourself, or that you are a failure, or have let yourself or your family down	O	O	O	O
Trouble concentrating on things, such as reading the newspaper or watching TV	O	O	O	O
Moving or speaking so slowly that other people could have noticed. Or the opposite: being so fidgety or restless that you have been moving around a lot more than usual	O	O	O	O
Thoughts that you would be better off dead or of hurting yourself in some way	O	O	O	O

Appendix F

GAD-7

Over the last 2 weeks, how often have you been bothered by any of the following problems?

	Not at all	Several days	More than half the days	Nearly every day
Feeling nervous, anxious, or on edge	O	O	O	O
Not being able to stop or control worrying	O	O	O	O
Worrying too much about different things	O	O	O	O
Trouble relaxing	O	O	O	O
Being so restless that it's hard to sit still	O	O	O	O
Becoming easily annoyed or irritable	O	O	O	O
Feeling afraid as if something awful might happen	O	O	O	O

Appendix G

Demographics

1. Age
2. Gender (Male, female, prefer not to answer)
3. Ethnicity (European American or white, African American or black, Hispanic/Latino, Asian, American Indian or Alaskan native, Hawaiian or Pacific islander, Prefer not to answer)
4. Marital status (Never been married, married or civil union/partnership, divorced, widowed)
5. Mother's highest level of education (did not graduate high school, high school diploma or GED, some college, Associate's degree, bachelor's degree, graduate degree [masters, doctorate, or professional degree], unknown)
6. Father's highest level of education (did not graduate high school, high school diploma or GED, some college, Associate's degree, bachelor's degree, graduate degree [masters, doctorate, or professional degree], unknown)
7. Current college/university
8. Current major
9. Current year in school
10. Cumulative college GPA
11. Cumulative high school GPA (on 4.0 scale)
12. Have you ever been diagnosed with a learning disability by a licensed professional*? (Yes, no)
13. Please identify your diagnosis (select all that apply) (Reading Disorder or dyslexia, Mathematics Disorder or dyscalculia, Disorder of Written Expression or dysgraphia, Learning Disorder NOS)
14. At what age were you first diagnosed?
15. Have you ever been diagnosed with any other psychological disorder (Anxiety [including general anxiety, social anxiety, or phobias], Mood disorder [including major depression, bipolar disorder, or dysthymia], ADHD, other [please describe])
16. Are you involved in any extra curricular activities (sports, on-campus club, volunteer work off-campus, part-time job, full time-job, other)
17. People who know me well would say that my three greatest strengths are:

Appendix H

Curriculum Vitae

Ashley Blake
915 13th Street
Greeley, CO, 80631
Phone: 707-208-8427
ablake10@georgefox.edu

EDUCATION

2010-current   **Doctor of Psychology in Clinical Psychology**
George Fox University, Newberg, OR
- Degree anticipated May 2015
- Dissertation: Perceptions of Intelligence and Academic Achievement Among College Students with Learning Disorders

2010-2012   **Master of Arts in Clinical Psychology**
George Fox University, Newberg, OR

2006-2010   **Bachelor of Arts in Psychology**
Simpson University, Redding, CA

CLINICAL EXPERIENCE

8/2014 to current   **Doctoral intern**
University of Northern Colorado, Greeley, CO
- Treatment setting: University counseling center at a public institution in a suburban setting
- Provided individual, group, and crisis services to college students
- Provided on-call after hours emergency services to students
- Provided outreach and consultation to students, faculty, and staff
- Conducted integrated psychological assessments to assist with differential diagnosis and treatment planning
- Provided supervision to doctoral practicum students
- Received special interest training and supervision in learning disorders, ADHD, and LGBT issues
- Supervisors: Rebekah Knight-Baughman, Ph.D. and Linda Baum, Ed.D.

8/2013 to 6/2014   **Pre-intern**
Linfield College, McMinnville, OR
- Treatment setting: College counseling center at a private liberal arts institution in a rural setting

- Provided individual therapy to college students
- Co-facilitated multiple therapy groups, including an open women's processing group and a DBT-based disordered eating group
- Consulted within a multidisciplinary team of psychological and medical professionals to coordinate client care
- Consulted with multiple departments, including Learning Support Services, Career Development, and Student Wellness
- Supervisors: Sally Goddard, M.D. and Joel Gregor, Psy.D.

8/2012 to 5/2013   **Practicum II**
Concordia University, Portland, OR
- Treatment setting: University counseling center at private liberal arts institution in an urban setting
- Conducted psychological assessments, including cognitive, achievement, and personality
- Established a cost-effective assessment battery to assess adult ADHD according to the unique needs of the site
- Provided individual therapy for university students
- Assisted with the training of resident assistants
- Supervisors: Marie-Christine Goodworth, Ph.D. and Jaklin Peake, LPC

8/2011 to 6/2012   **Practicum I student**
St Paul School District, St. Paul, OR
- Treatment setting: Public school district within a rural setting
- Provided individual for students, elementary through high school
- Led multiple therapy groups, including a social skills group and a Richter grant-funded research project utilizing Camp Cope-A-Lot as a group intervention
- Conducted psychological assessments for Individualized Education Programs and Talented and Gifted Education
- Consulted with education professionals within a multi-disciplinary system
- Supervisors: Elizabeth Hamilton, Ph.D. and Kristie Compher-Knows His Gun, M.A.

1/2011 to 5/2011   **Pre-practicum student**
George Fox University, Newberg, OR
- Provided weekly individual therapy for two George Fox undergraduate students
- Conducted intake interviews and wrote formal intake reports
- Supervisors: Mary Peterson, Ph.D and Jeri Turgesen, M.A.

9/2010 to 11/2010   **Group Facilitator**
Providence Newberg Medical Center, Newberg, OR
- Co-led a psycho-educational course on depression for adults
- Focused on the bio/psycho/social factors which contribute to symptoms
- Provided coping strategies for symptom reduction
- Supervisors: Tami Rodgers, M.D. and Jeri Turgesen, M.A.

SUPERVISION EXPERIENCE

8/2014 to current   **Supervisor**
University of Northern Colorado, Greeley, CO
- Supervised two doctoral graduate students
- Developed treatment plans, role-played specific interventions, and provided support for supervisee's practicum experience
- Reviewed supervisee's recorded counseling session and provided feedback.
Supervisor: Linda Baum, Ed.D.

9/2013 to 5/2014   **Peer Supervisor**
George Fox University, Newberg, OR
- Supervised one second-year PsyD graduate student
- Developed treatment plans, role-played specific interventions, and provided support for supervisee's practicum experience
- Video recorded demonstration of supervision skills and reviewed with faculty advisor
- Supervisor: Mark McMinn, Ph.D.

9/2013 to 12/2013   **Advanced Counseling Teacher Assistant**
George Fox University, Newberg, OR
- Supervised a group of three undergraduate students in an Advanced Counseling class
- Helped students develop basic counseling skills
- Reviewed videos of students demonstrating skills and provided constructive feedback
- Supervisor: Kris Kays, Psy.D.

RESEARCH EXPERIENCE

2/2011 to current   **Research Vertical Team**
George Fox University, Newberg, OR
- Design and implement dissertation research, Perceptions of Intelligence and Academic Achievement Among College

Students with Learning Disorders

- Original data collection with college students who have been diagnosed with a learning disorder
- Correlational analysis comparing participant's scores on measures of implicit theory of intelligence, goal orientation, self-efficacy, emotional functioning, and academic achievement

- Consult with graduate students from multiple cohorts on research projects
- Design research proposals
- Conduct data analyses
- Supervisor: Marie-Christine Goodworth, Ph.D.

9/2009 to 5/2010   **Research Assistant**
                         Simpson University, Redding, CA

- Worked on research related to executive functioning in preschool-aged children
- Coded video of executive functioning tasks, including the Wisconsin Card Sorting Test, delay of gratification tasks, and the Stanford-Binet vocabulary subtests
- Wrote research scripts and protocols
- Supervisor: Danielle Beck, Ph.D.

PRESENTATIONS

Goodworth, M., Zarb, D., Holbjerg, C., Blake, A., Foster, L., & Parker, T (2013, August). *Development of a palliative care consultation service*. Poster presented at 121st Annual Convention of the American Psychological Association, Honolulu, HI.

Zarb, D., Holbjerg, C., Blake, A., Parker, T., Goodworth, M., & Foster, L. (2013, May). *Psychology in palliative care: A literature review*. Poster presented at the Annual Conference of the Oregon Psychological Association, Eugene, OR.

Blake, A., Hamilton, E., & Borelli, J**.** (2013, May). *Improvements in internal locus of control of rural school children in response to computerized therapeutic intervention*. Poster presented at the Annual Conference of the Oregon Psychological Association, Eugene, OR.

Roby, B., Presler, B., & Blake, A. (2013, May). *The relationship between the PGRE and EPPP among doctoral students in a clinical psychology program*. Poster presented at the Annual Conference of the Oregon Psychological Association, Eugene, OR.

PUBLICATIONS

Copeland, B., Bufford, R., Ackerman, C., Mitchell, J, & Blake, A. (in press). Sexual

development and dysfunction: The sexual interdependence and sexual progression model. *The Society for the Advancement of Sexual Health*.

LEADERSHIP AND SERVICE EXPERIENCE

9/2012 to current   **Gender and Sexuality Consultation Committee**
George Fox University

2011 to 2012   **Admissions Committee**
George Fox University

2007 to 2010   **Psychology Club**
Simpson University
- President (2009-2010)
- Vice President (2008-2009)

2008 to 2009   **Student Body Senate**
Simpson University
- Psychology Department Representative

2007 to 2010   **Academic Tutor**
Simpson University

AFFILIATIONS/MEMBERSHIPS

2010 to present   **Student Member**
American Psychological Association

HONORS AND AWARDS

2010   **Magna Cum Laude**
Simpson University

2006-2010   **Dean's List**
Simpson University